



eastern - midlands
waste region

Eastern - Midlands **Draft** Regional Waste Management Plan 2015 - 2021



new region new vision

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LIST OF TERMS

Term	Explanation
2–bin or 3–bin system	2–bin or 3–bin system refers to a source segregated collection system where dry recyclables and residual wastes are separately collected (2–bin system), or where dry recyclables, organics and residuals are separately collected (3–bin system). The reference to ‘black bin’ in this document is a reference to a single bin collection or to the residuals bin from a 2–bin or 3–bin system. The reference to ‘green bin’ in this document is a reference to a dry recyclables collection, and ‘brown bin’ is a reference to an organics bin collection.
Aerated Systems	Controlled composting systems with optimum aeration conditions ensuring aerobic conditions exist for decomposition of biowaste.
An Annual Environmental Report (AER)	An Annual Environmental Report (AER) must be submitted to the EPA each year by companies with either waste or Integrated Pollution Prevention Control licences, providing summary information on all aspects of the environmental performance of the licensed facility e.g. data on emissions to air and water, waste management, resource consumption, objectives and targets, ambient monitoring and complaints. AERs are made publicly available on the EPA website. Waste collection permit (WCP) and waste facility permit (WFP) holders are required to submit AERs to local authorities under condition of permit.
An Integrated Waste Management Facility (IWMF)	In the context of this report this is a licence that combines a landfill and other waste infrastructure such as civic amenity site, transfer station, composting or other treatment facilities.
Anaerobic Digestion	The biological decomposition of biowaste in the absence of oxygen and under controlled conditions in order to produce biogas and digestate.
Backfilling	Recovery of C&D waste through the permanent placement of suitable material in land reclamation or engineering purposes where the waste is a substitute for non-waste material.
Best Available Techniques	The most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and impact on the environment as a whole.
Biodegradable	In the context of waste, this means waste that is capable of undergoing anaerobic or aerobic biological decomposition, such as food and garden waste, paper and cardboard etc.
Biodegradable municipal waste (BMW)	The biodegradable component of municipal waste, and does not include bio stabilised waste. Biodegradable municipal waste is typically composed of food and garden waste, wood, paper, cardboard and textiles.
Biological Treatment	Involves composting, anaerobic digestion, mechanical/ biological treatment or any other process for stabilising and sanitising biodegradable waste.
Bio stabilised residual waste	Residual BMW that has been treated to achieve an EPA approved biodegradability stability standard ¹ prior to landfilling or alternative agreed use.
Biowaste	Under the terms of the Waste Framework Directive (2008/98/EC) biowaste means biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants.
Bring Banks	These are facilities in which members of the public deposit recyclable waste materials such as paper, glass, green waste and plastics in material specific receptacles for subsequent collection and delivery to material recovery facilities.
Certificate of Registration (COR)	An authorisation issued by a local authority to a facility for the transfer, storage or treatment of waste under the Waste Management (Facility Permit and Registration) Regulations 2007, as amended.

Term	Explanation
Central Composting Facility	A facility at which the biodegradable waste is delivered to be processed by composting into a compost product - can be for green (garden waste) food waste or a combination of both materials.
Civic Amenity Sites (CAS)	A reception facility that enables householders to deposit a wide range of household waste including recyclable and non-recyclable materials, bulky household waste and certain categories of household hazardous waste
Co-Incineration	Involves plants where waste is used as a fuel or is disposed of at a plant along with other substances where energy generation or production may take place.
Collection System	A system of gathering, sorting or mixing of waste for the purpose of it being transported to a waste recovery or disposal facility.
Commercial waste	In the context of this report, is a term used to describe the non-household fraction of municipal waste, which is produced by commercial premises such as shops, offices and restaurants, as well as municipal premises such as schools, hospitals etc. It also includes non-process industrial waste arising from factory canteens, offices etc. Commercial waste is broadly similar in composition to household waste, consisting of a mixture of paper and cardboard, plastics, organics, metal and glass.
Commercial/ Industrial Recycling Park	A depot for small-scale waste producers (e.g. SMEs) to deliver materials for recycling and treatment.
Community Composting Facilities	Facilities set up, whereby local communities can become involved in the management of their own wastes, whilst implementing the proximity principle and increasing awareness of waste recycling practices within their own community
Community Recycling Centre	Similar to a full Recycling Centre (see definition) but smaller in scale and intended to serve a local community catchment. May limit car access.
Compliance Scheme	Non-profit producer responsibility scheme that takes on the obligations of its producer members for the collection, treatment and recycling of PRI waste.
Compost	The stable, sanitised and humus-like material rich in organic matter and free from offensive odours resulting from the composting process of separately collected biowaste.
Compost Quality Standard	Designed to regulate potentially harmful aspects of compost production and use, and thereby protect the environment and human health.
Composting	The autothermic and thermophilic biological decomposition of separately collected biowaste in the presence of oxygen in order to produce compost.
Construction and demolition (C&D) waste	All waste that arises from construction and demolition activities (including excavated soil from contaminated sites). These wastes are listed in chapter 17 of the European waste catalogue (EWC).
Counterfactual	The counterfactual describes a financial scenario documenting local authority income and expenditure from waste plan and waste related activities and assumes that no new plan or activities are put in place
CSO	The Central Statistics Office.
DECLG	The Department of the Environment, Community and Local Government.
Digestate	The material resulting from the anaerobic digestion of separately collected biowaste.
Disposal	Any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I of the Waste Framework Directive (Directive 2008/98/EC) sets out a non-exhaustive list of disposal operations.
EEE	Electrical and electronic equipment.
End of Life Vehicle (ELV)	A vehicle which is waste within the meaning of Article 1(a) of the Waste Directive (refer to Directive 2000/53/EC on end-of life vehicles).

Term	Explanation
EPA	The Environmental Protection Agency (the Agency)
ESRI	The Economic and Social Research Institute.
EU	The European union.
European Waste Catalogue (EWC)	Now known as the List of Wastes (low), this is a list of all waste types generated in the EU. The different types of waste are fully defined by a six-digit code, with two digits each for chapter, sub-chapter and waste type.
Government Contracts Committee	This committee assists the Department of Finance in formulating overall policy on public procurement. It is made up of senior officials in the higher spending Departments and is chaired by a Department of Finance representative. The committee also adjudicates on contracts being awarded by Central Government Departments in certain cases.
Gross Domestic Product (GDP) & GNP (Gross National Product).	These are closely related macroeconomic parameters. GDP measures the total output of the economy in a period i.e. The value of work done by employees, companies and self-employed persons. This work generates incomes but not all of the incomes earned in the economy remain the property of residents (and residents may earn some income abroad). The total income remaining with Irish residents is the GNP and it differs from GDP by the net amount of incomes sent to or received from abroad.
Hazardous Waste	Means "waste of a class listed in the current Hazardous Waste Catalogue, which either: constitutes Category I type waste as specified in Part I of the Second Schedule to the Waste Management Act 1996 and has any of the properties specified in Part III of the same Schedule; or constitutes Category II type waste as specified in Part I of the Second Schedule to the Waste Management Act 1996 that contains any of the constituents specified in Part II of the same Schedule and has any of the properties specified in Part III of the same Schedule; or any other waste having any of the properties specified in Part III of the Second Schedule to the Waste Management Act, 1996 that may be prescribed as hazardous waste".
Hazardous wastes	Wastes that have the potential to cause harm to human health or the environment. Any waste which displays one or more of the hazardous properties listed in Annex III of the waste framework directive (2008/98/EC) is defined as hazardous waste.
Home Composting	A process whereby biowaste is composted and used in gardens belonging to private households.
Household waste	Waste produced within the curtilage of a building/residence or self-contained part of a building/premises used for the purposes of living accommodation.
Household waste managed (HWM)	Sum of the household waste collected at kerbside and the non-kerbside household waste collected.
Incineration	A process by which heat is applied to waste in order to reduce its bulk, prior to final disposal which may or may not involve energy recovery.
Industrial waste	Waste produced by industrial activity such as that of factories, mills and mines. Non-process industrial waste (e.g. from site canteen, office, etc.) is similar in character to commercial waste.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in any way likely to give rise to environmental pollution or harm human health.
Integrated Pollution Control (IPC) licence	An authorisation issued and enforced by the EPA for specific industrial and agricultural activities as governed by the EPA Act 1992 (as amended). An IPC licence sets limits on air and water emissions, waste and noise and requires that an activity must use the Best Available Techniques (BAT).

Term	Explanation
In-Vessel Composting	The composting of biowaste in a closed reactor where the composting process is accelerated by controlled and optimised air exchange, water content and temperature control.
Kerbside collection	A common reference for the practice of collecting household or commercial waste directly from its source, often, though not necessarily, from the pavement or front door. This service to customers generally entails waste collectors collecting using separate bins to collect waste streams (usually dry recyclables, organic waste, and residual waste).
Landfill Directive	A Directive which aims, by means of stringent operational and technical requirements on the landfilling of waste, to implement measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment, in particular the pollution of surface water, ground water, soil and air, and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, during the whole life cycle of the landfill.
Landfill Levy	An additional environmental levy that is paid on top of normal gate fees by any private contractor or Local Authority that wishes to dispose of waste through a landfill site. The landfill levy is collected through landfill operators and forms part of a policy aimed at providing more incentives for reuse and recycling of waste.
Landfilling	The disposing of waste at a waste disposal facility used for the depositing of waste onto or under the land.
Material Recovery Facilities	Facilities where recyclables are sorted into specific categories and processed, or further transported to processors for remanufacturing.
MDR	Mixed dry recyclables.
Mechanical–biological treatment (MBT)	The treatment of residual municipal waste (black bin) through a combination of manual and mechanical processing and biological stabilisation, in order to stabilise and reduce the mass of waste that requires disposal.
Merchant operator	A commercial operator that accepts waste from third parties for treatment (as opposed to an industrial activity with facilities for the treatment of waste arising from their own processes, such as on–site incineration).
Metric tonnes	Expressed as ‘t’ throughout this report. Mt = million tonnes.
MFSU	Manufacture, formulation, supply and use.
Multi-Storey Dwellings	Dwellings consisting of numerous floors and occupied by more than one family.
Municipal solid waste (MSW) or municipal waste	Household waste as well as commercial and other waste that, because of its nature or composition, is similar to household waste. It excludes municipal sludges and effluents. In the context of this report municipal waste consists of three main elements - household, commercial (including non–process industrial waste), and street cleansing waste (street sweepings, street bins and municipal parks and cemeteries maintenance waste, litter campaign material).
Municipal Waste Managed (MWM)	Consists of three main elements, namely household, municipal non-household i.e. commercial (including non-process industrial waste), and street cleansing waste (street sweepings, street bins and municipal parks and cemeteries maintenance waste, litter campaign material).
N/A	Not applicable.
NACE	Nomenclature générale des activités économiques dans l’Union Européenne (general name for economic activities in the European Union).
National Climate Change Strategy	This Strategy provides a national framework for achieving greenhouse gas emission reductions by 13% above 1990 levels in-keeping with the EU target to reduce emissions by 8%, as part of the Kyoto Protocol of 1997.

Term	Explanation
National Waste Data Base Report	A national report that provides information on waste generation, waste management and waste infrastructure in Ireland.
NEC	Not elsewhere classified.
Non-Kerbside Household Waste Collection	Household waste collected via bulky household waste collected by authorised collectors, waste brought by householders to landfills, bring banks, civic amenity facilities and WEEE and batteries brought to retailers and collected on specific collection days.
NTFSO	National Transfrontier Shipment Office, Dublin City Council.
NWCPO	National Waste Collection Permit Office, Offaly County Council.
OEA	Office of Environmental Assessment, Environmental Protection Agency.
OEE	Office of Environmental Enforcement, Environmental Protection Agency.
On-Site Composting	The composting of biowaste where it is generated.
Organic waste	Biodegradable food, garden and landscaping waste, and where the context permits, will also include industrial organic sludges (e.g. from the food and drink production sector).
Packaging	Used to contain, protect and present goods. Virtually all packaging eventually becomes waste. Packaging is made from such materials as cardboard, paper, glass, plastic, steel, aluminium, wood, and composite materials such as those used in milk and juice cartons.
Pay As You Throw Schemes	Schemes where the fee charged for collection and disposal increases with the amount of waste collected from households. This provides a financial incentive for residents to reduce waste through reducing, reusing or recycling waste, which can in turn lead to lower transportation and disposal costs for local authorities and private waste collection companies. PAYT schemes may consist of pay per bag, pay per container, pay per volume or pay per weight.
Pay By Weight Schemes	Schemes whereby resident's pay for the exact amount of waste collected per household. This scheme is devised to offer financial incentives for residents to reduce the amount of waste to be collected and disposed of by public or private waste collectors.
Pay-To-Use (PTU)	Waste compactor units which members of the public can pay to use to deposit their municipal residual waste which are primarily located on garage forecourts and parking areas of supermarkets and other retail outlets.
Pollutant Release and Transfer Register (PRTR) Regulations 2007.	These Regulations require that releases of pollutants and off-site transfers of waste by facilities operating in relevant industrial sectors must be reported annually to the EPA. The EPA in turn reports this information to the European E-PRTR website.
Polluter Pays Principle	The principle set out in Council Recommendation 75/436/Euratom, ECSC, EEC of 3rd March 1975 1(20) regarding cost allocation and action by public authorities on environmental matters.
Preparing for Reuse	Checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be reused without any further pre-processing.
Pre-Treatment	The processing of waste which still results in a waste which subsequently undergoes other waste recovery or disposal treatment. Pre-treatment activities include operations like "dismantling, sorting, crushing, compacting, palletising, drying, shredding, conditioning, repackaging, separating, blending or mixing if the material or substance resulting from such operations is still waste". These

Term	Explanation
	activities do not sit on any particular rung of the waste hierarchy and instead can be regarded as “precursors” to specific types of treatment.
Prevention	Measures taken before a substance, material or product has become waste, that reduce: (a) the quantity of waste, including through the reuse of products or the extension of the life span of products; (b) the adverse impacts of the generated waste on the environment and human health; or (c) the content of harmful substances in materials and products.
Producer Responsibility Initiatives (PRI)	A series of initiatives undertaken by the Government to facilitate better management of priority waste streams, in line with the ‘Polluter Pays Principle’.
Proximity Principle	The principle set out in the EU Framework Directive (91/156/EEC) whereby member states should establish a network enabling waste to be disposed of in one of the nearest appropriate installations, by means of the most appropriate methods and technologies to ensure a high level of protection for the environment and for public health.
Quality Assurance Schemes	Are usually non-statutory in nature, and designed to ensure that producers maintain process management and produce a compost product of high quality, which shall be easily marketed and profitable in nature.
Recovery	Means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex ii of the waste framework directive (2008/98/EC) sets out a non-exhaustive list of recovery operations, which includes material recovery (i.e. Recycling), energy recovery (i.e. Use a fuel (other than in direct incineration) or other means to generate energy) and biological recovery (e.g. composting).
Recyclables	Waste materials that may be subjected to any process or treatment to make it reusable in whole or in part.
Recycling	Means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
Recycling Centre	See Civic Amenity Sites.
Refuse derived fuels (RDF)	Fuels produced from waste through a number of different processes such as mechanical separation, blending and compressing to increase the calorific value of the waste. Such waste derived fuels can be comprised of paper, plastic and other combustible wastes and can be combusted in a waste-to-energy plant, cement kiln or industrial furnace.
Residual Municipal Waste	The fraction of municipal waste remaining after the source separation of municipal waste fractions, such as food and garden waste, packaging, paper and paperboard, metals, glass and is usually unsuitable for recovery or recycling.
Residual waste	Means the fraction of collected waste remaining after treatment and/or diversion steps, which generally requires further treatment or disposal.
Resource Recovery Park (or Facility)	A depot for collected materials to be sorted into different streams which will provide opportunities for recycling, repair, refurbishment and on-selling of these resources.
Reuse	Means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.

Term	Explanation
Rol	Republic of Ireland
Separate Collection/Source Segregation	Collection where a waste stream is kept separate by type and nature so as to facilitate a specific treatment.
SI (Statutory Instrument)	An order, regulation, rule, scheme or bye-law made in exercise of a power conferred by statute.
Solid Recovered Fuel (SRF)	High quality fuel derived from mechanically processing residual waste, which must comply with the international standard, CEN/TC 343 (meet minimum standards for moisture content, particle size, metals, chloride, chlorine content and calorific value).
Stabilised Biowaste	Waste resulting from the mechanical/biological treatment of biowaste, unsorted waste or residual municipal waste which does not comply with specified minimum standards of environmental quality.
Thermal Treatment	A process by which heat is applied to waste in order to reduce its bulk, prior to final disposal. Thermal treatment can involve a number of processes such as incineration, pyrolysis and gasification.
tpa	Tonnes per annum.
Transfrontier Shipment of Waste (TFS) Regulations 2007	Set out new notification procedures, revised waste listings and enforcement provisions in relation to the export, import and transit of waste shipments within the EU. The National TFS Office at Dublin City Council is the competent authority for the implementation and enforcement of the TFS Regulations since 12th July 2007.
Treatment Facilities	Facilities where waste undergoes thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its volume or hazardous nature or facilitate its handling, disposal or recovery.
Treatment	Includes, in relation to waste, any manual, thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its mass, or hazardous nature or otherwise, to facilitate its handling, disposal or recovery.
Unmanaged Household Waste	Estimate of the quantity of waste generated by households but not captured via one of the kerbside or non-kerbside collection systems.
Upcycling	Upcycling is taking an item that is no longer needed or wanted and giving it new life as something that is either useful or creative.
Waste	Defined as any substance or object which the holder discards, intends to discard or is required to discard, by the Waste Framework Directive (2008/98/EC).
Waste Collection Permit System	A system whereby persons with a view to profit or otherwise in the course of business, collect waste are granted with a permit by a Local Authority in whose functional area the waste is collected.
Waste electrical and electronic equipment (WEEE)	Refers to electrical and electronic equipment which is waste within the meaning of Article 3(a) of the Waste Directive 2008/98/EC, including all components, subassemblies and consumables which are part of the product at the time of discarding.
Waste Framework Directive (WFD)	Waste Directive 2008/98/EC of 19 November 2008.
Waste management	Means the collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker.
Waste Management Facility	A site or premises used for the recovery or disposal of waste.

Term	Explanation
Waste Management Plans	Statutory waste management plans implemented on a Regional basis in Ireland since 2001.
Waste Minimisation	Any technique, process or activity that either avoids, reduces or eliminates waste at its source, or results in re-use or recycling.
Waste producer	Anyone whose activities produce waste (original waste producer) or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste, under the Waste Framework Directive (2008/98/EC).
Waste to Energy Plant (Thermal Treatment)	A plant where waste undergoes thermal treatment with a recovery of energy due to the fact that the waste itself contains large amounts of thermal energy ready to be liberated either by combustion or by synthesis gas production followed by combustion. The energy that is recovered is often used to supply electricity.
WCP (Waste Collection Permit)	A permit issued by a local authority for the collection of waste under the Waste Management (Collection Permit) Regulations 2007, as amended.
Windrow Composting	The composting of biowaste placed in elongated rows which are periodically turned by mechanical means in order to increase the porosity of the heap and increase the homogeneity of the waste.
WFP (Waste Facility Permit)	A permit issued by a local authority to a facility for the transfer, storage or treatment of waste under the Waste Management (Facility Permit and Registration) Regulations 2007, as amended.

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- National Transfrontier Shipment Office
- Eastern-Midlands Regional Waste Steering Committee
- Eastern-Midlands Local Authorities
- Dublin City Council Waste Management Plan Team
- Connacht-Ulster and Southern Region Lead Authorities for Waste Planning
- RPS Group Ltd
- Tony O'Brien & Associates

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EXECUTIVE SUMMARY

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Managing waste in a ‘*sustainable and self-sufficient manner*’ will be one of the key challenges for the Eastern-Midlands Region (EMR) and one in which every citizen has a role to play. There is a consensus that we should reduce our impact on the environment by working collectively to minimise the amount of waste we generate, and manage the waste we do generate in the best manner possible.

The region has made significant progress in waste management and waste prevention during the lifetime of previous plans but challenges remain. The plan provides a framework within which all stakeholders can make a contribution to the successful implementation of the policies it contains.

As part of the preparation of the waste plan a Strategic Environmental Assessment (SEA) has been undertaken. The purpose of SEA is to ensure that the environmental consequences of the waste plan are assessed both during their preparation and prior to their adoption.

Public consultation is a fundamental part of the waste planning process and the lead authority on behalf of the region has engaged with stakeholders and interested parties from the start of the process.

Submissions and comments received to date have been considered in the preparation of the Draft Regional Waste Management Plan.

Regional Profile

The Eastern-Midlands Region consists of the administrative areas of Dublin City, Dún Laoghaire-Rathdown, South Dublin, Fingal, Wicklow, Kildare, Laois, Offaly, Westmeath, Longford, Meath and Louth.

The population of the Eastern-Midlands Region is 2,209,463 (CSO 2011) representing an increase of 8.2% since the previous census in 2006. The population of the region

represents 49.9% of the national population while the region has 21% of the land area.

% of Land Area of Ireland	21%
Population (2011)	2,209,463
% of National Population	49.9%
Population Change	8.2% increase since 2006
Total No of Households (2011)	793,402
Urban/Rural Population Split	81% Urban 19% Rural
No Employed (2011)	1,104,478
Key Employment Sector	Commerce and trade (32%)

The total number of households in the region is 793,402 (CSO 2011) giving an average occupancy of 2.78 persons per household. The number of households has increased by 12.9% since the 2006 Census.

In the EMR, 81% of the population resides in urban centres while 19% reside in rural areas. This compares with the overall national position where 61% of the population reside in urban centres while 38% reside in rural areas. The largest urban centre in the region is Dublin City with a population of 525,383.

Land use in the EMR is predominantly agricultural (75% of total area) outside of the main urban centres supplying a strong food and beverage manufacturing sector.

Some 20% of lands are “natural”, including rare and vulnerable habitats and wildlife. The 5% balance of land is urban, including Dublin and the Greater Dublin Area account for 81% of the region’s population (1,795,000) with Dublin City and its suburbs which occupy the largest urban land area in Ireland at 372km² and holding 39% of the total urban population.

The region is accessible with excellent national and international transportation links by road, rail, sea and air.

The topography of the EMR is extremely varied from the mountains of Dublin/Wicklow and Louth to the low-lying midlands.

The commerce and trade sector is the largest employer in the region with 32% of the total employed in this area, followed by professional services at 26% of employment and transport and communications sectors at 11% and 10% respectively. The main economic centre in the Eastern-Midlands Region is the Greater Dublin Area.

Waste Planning Framework

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. Ireland's most recent waste policy statement, *A Resource Opportunity* (DECLG, 2012), recommended the number of waste management planning regions be reduced from ten to three. This recommendation was guided by the national programme for 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.

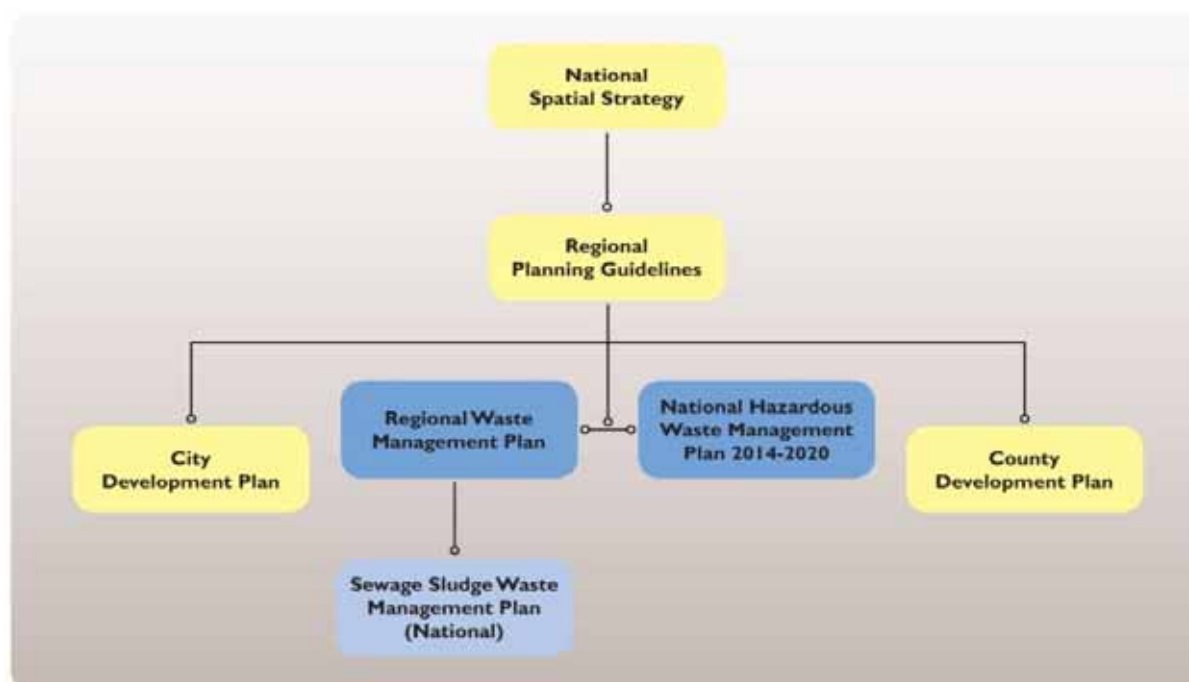
In Ireland, planning and development is governed by a hierarchy of strategic frameworks, plans and waste management plans are part of this structure. The waste plan is a statutory planning document setting out policies for the development of waste treatment infrastructure and sits on the same planning tier as the City and County Development Plans.

In accordance with legislation, local planning frameworks are required to contain the objectives of the relevant waste management plan in force for that particular area. 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 granted/refused on that basis.

European and National Policy and Legislation

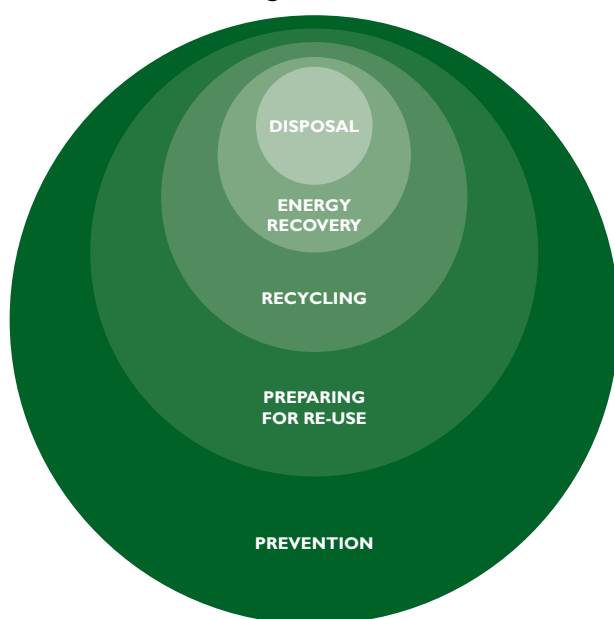
There is a significant book of statute and policy statements governing the management of waste in Ireland. European policy and legislation provides much of the basis for our national law and policy for managing waste.

The European Commission has prepared waste framework legislation to establish the



legal structure for the prevention and management of waste across all Member States. The Waste Framework Directive (WFD) is the key piece of framework legislation for the management of waste in Member States.

There is a strong connection between European Directives and Irish legislation governing waste. Irish waste legislation is made up of the Waste Management Act 1996, statutory instruments or waste regulations and other related legislation.



The WFD incorporates the provisions of previous separate Directives on waste oils and hazardous wastes which have since been repealed. The Directive sets out a waste hierarchy which is a priority order of what constitutes the best overall environmental option in waste management. The Directive 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.

Since the release of its Europe 2020 Strategy in 2010, the European Commission has published important waste policy framework documents, such as 7th Environmental Action Programme and the Roadmap to a Resource Efficient Europe, 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 embrace the transition to a green circular economy.

National waste management policy up to 2014 is outlined in a series of statements produced by the Department of the Environment, Community and Local Government (DECLG) and separate Environmental Protection Agency (EPA) publications which address waste prevention and hazardous waste. The intention of these statements is to improve how we manage our waste which primarily 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. In July 2012 the DECLG published Ireland's latest waste management policy, *A Resource Opportunity*, which, for the first time, recognises the value of waste.

Moving towards a Circular Economy

In July 2014, the European Commission adopted the Communication *Towards a circular economy: A zero waste programme for Europe*, to establish a common and coherent EU framework to promote the circular economy. The waste elements of the circular economy package are based on the results of a review of waste targets and waste stream legislation and a selection of key proposals are summarised as follows:

- Increase recycling and preparing for re-use of municipal waste to 70 % by 2030 (the current applicable target in the WFD for 2020 was set at 50%);
- Increase recycling and preparing for re-use of packaging waste to 80 % by 2030, with material-specific targets that will gradually increase between 2020 and 2030;

- The Commission aims to achieve this through progressively increasing existing targets on preparing for re-use and recycling. The provision on endeavouring to eliminate landfill by 2030 is an aspirational one;
- Member States are to be responsible for ensuring the separate collection of bio-waste by 2025;
- The Commission proposes that Member States develop national food-waste prevention strategies and endeavour to ensure that food waste is reduced by at least 30% by 2025;
- The Commission views this target as a way to motivate Member States that do not already have a target at national level to develop measures to take account of resource use. The target would be expressed in terms of GDP divided by raw-material use.

Improving Regulation of Household Waste

There are problems in the household market which have been present for some time. The reform of regulations governing the household waste collection market is under consideration and well advanced. Household waste regulations are being prepared to strengthen the regulatory structures and are due for publication in 2015. 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 unmanaged waste.

Exporting our Residual Waste Resources

The export of residual waste has become more prevalent in the Irish residual waste market in recent times. 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 equating to approximately 20% of the available residual waste market in Ireland.

The growth in the residual waste export market is due to a number of factors the primary one being the landfill levy, which has risen from €30 per tonne in 2010 to €75 per tonne in 2013. The quantity of residual waste sent to landfill has dropped by almost a third from almost 1.5 million tonnes in 2010 to just over 1 million tonnes in 2012. Competitive, low-cost gate fees exist at incineration and waste-to-energy facilities across Europe and have contributed to the movement of waste away from Irish landfills. However, the sustainability of current market dynamics and the place of residual waste exports in the management of waste nationally needs to be carefully monitored.

A growing dependence on the export market into the future 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 focus 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 continued export of waste results in a direct loss of revenue to the Irish economy and impacts 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 at many of these overseas facilities.

Strategic Vision and Approach

The strategic vision of the regional waste management 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 strategic 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.

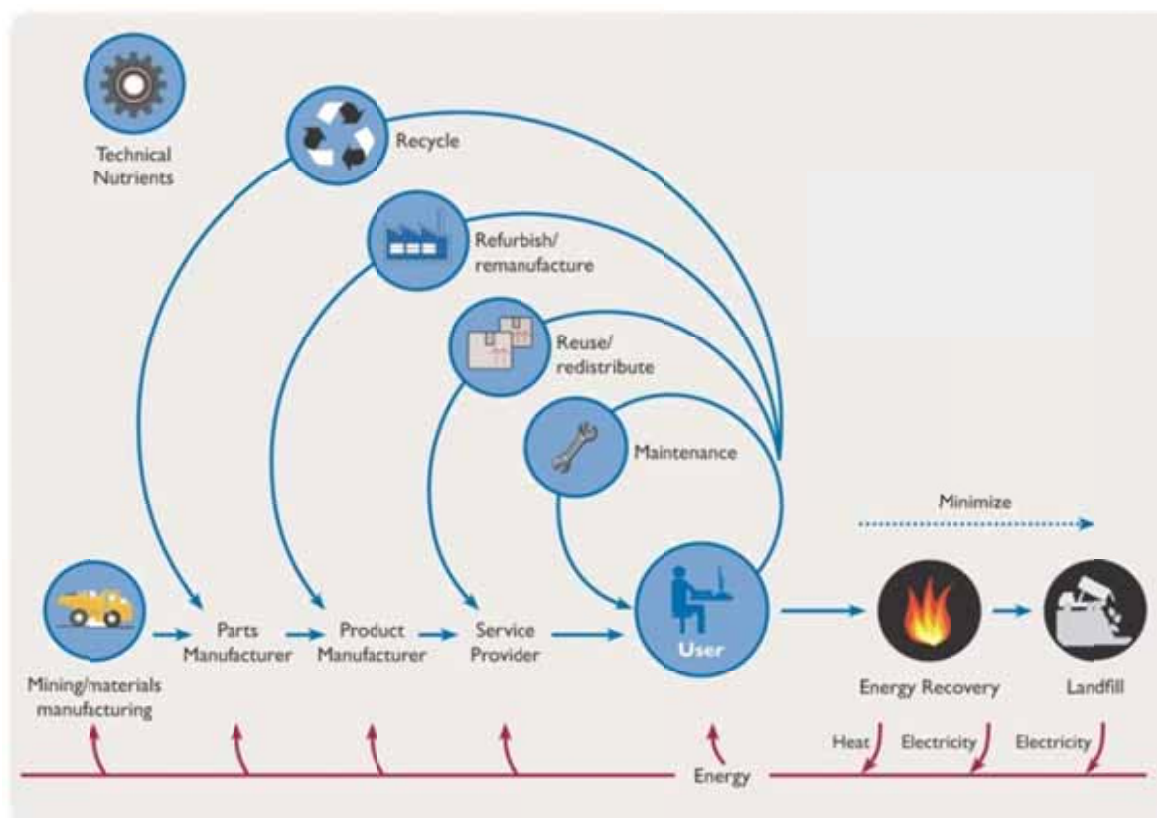


This strategic approach aims to place a stronger emphasis on waste prevention and material reuse activities. It will focus on enhancing the collection of quality materials to build on the positive progress made in recycling. The strategic approach will strive to improve the recovery and generation of energy from waste

treatment infrastructure with increased recognition that the industry is contributing to Ireland's move to renewable energy solutions. Finally, it will seek to further reduce the role of landfill in favour of higher value recovery options.

The circular economy model fundamentally considers waste as a resource which can be recirculated into systems which focus on maintaining, repairing, reusing, refurbishing and recycling materials and products. Being resource efficient and getting 'more from less' is central to this model.

The strategic vision is to put into place coherent policy objectives and actions which align with European and national policy to 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 and will ensure our wastes are managed better in keeping with the wider vision of the circular



economy.

The strategic policy objectives for the plan represent the local authorities' statement of intent and cover the following policy areas:

- Policy and legislation
- Prevention
- Resource Efficiency & Circular Economy
- Coordination
- Infrastructure Planning
- Enforcement and Regulation
- Protection
- Other wastes

Performance targets are proposed for the plan to provide a benchmark that local authorities can work together to meet. The targets are focused on those activities and waste streams in which local authorities have a strong role and as a consequence have more influence on the outcome

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. The 1% reduction per annum aims to focus local authority activities in the area of household waste prevention and its inclusion demonstrates commitment in this area in line with national prevention ambitions and previous success in

this

area.



Municipal waste is a key waste stream for Ireland and the prevention of waste arisings in this stream is an on-going challenge. Ireland has made steady progress in terms of improving the management of this stream with increasing rates of recovery. 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. This target also encompasses preparing for reuse activities which have the potential to become an important part of the material resource sector.



Waste management in Ireland has moved away from landfill and the number of non-inert landfills has reduced to two. The regions are proposing to build on this treatment shift

and respond to the government's policy's call for the elimination of landfill. National policy aims 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. The target proposes to eliminate the direct disposal of unprocessed municipal waste to landfill by 2016. The implementation of this target will help to ensure all residual municipal waste from 2016 onwards is directed to indigenous pre-treatment facilities or other recovery outlets for processing and treatment.

The local authorities in the EMR recognise that within the period of the current plan there is a limit to the amount which can be achieved. There is a need to think beyond the end of the plan and to consider long-term goals. Accordingly, local authorities have set out long-term targets in areas of prevention, recycling and disposal, mirroring the performance targets which have been agreed.

Future Targets to 2030
Preparing for reuse and recycling rate of 60-70% of Municipal Waste by the end of 2030 (Discussions as to final target level are ongoing between European Member States)
Eliminate the use of landfilling of all major waste streams including municipal, industrial and construction and demolition wastes in favour of the recovery of residual wastes

Waste Managed in the Region

The total waste arising in the Region for 2012 was nearly 3.25 million tonnes.

The municipal waste collected in the region in 2012 was 1,301,308 tonnes.

It is estimated that over 560,786 tonnes of household waste was collected kerbside in the EMR in 2012. The waste collected through the kerbside collection system represents 80%

of total household waste managed (HWM) in the region in 2012.

Waste Type	2012
Household (Total, ex unmanaged)	694,441
Municipal (Household & Commercial)	1,301,308
Construction & Demolition	1,910,887
WEEE (Household and Non-Household)	33,068
Total Waste For EMR	3,245,263

National figures for C&D waste show a major decline over a longer period with the quantity of C&D waste collected falling from a high of almost 18 million tonnes in 2007 to 3 million tonnes by 2011.

Progress on Preventing Waste

The 2012 evaluation of the regional waste management plans that make up the EMR area indicate varying progress on waste prevention and minimisation. Each local authority in the region has a post of Environmental Awareness Officer however in some authorities the role has not always been filled (on a whole time basis).

The Green Schools programme is an important mechanism for raising awareness of the environment.

Progress has been made in the Eastern-Midlands Region in recent years with regard to reuse. Bicycles and paints are recovered by various environmental community organisations for further reuse at community level. However the challenge exists to drive forward the resource efficiency agenda and advance reuse activities.

Items Reuse	Diversion (kg)	Saving (€)
40,353	695,933	4,174,487

Free Trade Ireland was developed with funding provided by DECLG and is currently

financed on an on-going basis by the EPA. The take-up of this service is still mainly Dublin-based. It is hoped the implementation of policy actions in the plan will expand participation in the service further.

Household Waste

Household Waste Managed (HWM) is the sum of the household waste collected at kerbside and the non-kerbside household waste including WEEE and batteries collected. Total kerbside HWM collected in 2012 was 560,786 tonnes. Total non-kerbside HWM in 2012 was 133,655 tonnes.

In 2012 approximately 81% of the permanent private households within the EMR, were signed up to a kerbside collection service. Of these households, over 49% are serviced with residual waste and mixed dry recyclables (MDR) collection services. A food organics collection service has been rolled out at varying rates to households in different parts of the region, from as high as 84% in Fingal to 2% in Meath and 3% in Wicklow.

Quantity household waste	2012
Total Kerbside managed	560,786
Total Non-Kerbside managed	133,655
Unmanaged Household Waste	63,333

Non-kerbside household waste is collected via Civic Amenity Sites, Bring Banks, Bulky Waste Collections and collection points for WEEE and Batteries. These systems are an important part of the overall management of HWM accounting for approximately 18% of the household waste collected.

The quantity of unmanaged household waste generated in the EMR was 63,333 tonnes, nearly double the 2010 arisings. The challenge of addressing the quantity of unmanaged waste in the region will be tracked over the course of the plan period.

Municipal Waste

Over the last number of years, there has been a significant increase in the percentage of municipal waste recovered as increases in the landfill levy has moved residual waste towards thermal recovery solutions in Ireland and abroad. The estimated quantities of municipal waste managed recovered and disposed in the Region in 2012 are shown,

Municipal Waste	2012 tonnes
Recovered	769,030
Disposed	532,278
Total municipal	1,301,308

Packaging Waste and Other Priority Waste Streams

The plan provides summary data for packaging and priority waste streams collected and managed in the EMR in 2012.

Quantity	2012 tonnes
Packaging Managed (estimate)	469,511
Total C&D waste collected	1,910,887
WEEE, Household & Non-Household	33,068
Total Tyres collected	10,374
Total Batteries collected	7,426
Total ELVs accepted at ATFs	29,182

The total recovery rate for packaging waste nationally increased from 74% in 2010 to 87% in 2012, which was well in excess of the 60% recovery target for 2011 under the Packaging Directive. It is expected that the total recovery rate for the region is similar to the national figure.

In 2012, nationally there were 136 self-compliers registered with the local authorities (representing 186 unique producers). 85 of these self-compliers were located in the EMR, representing 95 unique producers. In 2012 the self-compliers in the EMR put 18,818 tonnes of packaging on the market and

subsequently recovered 3,804 tonnes of packaging waste (20%) (EPA, 2014¹).

The quantity of total C&D waste that was collected in the EMR in 2012 is estimated to be over 1,910,887 tonnes. The bulk of the C&D waste collected is soil and stones, with the remaining waste comprising other C&D waste materials such as rubble, metals, timber, plastic, glass, wood, contaminated soils and mixed C&D waste.

The soil and stone waste collected within the EMR is primarily managed at local authority permitted infill sites with the other C&D waste types primarily managed at EPA licensed activities. Contaminated soils are treated at appropriately licensed hazardous waste sites in the EMR. Ireland is currently achieving the European target for the recovery of this waste stream.

A total of 16,364 tonnes of WEEE was collected in the EMR in 2012 and is collected by the following means:

- At civic amenity facilities;
- Retailer take-back schemes, operated at the point of sale;
- One off collection events; and
- Authorised waste collectors.

Ireland has been very successful to date in the implementation of the WEEE Directive and meeting EU targets. In 2012 7.5kg per capita was collected, which exceeds the target set by the EU Directive. The existing collection target of at least 4kg per capita will remain in place until the end of 2015.

A total of 7,426 tonnes of Batteries (portable and non-portable) were collected in the EMR in 2012. The non-portable batteries and accumulators primarily consist of lead acid batteries and account for the majority of the total weight of batteries and accumulators collected in the EMR each year. The *National Waste Report 2012* (EPA, 2014) indicates that

Ireland has achieved the 2011 target, but is at risk of failing to meet the 2016 target as the 2012 national collection rate is reported as 28%.

A total of 10,374 tonnes of waste tyres were collected in the EMR in 2012. The EPA reports that in 2012, approximately 40% of the total managed waste tyres in Ireland were exported, with the majority used as fuel (33%). However there is a lack of consistent and accurate data on tyres and waste tyres nationally making it difficult to monitor the performance of this particular initiative. The level of illegal storage and the number of non-compliant businesses nationally remain as issues to be tackled. The report makes a range of recommendations with regard to the improvement of the management of this waste stream.

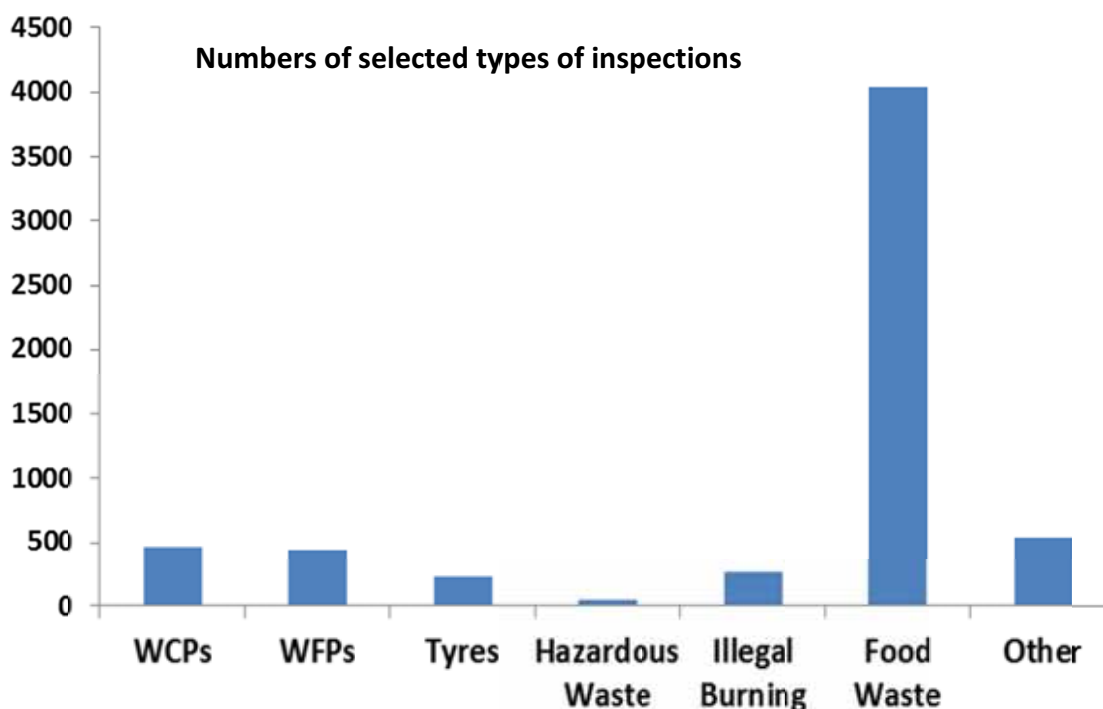
A total of 29,182 tonnes of ELVs were accepted at ATFs in the EMR in 2012. The EPA reported that of the ELVs collected in Ireland in 2012 the total reuse and recycling rate was 81.8% and total reuse and recovery rate was 87.8% (*National Waste Report 2012* (EPA, 2014)). Ireland is currently achieving European reuse and recovery targets for this waste stream however future targets are at risk.

The DECLG undertook a Review of the Producer Responsibility Initiative Model in Ireland for the relevant waste streams including packaging waste. The review has put forward a list of recommendations for consideration and many of these will impact on specific activities of the local authorities during the life time of this plan such as enforcement.

Enforcement and Regulation

Each of the local authorities within the EMR has a dedicated waste enforcement resource which is funded by the DECLG under the Local Authority Enforcement Measures scheme using the Environment Fund.

¹ EPA emailed data 14th August 2014.



A recent review of waste enforcement under that National Waste Policy proposed the establishment of lead authorities for waste enforcement to support local authorities to achieve consistent enforcement. The process of selecting lead authorities has been referred to the City & County Managers Association (CCMA) with an anticipated completion date in 2015.

The primary objective of local authorities in terms of waste enforcement is to achieve regulatory compliance in relation to waste activities in their functional area. The number of waste inspections undertaken by local authorities in 2012 exceeded 7,000.

Waste Forecasts

The forecasting of waste generation is critical in waste management planning for a number of reasons. Forecasting allows prediction of future waste management infrastructure requirements, and understanding what has to be achieved when considering targets.

It is essential for waste forecasting that the initial base data is of good quality. Waste projections in previous plans used baseline data which was to some extent inaccurate

due to the use of estimates of weights of waste managed and uncollected waste. Further, the previous plans relied upon the accuracy of economic data used. This data did not foresee the significant economic growth then rapid contraction which started in 2007.

A review of the approach taken to waste projections prepared in Ireland and internationally was undertaken in the plan and key findings included:

- Short-term predictions are likely to be more accurate than long-term ones;
- For municipal waste a strong link between economic activity and waste generation can be demonstrated;
- Private consumption has been shown in studies to be a strong influencing driver for municipal waste growth;

The projections for household and commercial waste arisings were made using a number of different methods all of which are influenced by external dataset. A high and low range set of projections was developed.

The municipal waste projections for the region have been compiled using the household and commercial waste forecasts.

This data does not include street cleaning or cleansing wastes which are typically reported as part of the municipal waste stream. These quantities tend to be consistent from year to year. It is anticipated that by 2021 the region will generate a maximum of 1,557,748 tonnes of municipal waste.

Range	2015	2019	2021
Low	1,382,661	1,567,862	1,657,632
High	1,415,328	1,537,059	1,594,038

Waste Infrastructure in the Region

Currently there are a total of 246 local authority authorised facilities in the region (190 WFP and 56 CoR) with a total authorised treatment capacity of over 4,245,717 tonnes. Louth and Meath have the greatest number of authorised facilities, at 33 each, with Dún Laoghaire-Rathdown hosting the fewest (3).

Pre-treatment type activities represent the largest group of local authority authorised facilities at 32%. 26% of the local authority authorised facilities are involved in land improvement

WFP facilities in EMR	190
COR facilities in EMR	56
Total LA Authorised Capacity	4,245,717

There are 46 active EPA licenced facilities in the region which have a combined licenced capacity of 6,277,437 tonnes. Some 45 of the 46 EPA authorised facilities in the region are pre-treatment facilities. There is one EPA authorised facility recovering waste – the waste-to-energy facility at Carranstown. The plan provides comprehensive detail of pre-treatment and recovery facilities in the region.

In the EMR, two landfills are accepting non-hazardous municipal waste (Q3-2014), Drenid, Offaly operated by Bord na Móna and at Ballynagran, Wicklow operated by Greenstar.

There are three other landfills in the region that accept inert waste – the Murphy Environmental Hollywood Limited facilities in Meath and in Dublin. The Bord na Móna facility in Offaly accepting peat ash.

The Knockharley facility in Meath has remaining capacity but is not accepting non-hazardous municipal waste at time of writing.

The total quantities of household, commercial and industrial waste accepted at landfill from 2010 to 2012, are derived from *National Waste Reports (EPA, 2010-2012)*.

Historic landfills are those that were in operation in the period 1977–1997; they were not in breach of national legislation at the time but are now required to have at least a Tier 1 Risk Assessment as they may be considered to pose a risk to the environment and human health. Legacy landfills are those that ceased operation prior to 1977 and where possible local authorities investigated some of these also. There are 116 high, medium and low risk sites in the region.

Analysing Regional Treatment Infrastructure

In 2012, 72% of the total local authority capacity (as measured in 2014) was not used. Two groups account for the majority of authorised capacity Group 1, storage processing and transfer of waste represents the largest number of local authority authorised facilities with 79 facilities, while 56 of the local authority permitted facilities are involved in Group 4 land improvement.

	Market Authorisation	2012 Input	Authorised Used
EMR	4,245,717 t	1,206,381 t	28%

For the 246 authorisations in the region the following findings can be made:

- 45 facilities did not submit an AER or had no authorisation specified;

- 64 facilities reported zero intake in 2012;
- 88 facilities reported a rate of utilisation of <50% of authorised capacity;
- 29 facilities reported utilisation rates of >50% of authorised capacity; and
- 16 facilities reported utilisation rates of >100% of authorised capacity.

There are 107 EPA waste licenced facilities in the region at varying stages of development and activity. The 46 active facilities have 6,277,437 tonnes combined licensed capacity.

The situation with landfill has changed significantly since 2005 and from 2012, when 18 and 7 respectively facilities were accepting MSW. At the time of writing there were 2 landfills accepting MSW in operation in the region. Treatments defined by code R5 are primarily soil recovery sites.

Code	No. of facilities	Tonnes licensed	Treatment by Hierarchy
D1	1	137,200	Disposal
D5	4	760,000	Disposal
D9	3	65,257	
D13*	1	80,000	Pre-Treatment
D14*	4	679,980	Pre-Treatment
D15*	5	518,000	Pre-Treatment Recycling
R1	1	200,000	
R2	1	5,000	
R3	8	496,000	
R5	4	1,230,000	Other Recovery
R9	1	110,000	
R12*	6	1,110,000	Pre-Treatment
R13	7	886,000	
Total	46	6,277,437	

*pre-treatment code

The Eastern-Midlands Region has approximately 10.5 million tonnes of active treatment capacity between EPA and LA authorised facilities.

Taking on board the findings of the market analysis policy relating to the development of infrastructure in the region has been made. The policies are targeted at the lead authorities, local authorities and operators in the waste market and are designed in accordance with the tiers of the waste hierarchy. A selection of these is provided:

- The waste plan supports the development of up to 300,000 tonnes of additional thermal recovery capacity for the treatment of non-hazardous waste nationally;
- The waste plan supports 75,000 tonnes of additional capacity to treat biowaste (food and green waste) for the region;
- In relation to pre-treatment there is a significant quantity of unused capacity in the region and future authorisations by the local authorities, the EPA and An Bord Pleanála must take account of the scale of existing treatments in the market prior to making a decision on additional capacity;
- With regard to disposal, the waste plan supports the development of disposal capacity for the treatment of hazardous and non-recoverable wastes at existing landfill facilities in the region. In addition the local authorities anticipate disposal capacity for non-hazardous processed residual wastes will be required over the plan period but there is no need for additional facilities to be brought on stream during the plan period. The local authorities will consider the future land use of closed existing landfill sites; and
- Policies have also been formulated in the waste plan for public civic amenity and bring centres, backfilling, material reprocessing, preparing for reuse activities, facility authorisations by local authorities, and collection infrastructure.

The proper siting of waste facilities is critical to ensure the impact on communities, the environment and important habitats can be minimised, managed and mitigated. The plan includes broad siting criteria for waste facilities, and specific facility site guidelines will be developed during 2015.

Future Roles and Responsibilities

Following the designation of Dublin City Council as the Lead Authority for the EMR a Regional Waste Steering Group was established consisting of a Director of Service from each of the local authorities in the region and chaired by the Lead Authority.

The new structures for the implementation of the waste plan will include establishing and maintaining a Regional Waste Management Office over the course of the plan. The new arrangements will include working groups to tackle those areas of implementation which are being led by the local authorities. The new arrangements will seek to facilitate better sharing of knowledge between the local authorities and capacity building on particular issues.

The role of local authorities has evolved and the principal areas of activity are now regulatory, educational, and enforcement related.

Finances and Investment

The plan sets out the anticipated income and expenditure of the region in relation to the implementation of local authority waste

management activities. Expenditure items have been grouped into categories as follows:

- Landfill and waste collection. This is in effect the entire waste collection and disposal activities. None of the local authorities are involved in waste collection at this stage, but there are some small legacy costs being incurred. There are just two operational landfill sites, hence much of the landfill costs are also legacy costs;
- Recovery and recycling. There is no infrastructural expenditure under this heading in the EMR;
- Litter & Street Cleaning, given the relation between these two activities; and
- Regulation, Monitoring and Enforcement.

The allocation of expenditure income and the funding requirement had been determined across these activities.

It can be seen that street cleaning, litter, waste collection and disposal activities, when combined, account for 70% of total budgeted expenditure in 2014. At present, this proportion is expected to remain at the same level over the duration of this plan. Activities that are at a higher level in the waste hierarchy, such as prevention, recycling as well as waste regulation and enforcement, account for 29% of expenditure.



In developing the plan, the region has prepared a range of policies and actions that should be implemented. The funding required is higher than the baseline projections however, the increases are relatively modest.

For the local authorities in the EMR, no capital investment requirements are foreseen². For the EMR specifically, regional private investment is anticipated and includes additional biological treatment capacity to cater for municipal waste and agricultural waste. In addition, private sector investment in additional reprocessing, recycling and re-use infrastructure is also anticipated.

Infrastructure Element	Capacity (Tonnes)	Estimated Cost (€)
National Treatment Investment		
Thermal Recovery	300,000	200 million
Hazardous Waste Thermal Treatment	50,000	60 million
National Investment		260 million
Regional Treatment Investment		
Biological Treatment - biowaste	75,000	22.5 million
Biological Treatment – agricultural waste		40 million
Reuse; Reprocessing; Pre-Treatment	-	Not Quantified
Regional Investment		62.5 million

Policy Actions & Targets

The strategic policy objectives set out in the plan have been further expanded into policies which have been included and described at appropriate points throughout the plan. In Chapter 19 the policies of the plan are further expanded into implementable actions with associated timelines and measures of success. The delivery of these policies and actions will

assist in the achievement of the overall performance targets of the plan.

In the course of the development of the policies and actions the local authorities have considered many factors:

- The findings of the evaluation reports, which examined the success of implementing previous plan policies;
- The formulation of the plan policies and actions has also taken account of European and national waste legislative requirements, targets and policy objectives;
- Local, regional and national waste issues outside of the legislative framework;
- The current status of waste management in the EMR; and
- Finally environmental impacts have been considered throughout the evolution of the plan from the evaluation reports to the preparation of the strategic policy objectives, policies and actions.

Each policy action described in the plan has an associated target, an expected timeline, an indicator where relevant and finally allocates responsibility for the implementation of the action, as illustrated.

The lead authorities in each region will play the lead role in implementing the majority of policy actions over the course of the plan. The policies relating to infrastructure are not addressed in the same manner.

These policies are recognisably different to the other areas with policies directed primarily towards waste market operators.

² Landfill capping and closure is shown on the local authority current accounts; and not the capital accounts; so this expected expenditure is taken into account in the counterfactual scenarios

Strategic Policy Objective



Monitoring & Reporting

The lead authority in the EMR will prepare an annual report focusing on the progress of plan implementation across the region. The report will provide an update of the region's progress towards the performance targets in the plan and the policy actions as set in

chapter 19 of the draft plan. The report will include data from each of the local authorities in the region as well as incorporating national indicators where relevant. An agreed set of national and secondary indicators for key waste streams are included in the draft waste plan.

Consultation Details

Copies of the Draft Plan and the associated Environmental Report and Natura Impact Report can be downloaded from website listed below. A copy of the Draft Plan may be inspected at the address given below during normal working hours and a copy can also be purchased at the same address for a fee of €50.

Written submissions/observations in relation to the Draft Plan and the associated Environmental Report and the Natura Impact Report may be made to the Lead Authority, as outlined below and shall be taken into consideration before finalising the Draft Plan. The latest date of receipt of representations is 4pm on 30/01/15.

**Regional Waste Coordinator,
Eastern-Midlands Region Waste Management Office,
Block 1 Floor 6,
Civic Offices,
Dublin 8.
01 222 2023
Email: emwr@dublincity.ie**

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 Eastern-Midlands Region, serving a population of 2,249,603, includes the administrative areas of the following local authorities - Dublin City Council, Dun-Laoghaire Rathdown County Council, South Dublin County Council, Fingal County Council, Wicklow County Council, Kildare County Council, Laois County Council, Offaly County Council, Westmeath County Council, Longford County Council, Meath County Council and Louth 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 rollout 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 to 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 and brought together along with the actions required for their implemented in chapter 19.

Figure 1.1 illustrates the roadmap from strategic vision to action on which the plan has been constructed.

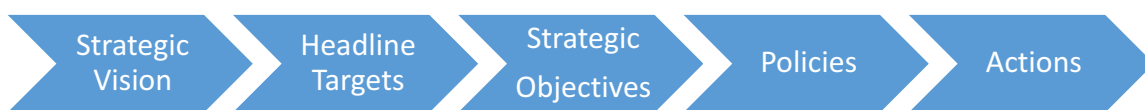


Figure 1-1 - Strategic Vision to Actions Roadmap

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 lead with accountability tracked to ensure successful outcomes.

1.3 THE SEA / AA

Strategic Environmental Assessment (SEA) is a process by which environmental considerations are integrated into the preparation of Plans and Programmes prior to their final adoption. 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 EMR Region carried out an SEA which informed the plan. The SEA of the EMR RWMP 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 EU wide network of sites known as Natura 2000. These sites are Special Areas of Conservation (SAC) designated under the Habitats Directive and Special Protection Areas (SPA) 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 Natura 2000 sites. An AA of the EMR RWMP 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 the EMR RWMP through close integration of all stages of the plan making as illustrated in Figure 1.3.

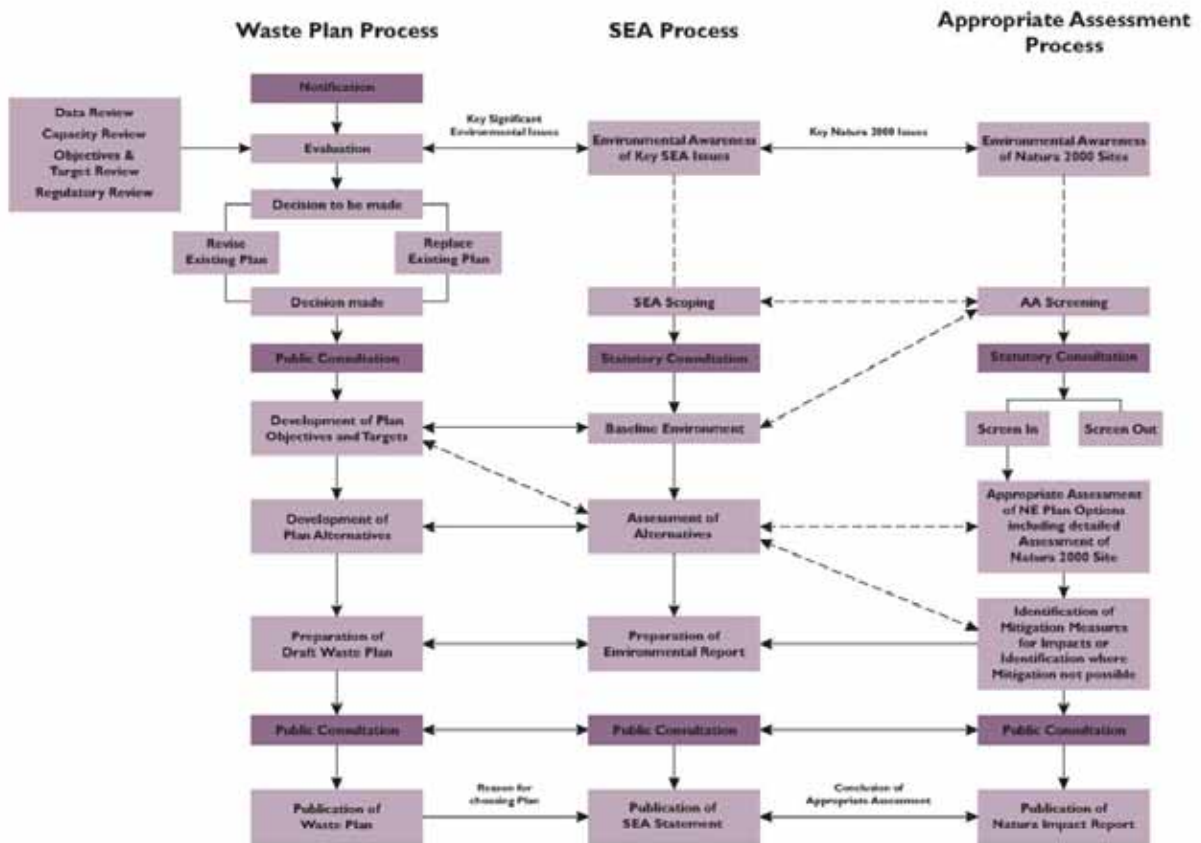


Figure 1.3 - Integration of Processes

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. This provides an opportunity for all stakeholders in the region to raise issues.

An advertisement was placed in the Irish Independent, Irish Times, Irish Examiner and on Local Authority websites on 10th October 2013 indicating the intention of the Lead Authority to prepare a new Waste Plan for the region and inviting submissions for consideration. In total 27 submissions were received. As a part of the consultative process a national briefing / consultation meeting was held with key stakeholders in Mullingar on the 9th of April 2014, refer to Appendix A for pre-draft submission & stakeholder meeting attendance details.

Submissions and meetings provided constructive suggestions, numerous ideas and initiatives for consideration in the preparation of the Draft Regional Waste Management Plan. Common concerns included the planning/permit process, prevention/awareness measures, waste regulation and enforcement, charging systems, movement of waste, infrastructure/facilities and the availability of accurate projections/statistics.

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 of the information to be included in the Environmental Report. The statutory consultees for SEA as established in national legislation were the EPA, Department of Arts, Heritage and the Gaeltacht, Department of Communications, Energy and Natural Resources, Department of Agriculture, Food and the Marine, and the Northern Ireland Environment Agency (NIEA).

In addition a period of public consultation (4th June to 4th July 2014) was applied to the SEA Scoping Document. Some 28 submissions were received and given due consideration in advance of the environmental assessment of the Plan.

2 REGIONAL WASTE PLANNING FRAMEWORK

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 statement³ recommended the number of waste management planning regions be reduced from ten 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 City and County 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; Dun 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; Waterford 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;

³ A Resource Opportunity, Waste Management Policy in Ireland (July 2012)

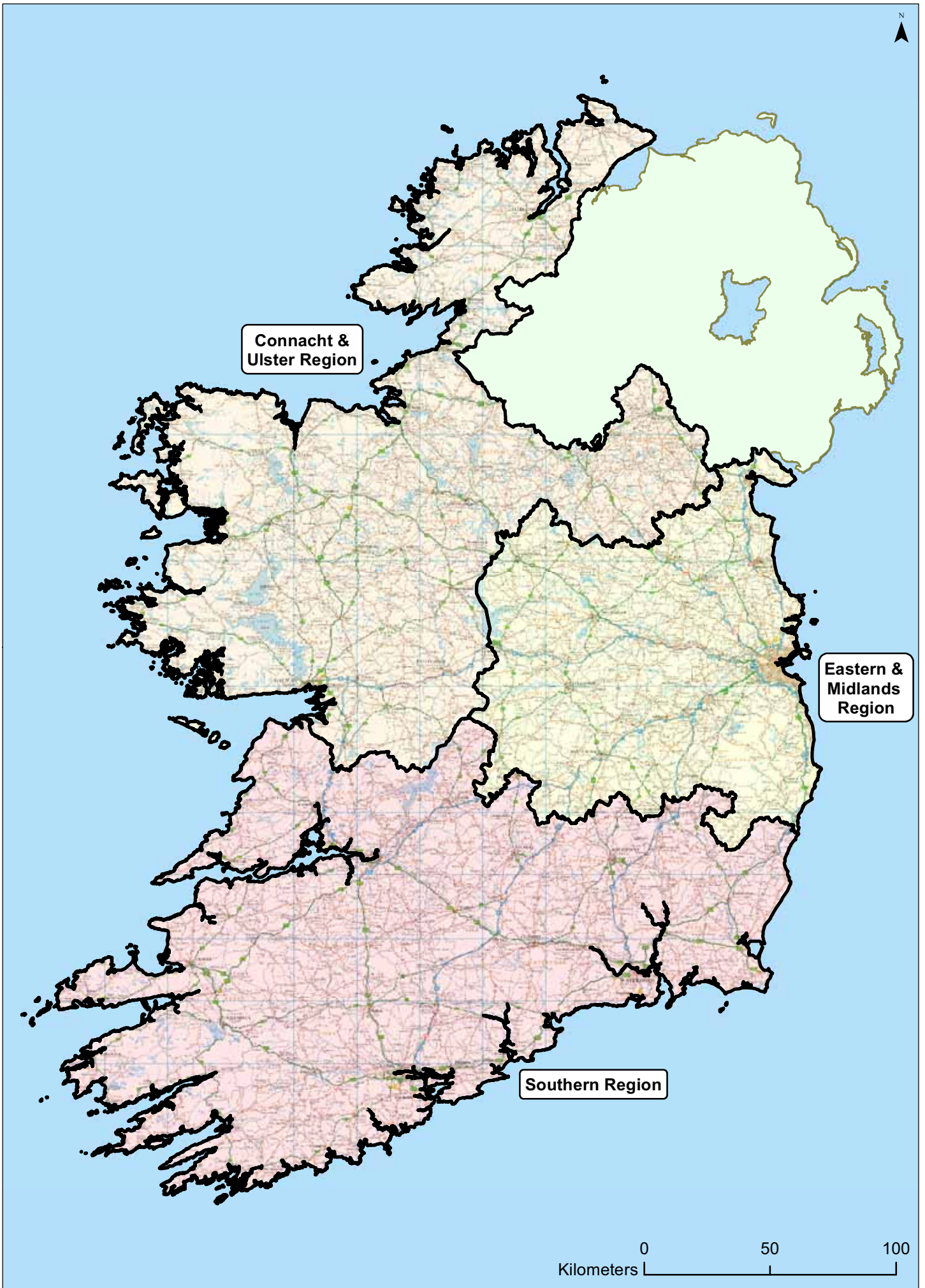


Figure 2-1 Waste Regions of Ireland

The required content of the waste management plan is described in the Waste Management Act⁴ and the Waste Management (Planning) Regulations 1997 (as amended).

In preparing this plan, the local authorities have considered their relevant statutory obligations, the European Commission's guidance document⁵ on waste plans and reviewed recommendations from other relevant strategic planning documents such as the:

- National Hazardous Waste Management Plan 2012;
- Air Quality Management Plan for the Dublin Region 2009-2012;
- National Waste Prevention Programme; and
- Our Sustainable Future, a Framework for Sustainable Development

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 2014.

The implementation of the planning strategies outlined in the NSS are 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) in force in November 2014, in the EMR are:

- Regional Planning Guidelines for the Greater Dublin Area (includes the four Dublin Local Authorities, Wicklow, Meath and Kildare) 2010 - 2022;
- Regional Planning Guidelines for the Midlands Region (includes Longford, Westmeath, Laois and Offaly) 2010 - 2022; and
- Regional Planning Guidelines for the Border Region (includes Louth) 2010 - 2022.

Each of the RPGs listed above contain strategic recommendations to be considered in the waste plan. These are summarised in Appendix A. In brief the recommendations focus on greater co-ordination of activities across the planning catchment area to provide economies of scale for the

⁴ Sections 6, 7 & 8 of the Waste Management Act as amended.

⁵ Preparing a Waste Management Plan, A methodological guidance note, European Commission (2012)

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

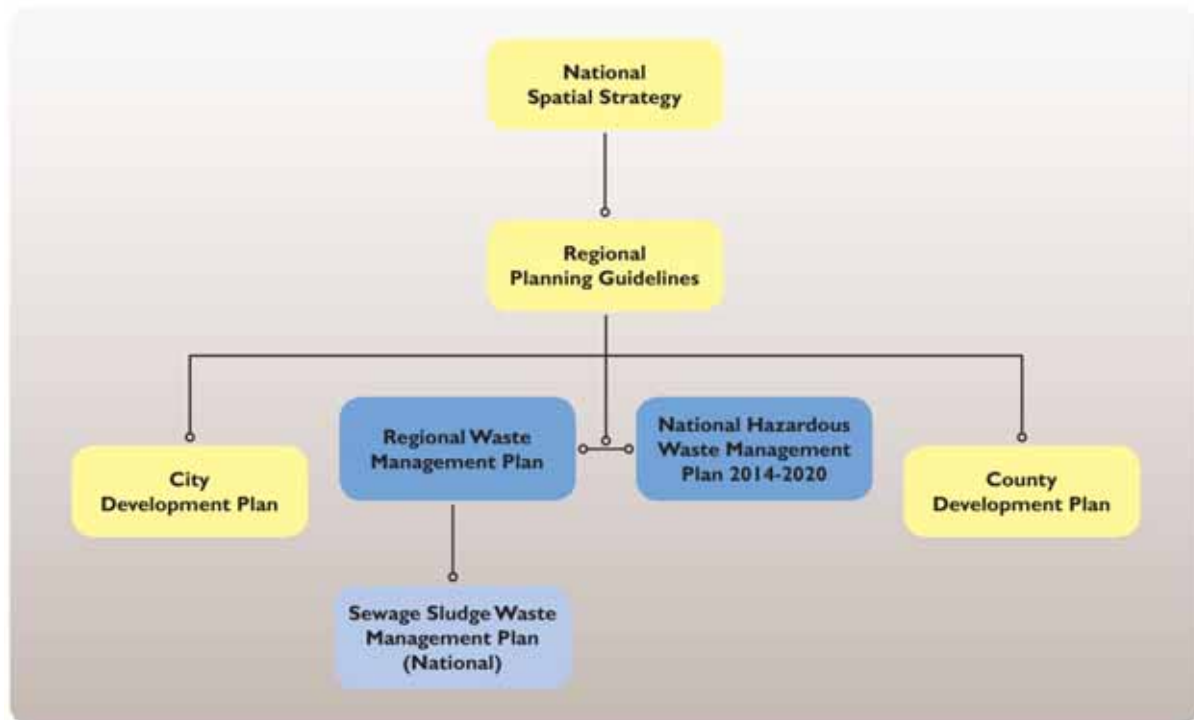


Figure 2-2 - Hierarchy of Irish Planning Frameworks

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 area⁶.

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 granted⁷.

⁶ Section 10A (a) Waste Management Act 1996

⁷ 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. The extent of the interaction is outlined below:

- National Hazardous Waste Management Plan (NHWMP) - this plan is a statutory document prepared by the Environmental Protection Agency (EPA). Local authorities are required to consider the information provided in the NHWMP when preparing the objectives and actions of the waste plan and 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 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; and
- Sludge Management Plan - sludge management plans are prepared by Irish Water and a national plan for the management of wastewater sludge is being written in November 2014. 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 apply⁸ 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, which 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

⁸ Under the Planning and Development (Strategic Infrastructure) Act 2006, which amends the Planning and Development Act 2000

- An installation for the disposal, treatment or recovery of waste with a capacity for an annual intake greater than 100,000 tonnes.

Prior to making an application directly to the Board, the applicant must first receive a notice in writing from them confirming 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 National Spatial Strategy 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 an application qualifies for strategic status or not is made by the Board 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:

- Framework legislation and policy;
- Waste treatment and movement;
- 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 included in Appendix A and more detail on each instrument can be found in the national statute archives⁹. 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. 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

⁹ www.irishstatutebook.ie

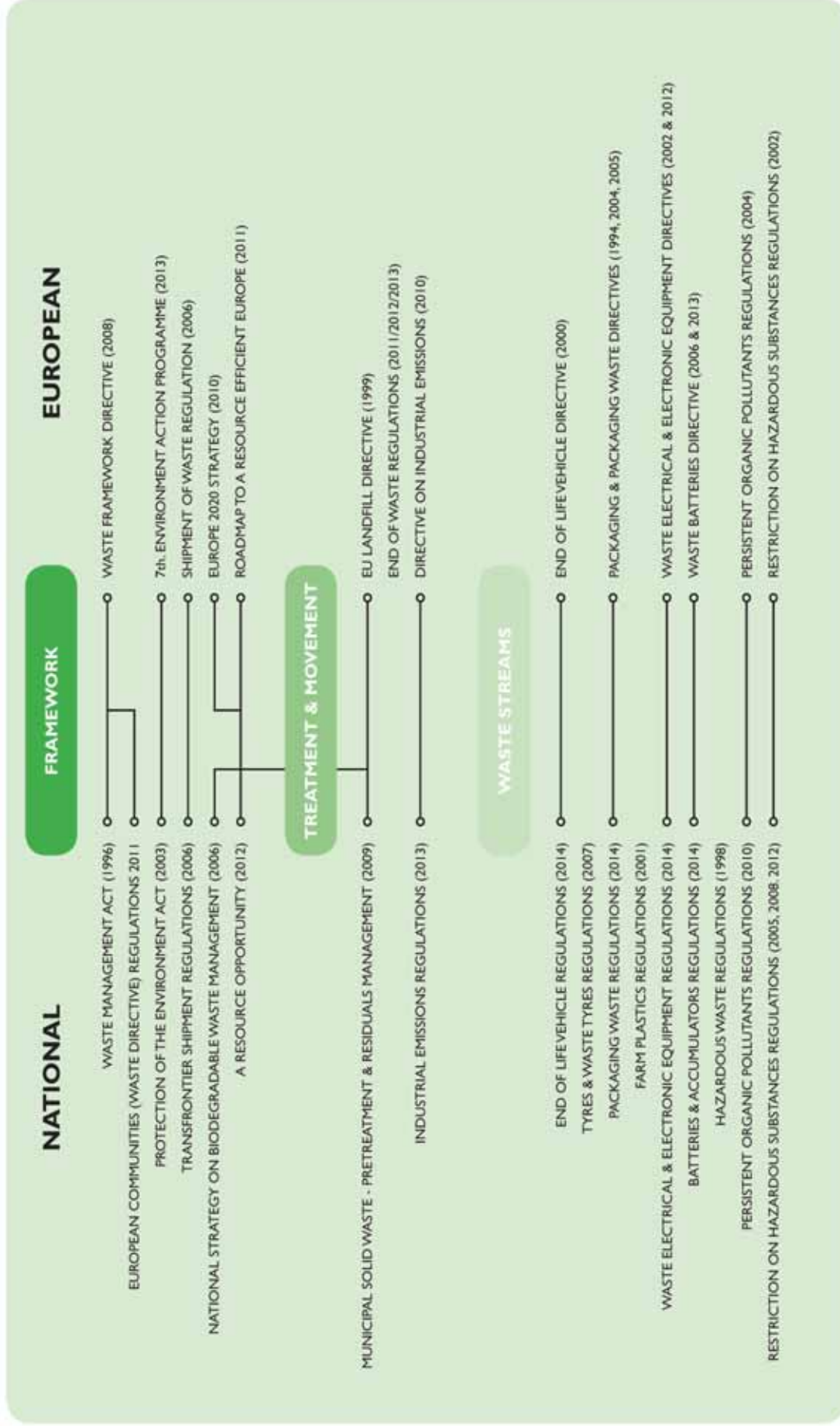


Figure 3-1 - Mapping European and Irish Waste Legislation & Policy

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.

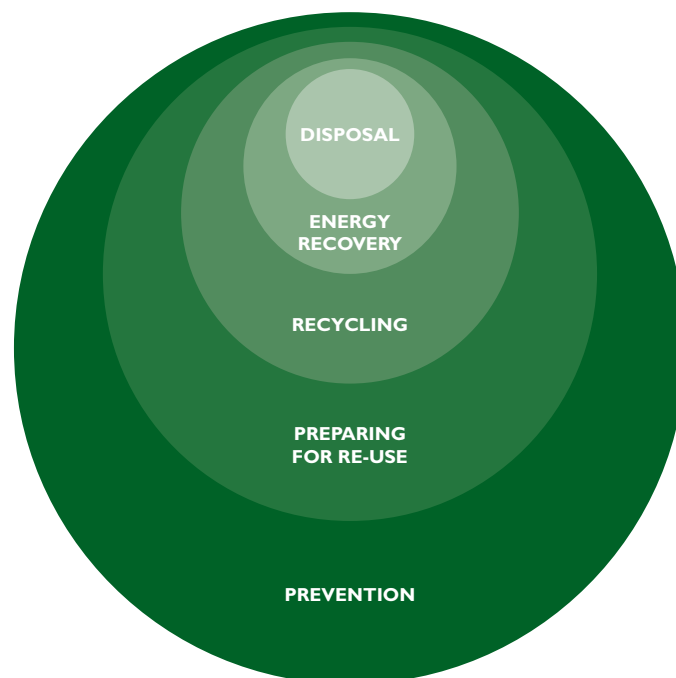


Figure 3-2 - Revised Waste Management Hierarchy

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 re-use and recycling of certain household and similar waste materials; and
- 70% preparing for re-use, 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 Convention¹⁰ 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 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 Waste Management Act, 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;
- enabling measures designed to improve performance in relation to the prevention and recovery of waste; and

¹⁰ 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 embrace the transition to a green circular economy. A summary of the principle 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, re-use and recycling initiatives, and phasing out wasteful and damaging practices like landfilling. By 2020 the European Union and Member States are to ensure:

- 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 like 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, meet air quality standards, progress towards no net land take by 2050, achieve good environmental status for all EU marine waters, and 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 is 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 rollout 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 by June 2012 by the Government, sets out the range of environmental, economic and social measures that are 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:

- 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
- Implement 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 re-use 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 / 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 principle 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 Technology (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 RDF/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, refer to 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 protocol¹¹ 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 Wastes Regulations

The WFD introduced End of Waste (EoW) criteria to remove the burden of waste legislation for high quality recyclables and to stimulate EU recycling markets. EoW criteria set out conditions under which waste could achieve a status of a freely traded product. The criteria set provide a high level of environmental protection and benefit. The objective is achieved by requiring high material quality of recyclables, promoting product standardisation and quality assurance, and improving harmonisation and legal certainty in the recyclable material markets. European End of Waste Regulations have been published for iron, steel and aluminium scrap, glass cullet and scrap copper, with further regulations in development.

3.2.4 Collection and Movement of Wastes

Waste collectors are required by the Waste Management (Waste Collection Permit) Regulations, 2005, 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 application, the conditions which can be attached to a Waste Collection Permit and the review and revoking of such permits. Offaly County

¹¹ EPA Pre-Treatment Guidelines

Council was appointed as the National Waste Collection Permit Office in 2012 and is responsible for administering Waste Collection Permits in Ireland.

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 and second hand vehicles, into Northern Ireland and abroad. Most waste streams have binding performance targets in place and 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), are 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 residual 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 most towns and cities by July 2016. The WFD has set a target of 50% recycling by 2020 for principle fractions¹⁴ of the household stream and Ireland is on track to meet this target.

Commercial waste: Similar 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) 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.

Packaging and Waste Packaging: The Packaging Waste Directive (94/62/EC and amended) and supporting Irish legislation deals 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 Waste Management (Packaging) Regulations 2007 (S.I. No. 798 of 2007) replace the previous the 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 waste (C&D). 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, set a target

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

¹⁵ Guidelines 13 – Development Guidelines for Local Authorities, DECLG

¹⁶ Section 28 of the Planning and Development Acts

of 85% recycling of C&D waste by 2013. More recently the 2008 EU Waste Framework Directive set a target of 70% by weight for C&D waste, excluding natural soils and stones. In 2012 the EPA reported that Ireland has exceeded this target by a considerable margin with a recovery rate of 97% recorded.

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, 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 end-of-life vehicle. Local authorities enforce those 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 Organisation (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 tyres. 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 Directive 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 - 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.

¹⁷ Waste Management (End of Life Vehicles) Regulations, 2006 (S.I. No. 282 of 2006, as amended)

¹⁸ Waste Management (Batteries and Accumulators) Regulations, S.I. No. 268 of 2008

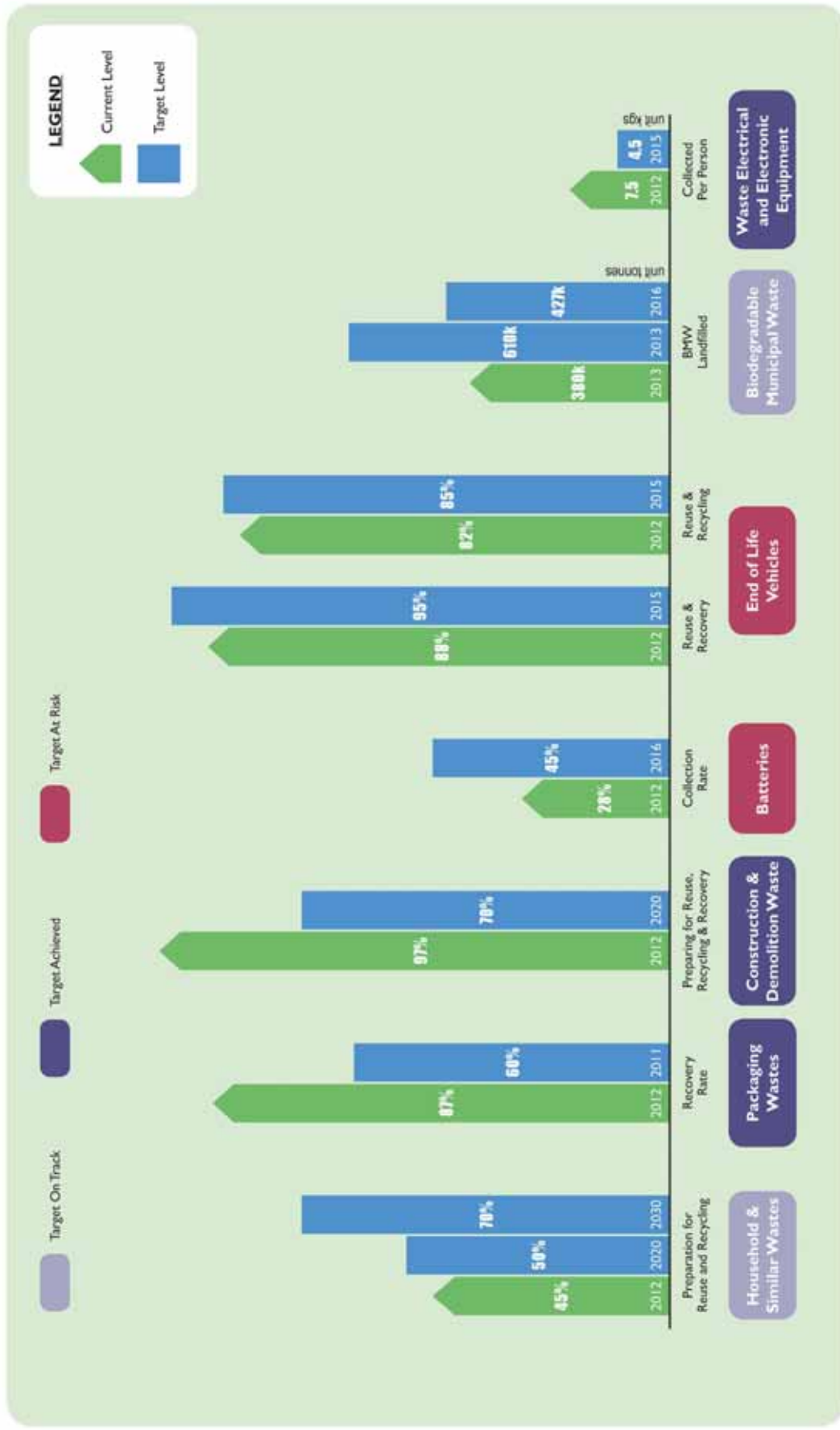


Figure 3-3 - Ireland's Progress towards European and National Mandatory Targets

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 ABP's. Household, commercial and industrial waste streams comprising wholly or in part of ABP's 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 2008 provide limits for certain metals permitted in soil and sludge, and limits 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 sewerage systems require authorisation from Irish Water. 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 introduce a National Wastewater Sludge Management Plan in 2015.

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.

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;

¹⁹ 2009 Regulation (EC No 1069/2009)

²⁰ Waste Management (Management of Waste from Extractive Industries) Regulations, 2009 (S.I. 566 / 2009)

2. Present position regarding waste management;
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 4th 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 1st July, 2007. Plastic shopping bags designed for re-use 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 1st 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; refer to 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 upon 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 bio-energy produced a 'Bioenergy Action Plan for Ireland' which set bioenergy deployment targets and identified priority areas for development and support. The Bioenergy Plan will be published in draft form in late 2014.

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 WILDLIFE

A Waste Management Plan requires a Strategic Environmental Assessment (SEA) to be performed and a brief summary of the principle 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 their most important natural areas as Special Areas of Conservation (SAC). 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 (Special Areas of Conservation) 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 Act 1976 and Wildlife (Amendment) Act 2000 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 Act 1976 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 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.

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 PACKAGE

On 2nd July 2014, the European Commission adopted the Communication “**Towards a circular economy: A zero waste programme for Europe**” and annex²¹ to establish a common and coherent EU framework to promote the circular economy, see Table 4.1.

Turning Europe into a more circular economy means:

- Boosting recycling and preventing the loss of valuable materials;
- Creating jobs and economic growth;
- Showing how new business models, eco-design and industrial symbiosis can move us towards zero-waste; and
- Reducing greenhouse emissions and environmental impacts.

4.1.1 Background

The main proposals put forward by the Commission on waste, concern legislative changes based on the outcomes of two major pieces of work:

A review of key targets in EU waste legislation; and

A review ("fitness check") of recycling and other waste-related targets contained in five of the EU Directives dealing with separate waste streams: sewage sludge, PCB/PCT, packaging and packaging waste, end of life vehicles, and batteries.

The Commission has a legal obligation to review a number of waste management targets contained in the Waste Framework Directive, Landfill Directive and the Packaging and Packaging Waste Directive. In terms of the exact scope of this review, it covered:

- The adequacy of the current targets - proposing new targets where appropriate
- The need to examine possible overlaps between the recycling targets contained in these Directives and,
- To identify options to simplify legislation and improve clarity and consistency, if necessary

With regards to consistency, the review focused on the reliability of statistical data, in particular, the calculation methods used by Member States for measuring recycling targets.

²¹ [http://ec.europa.eu/environment/circular-economy/pdf/Annex-COM\(2014\)398.pdf](http://ec.europa.eu/environment/circular-economy/pdf/Annex-COM(2014)398.pdf)

The second main aim of the review was to evaluate a number of the older waste stream Directives to determine if they are consistent with new policy approaches (e.g. waste hierarchy, life-cycle thinking) and current policy goals (e.g. on resource efficiency and raw materials).

Finally, while the new waste legislative proposals have been for the most part driven by review clauses or requirements contained in existing waste legislation, the Commission noted in 2013 that changes would also be informed by the 'aspirational objectives' set out in the Resource Efficiency Roadmap of 2011, as well as the 2011 Report evaluating the Thematic Strategy on Waste. The objectives and contents of these policy documents are presented together with the 2013 waste objectives contained in the EU's 7th Environmental Action programme for 2014 to 2020.

4.1.2 Circular Economy Proposals on Waste

As mentioned previously, the waste elements of the circular economy package are based on the results of the review of waste targets and waste stream legislation, and objectives presented in the above policy documents. The waste section of the Communication titled 'Modernising waste policy and targets: waste as a resource' - structures the proposed changes around three themes;

- Defining waste targets for a move to a recycling society;
- Delivering simplification and better implementation of waste legislation; and
- Tackling specific waste challenges.

A summary of the main proposals under the above headings is given in Table 4-1.

4.1.3 Proposed Changes to Waste Shipment Rules

The circular economy package does not directly address waste shipment issues nor does it seek to amend the WSR. However, it does include a number of provisions which relate to waste shipments, both within and outside of the EU.

In terms of exports from the EU, waste sent for preparation, re-use or recycling outside the Union shall only count towards the targets if the exporter can prove that the treatment took place under the same conditions specified in the relevant EU environmental legislation²². Any waste exported to facilities which do not comply with Union requirements, will not be taken into account when calculating Member States achievement of re-use and recycling targets.

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.

²² Amendment to Directive 94/62/EC Article 12

Table 4.1 - Principle Waste Related Proposals

Objective	Article	Content
<u>Boost reuse and recycling of municipal waste</u>	Directive 2008/98/EC Article 11 and 37	Increase recycling and preparing for re-use of municipal waste to 70 % by 2030 (the current applicable target in the WFD for 2020 was set at 50%). Where waste is sent for preparation for re-use, recycling or other material recovery in another Member State, it may only be counted toward the targets of the Member State in which it has been collected. (Member States are currently discussing the practicality of the 70% target with some expressing concern that it is too high).
<u>Increase the recycling rate for packaging waste to 80% by 2030, with interim targets of 60% by 2020 and 70% by 2025, including targets for specific materials</u>	Directive 94/62/EC Article 6 and 12.	Increase recycling and preparing for re-use of packaging waste to 80 % by 2030, with material-specific targets that will gradually increase between 2020 and 2030. According to the legislative proposal, packaging waste exported from the EU for preparation for re-use or recycling shall only count towards the fulfilment of the targets if the exporter can prove that the treatment took place under the same conditions specified in the relevant EU environmental legislation.
<u>Ban the landfilling of recyclable plastics, metals, glass, paper and cardboard and biodegradable waste by 2025, while Member States should endeavour to virtually eliminate landfill by 2030.</u>	Directive 1999/31/EC Article 5, new paragraphs 2a, 2b and 2c	The ban on landfilling is a new provision. The Commission aims to achieve this through progressively increasing existing targets on preparing for re-use and recycling. The provision on endeavouring to eliminate landfill by 2030 is an aspirational one. However, the Commission will be given a mandate to review this objective by 2025 and submit a proposal for a legally-binding 2030 landfill reduction target.
<u>Ensure separate collection of bio-waste</u>	Directive 2008/98/EC Article 22 paragraph 2	Member States are to be responsible for ensuring the separate collection of bio-waste by 2025. In addition, the Commission will now be given a mandate to carry out an assessment on the management of bio-waste with a view to submitting a proposal specifying minimum requirements of bio-waste management and quality criteria for compost and digestate from bio-waste.
<u>Clarify the calculation method for recycled materials in order to ensure a high recycling quality level.</u>	Directive 94/62/EC Article 6, new paragraph 1a	At present, Member States can calculate recycling rates using a variety of formulae. However, in future, for calculating the achievement of the re-use and recycling targets, the weight of waste prepared for re-use and recycling shall be understood as the weight of the waste put into a final preparing for re-use or recycling process less the weight of materials discarded during the process.
<u>Improve the reliability of key statistics and make it consistent with the requirements of EU waste legislation</u>	Directive 2008/98/EC Article 37	The Commission proposes a single entry point for all waste data. In addition, to ensure reliability the data should be accompanied by third party verification. However, it is not clear from the proposal who should perform the data entry or third party verification and how or where the data will be stored. According to the proposal the Commission would be given a mandate to set minimum conditions for the third party verification.
<u>Reduce food waste by at least 30% by 2025</u>	Directive 2008/98/EC Article 9	The Commission proposes that Member States develop national food-waste prevention strategies and endeavour to ensure that food waste in the manufacturing, retail/ distribution, food service/ hospitality sectors and households is reduced by at least 30% by 2025. The target, as it stands, is an aspirational one; however, by the end of 2017 the Commission shall have a mandate to establish uniform

Objective	Article	Content
Reduce the use of lightweight plastic bags, ban plastics from landfill by 2025	Directive 94/62/EC Packaging and packaging waste: reduction of the consumption of lightweight plastic carrier bags Article 4a; Directive 1999/31/EC Article 5	conditions to monitor the implementation of food waste prevention measures. The Commission had previously made a legislative proposal in November 2013, according to which Member States will have to achieve a reduction in the consumption of plastic bags within two years. The choice of methods to achieve this is left open; this also included Member States having the option to ban the use of plastic bags. According to a new provision, Member States shall no longer accept recyclable waste for landfilling (including plastics) by 2025. The Commission aims to achieve this through the progressive increase of the existing targets on preparing for re-use and recycling. However, the Commission would be given a mandate to review this objective by 2025 and submit a proposal for a legally-binding 2030 landfill reduction target.
Improve recycling of critical raw materials	Directive 2008/98/EC, Article 23 (b)	The Commission proposes that Member States shall include measures regarding collection and recycling of waste containing significant amounts of critical raw materials in their national waste management plans. The recycling of such materials is further supported under the framework of the Raw Materials initiative ²³ and the European Innovation Partnership on Raw Materials.
Resource Productivity Target (30%) - non binding	-	The Commission sees this much-debated target as a way to motivate Member States that do not already have a target at national level to develop measures to take account of resource use. The target would be expressed in terms of GDP divided by raw-material use. This could have a significant effect on the amount of waste arising. The final decision on setting this target will be taken by the next Commission, which will take office on 1 st November 2014. Thereafter this proposal to include the resource efficiency goal in Europe 2020 Strategy will have to be supported by the Member States' environment ministers.

²³ More information on the Initiative available at http://ec.europa.eu/enterprise/policies/raw-materials/index_en.htm

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 from 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 and since 2012 the Eastern-Midlands Region has been fully privatised.

The reform of the household waste collection market has been under consideration for some time. In 2011 the present Government signalled their 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, 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. 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. Any expansion to the role of local authorities will need to consider the resources and funding available as part of the implementation strategy so that regulatory obligations can be met.

4.3 RESIDUAL WASTE 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 refuse derived fuel (RDF), commenced as far back as 2004.

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. This equates to approximately 20% of the available residual waste market in Ireland.

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 solid recovered fuel (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 municipal waste is also being generated for export. This material may be exported with minimal, if any, treatment. The EPA have introduced guidance outlining to operators who are preparing residual waste for export the level of processing required to allow a reclassification of material from a 20 03 coded waste to 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 has risen from €30 per tonne in 2010 to €75 per tonne in 2013. The quantity of residual waste sent to landfill has dropped by almost a third from almost 1.5 million tonnes in 2010 to just over 1 million tonnes 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 has been reduced to five in 2014, down from twenty-eight in 2010. However, the sustainability of current market dynamics and the place of residual waste exports in the national waste strategy needs to be carefully monitored.

The latest residual waste export data shows 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 markets²⁴.

In the short-term, 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 2010 report from the Netherlands predicts that some of the Dutch Waste to Energy (WtE) plants that are importing waste during 2014 face closure from 2016 onwards. Those less efficient or older plants in Europe which are coming to the end of their original operating life, will require substantial re-investment if they are to continue to meet operating standards. In Germany for example 36% of WtE facilities are over 20 years old 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

²⁴ Data source: National TFS Office, 2013

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 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 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 is not only 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 European Member States.

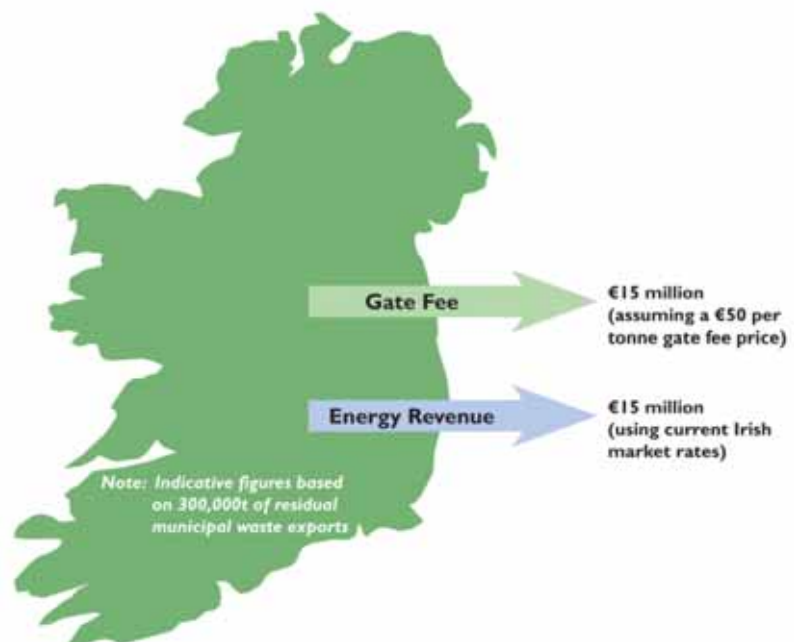
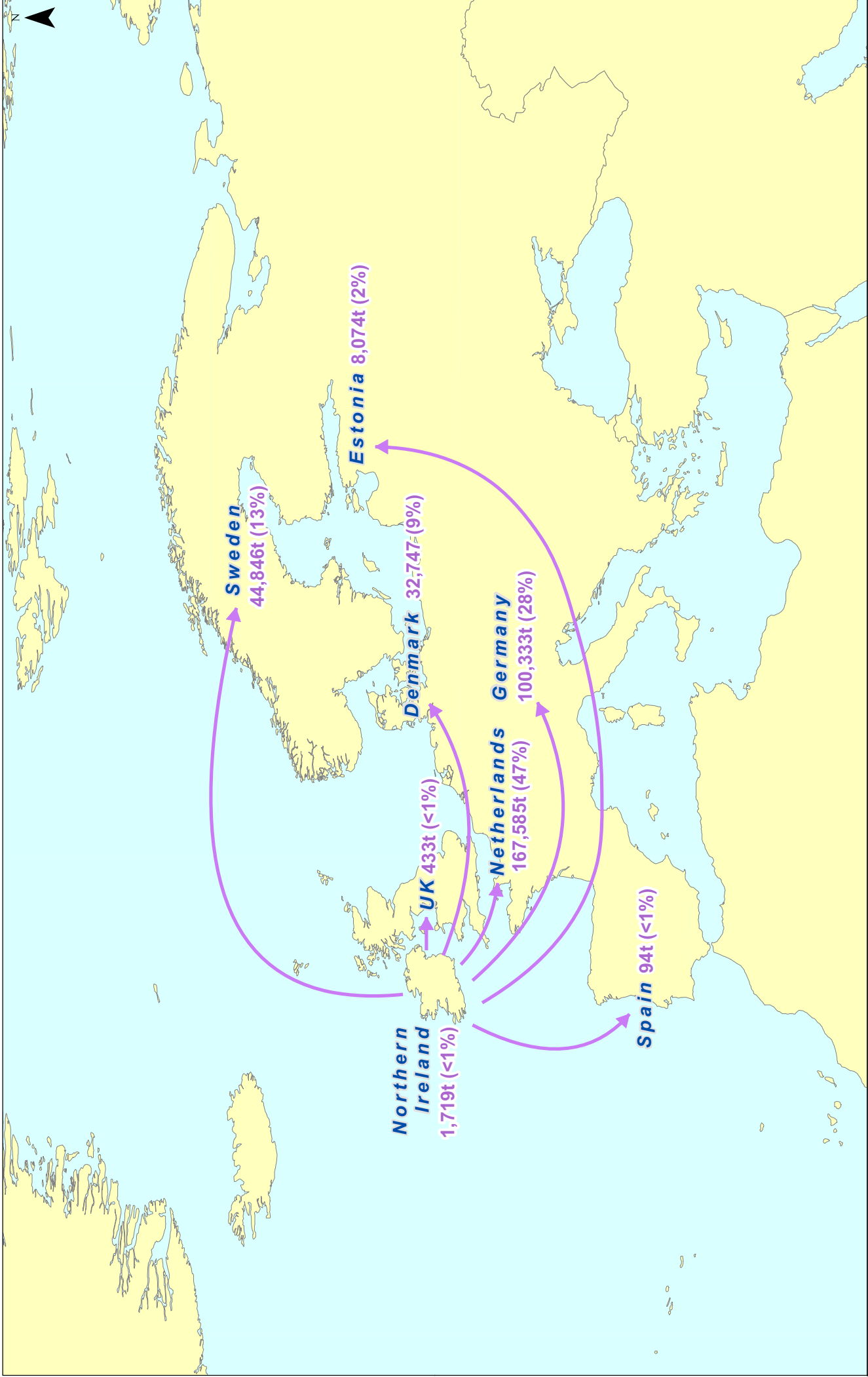


Figure 4-1 - Indicative Financial Losses from Exporting Residual Wastes



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 treatment facilities in Ireland and ultimately minimise the exporting of residual municipal waste resources over the plan period. Whilst 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.

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.

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 EU²⁵ or national²⁶ legislation which creates specific environmental obligations which must be taken into account in procurement.

²⁵ 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

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 further 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 Departments of Environment, Community and Local Government (DECLG) and Public Expenditure and Reform (DPER) jointly launched Ireland's first *Green Public Procurement Action Plan, Green Tenders* in January 2012.

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 ICT²⁷. The policy document defines the legal context and provides an overview of the mandatory environmental criteria which 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;
- Draw up terms of reference for further on-going research; and
- Report 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 has published an implementation guide²⁸ on green procurement aimed at the public sector which will assist to establish the practise in public bodies.

²⁶ 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.

²⁷ 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.

²⁸ Green Procurement, Guidance for the Public Sector, EPA Sept 2014.

Policy

The local authorities recognise the important contribution that Green Public Procurement actions can make to improving resource efficiency deliver 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. Green public procurement 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.

5 STRATEGIC APPROACH

This chapter sets out the overarching waste strategic approach for the Eastern-Midlands Region 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 Eastern-Midlands Region includes all or parts of five previous regional waste plans areas. 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, 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. To paraphrase, the preferred approach for each region aimed to maximise recycling and minimise disposal in favour of thermal recovery of residual wastes. The fundamental objectives of these strategies continue to have relevance for Ireland whilst recognising 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.

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.

This strategic approach aims to place a stronger emphasis on waste prevention and material reuse activities. It will focus on enhancing the collection of quality materials to build on the positive progress made in recycling. The strategic approach will strive to improve the recovery and generation of energy from waste treatment infrastructure and the industry is recognised as contributing to Ireland's move to renewable energy solutions. Finally it will strategy will seek to further reduce the role of landfill 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.

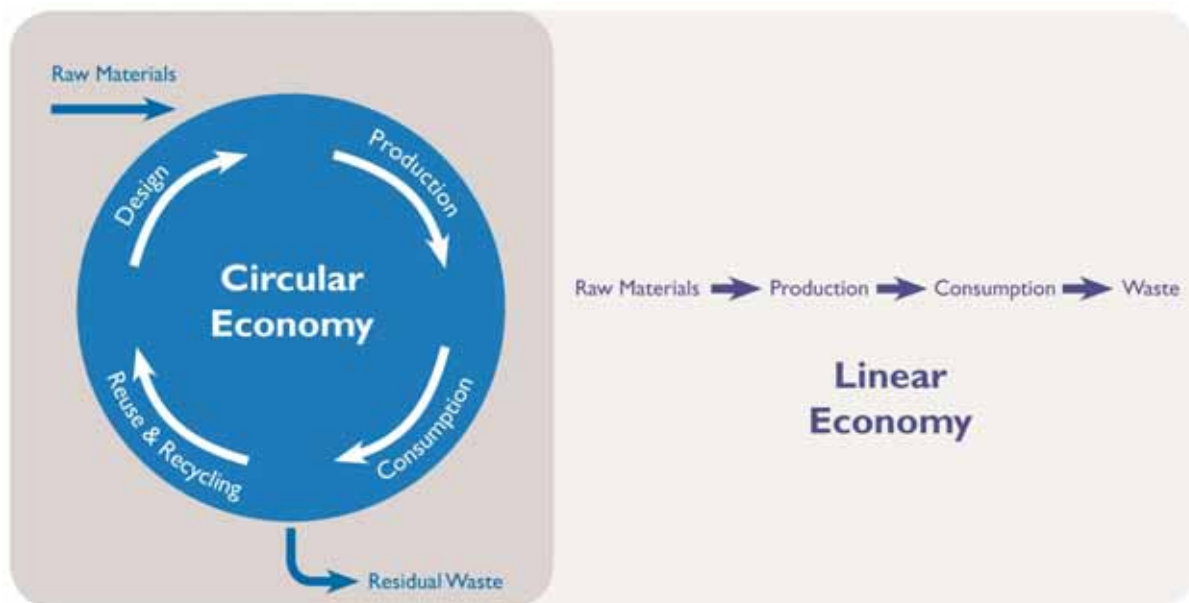


Figure 5-1 - Circular Economy and Linear Economy Models

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 which focus on maintaining, repairing, reusing, refurbishing and recycling materials and products. Being resource efficient and getting more resources from less is central to this model. The existing make-take-dispose linear models where products having reached their end of life are discarded out as waste are no longer viable. For the current linear approach to continue and thrive it assumes resources are plentiful and will constantly be available at low cost prices to meet demand. The economic reality is very different.

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 has intensified its efforts for Member States to shift to a new economic model. Most recently it has adopted its Circular Economy Package as it moves to formally establish the circular economy blueprint across all Member States, refer to Chapter 4 for a summary of the measures proposed.

Despite the economic downturn, Ireland is one of the highest consumers of materials per capita in the EU. A recent report²⁹ funded by the EPA indicates 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 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"³⁰. This high level, cross-sectoral document recognises the challenge and 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 and will ensure 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 1.2 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 practise in the waste sector and local authorities recognise its value in recapturing resources, creating new material flow systems and in doing so developing opportunities for enterprises in the sector. Local authorities will continue to implement actions which support this principle, 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.

²⁹ Roadmap for a national resource efficiency plan for Ireland, EPA, 2014

³⁰ Our Sustainable Future, A framework for sustainable development (2012)

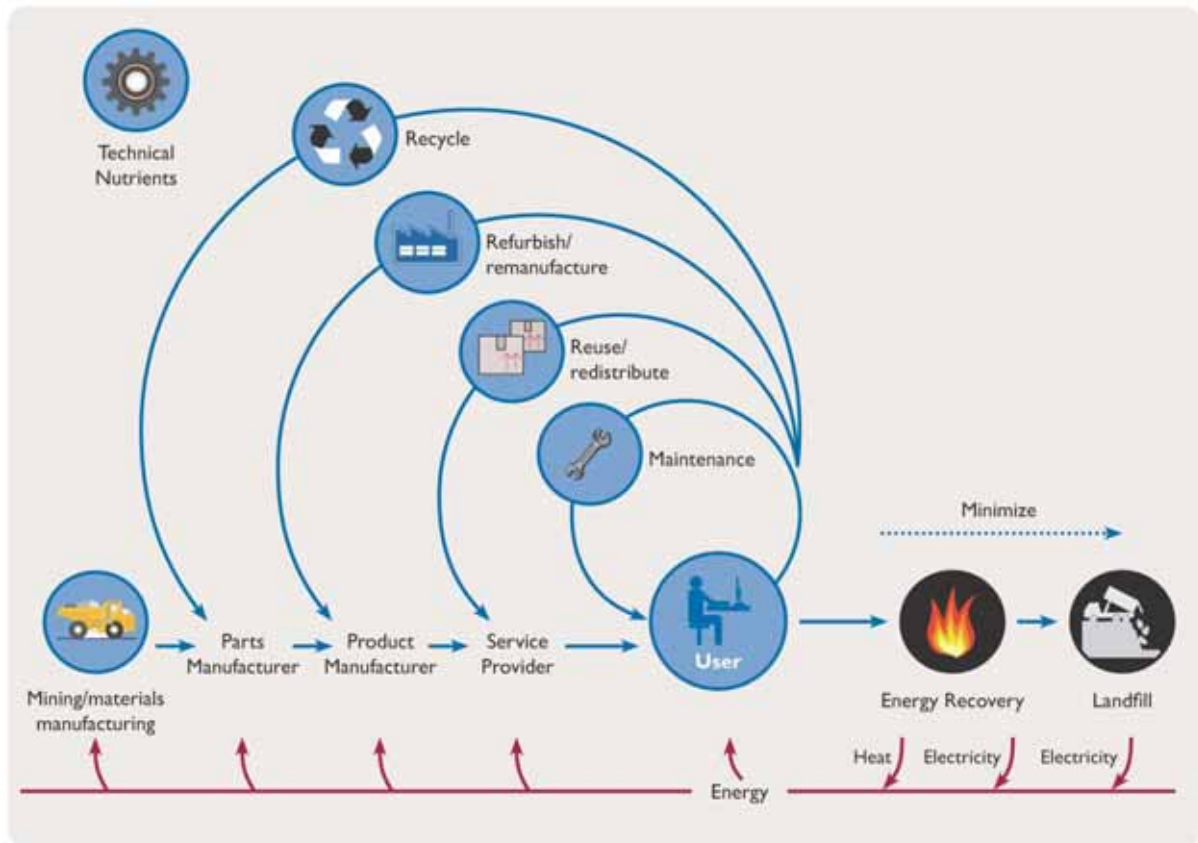


Figure 5-2 - Material Resource and Waste Flows in a Circular Economy³¹

This strategy will continue to adopt and implement actions which support the **polluter pays principle** where 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 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 last 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 a national and regional level. The strategic approach over the plan will be to deliver **balanced and sustainable infrastructure** for the treatment of wastes in line with the strategic vision and waste hierarchy. Local authorities will take on board both the appropriate scale of authorisations and proposed location of new developments for all facilities, in particular those 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.

³¹ This modified figure has been developed from an image prepared by the Ellen McArthur Foundation

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.



Figure 5-3 - Strategic Principles of the Plan

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 in the prospects. 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 **co-operation** 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 those actions for which they have lead responsibility. Strong working relationship with industry operators is 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.

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 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 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 requires significant behavioural changes. The local authorities in the region will continue to build on prevention initiatives focusing on those which have 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 needs 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 which contributes to the sector becoming more resource efficient and less wasteful. The local authorities believe there are many opportunities available to the sector and the strategic objective reflect 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 co-ordinating 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 to work with relevant stakeholder 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 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, the move towards a circular economy and greater self-sufficiency.

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 co-ordination 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 go a long way 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 to protect and reduce impacts on the environment in particular Natura 2000 sites and human health from the adverse impact of waste generated

5.3.8 Other Wastes

The scope of the waste plan is broad and the local authorities recognise 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 create 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, 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 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 this future target will be met as an estimated 381,000 tonnes of BMW was landfilled in 2013.

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 Rate	
WEEE	Varies depending on the category of WEEE ³²	August 2015

The mandatory targets for two other streams, ELVs and Batteries and Accumulators, 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.

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 on-going authorisation. The current rate of collection for waste batteries and accumulators is at 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.

³² European Communities (Waste Electrical and Electronic) Regulations 2014

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 these targets.

The targets are focused on those 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 co-ordinated approach will ensure there is consistency for operators in the waste market irrespective of their area of operation. It is also hoped it will facilitate co-operation between the DECLG, the EPA and local authorities in resolving market issues which are acting as a barrier to the targets being achieved.

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 has been in decline, dropping from 0.42 to 0.34 tonnes over this period. From a waste prevention perspective this is a welcome trend and many factors are contributing to this outcome. Prevention activities are playing a part although the evidence indicates 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 sector increases.



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, are also valid but it is suggested that these are looked at as part of Ireland's overall approach to implementing a co-ordinated resource efficiency programme. The 1% reduction per annum aims to focus local authority activities in the area of prevention. This is 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 on-going 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 rollout of the brown bin will help although this must be supported by continuous awareness, education and enforcement activities.

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 Waste Framework Directive 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 transition 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 five, with two facilities (at Drehid and Ballynagran) operating in the EMR in mid-2014. 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 who set conditions governing the treatment activities, environmental controls, aftercare and associated financials 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 they are 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 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. National policy is similarly direct stating a key objective of the Plans is to ensure that 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 rollout and reduced landfilling of BMW. The implementation of this target will help to ensure 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 2020. 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 to be achieved.

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 and its circular economy package of proposals which is focused on pushing the boundaries of recycling across all Member States and bringing an end to the practise of landfilling. A preparing for reuse and recycling target of 60 - 70%, equivalent to the current best practise 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% ³³ of Municipal Waste by the end of 2030
Eliminate the use of 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 to be made 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-terms goals will require the co-operation of central government and cross-sectoral support from public authorities and private operators in the industry.

³³ Discussions are on-going between European Member States regarding the proposed mandatory recycling rate target which is expected to be within this range.

6 REGIONAL PROFILE

The EMR covers a total area of approximately 1,491,020 hectares, which equates to 21% of the area of the Country (70,273 km²). The region consists of the administrative areas of Louth, Meath, Longford, Westmeath, Offaly, Kildare, Laois, Wicklow, and the four Dublin authorities - Dublin, Fingal, South Dublin and Dún Laoghaire-Rathdown. The 2011 population census showed that the region has a population of 2,209,463 which represents almost half of the national population (4,588,252). The Irish Sea forms the eastern boundary of the area, to the South Wicklow borders with Dun Laoghaire-Rathdown and Kildare; Laois, Offaly, Westmeath and Longford lie to the west, and Meath borders with Fingal and Louth to the north.

6.1 POPULATION

The population of the region is 2,209,463 (CSO, 2011) an increase of 183,960 or 9.1% since the previous census of 2006. The table below shows the population in each Local Authority area. The most recent census figures (2011) show that regional growth is slightly above national growth of 8.2%.

The distribution of people and their activities within the region varies from rural agricultural communities to the city of Dublin and its commuter belts. The population density is high compared to the rest of Ireland, and the region has seen population growth of over 10% in the past ten years. Within the last five years the population in Dublin has increased by 4%, whilst Dublin commuter towns have expanded at rates as high as 51%. The greatest population increases have been in villages with a population of between 50 and 1,500 people in Dublin, Meath, Kildare and Wicklow.

Table 6.1 - Eastern-Midlands Region Population

Local Authority	2006	2011	% Increase
Dublin City	506,211	527,612	4.2%
Dun Laoghaire-Rathdown	194,038	206,261	6.3%
Fingal	239,992	273,991	14.2%
South Dublin	246,935	265,205	7.4%
Kildare	186,335	210,312	12.9%
Laois	67,095	80,559	20.1%
Longford	34,391	39,000	13.4%
Louth	111,267	122,897	10.5%
Meath	162,831	184,135	13.1%
Offaly	70,868	76,687	8.2%
Westmeath	79,346	86,164	8.6%
Wicklow	126,194	136,640	8.3%
Total Population - EMR	2,025,503	2,209,463	9.1%
Total Population - National	4,239,848	4,588,252	8.2%

6.2 URBAN RURAL POPULATION DISTRIBUTION

The most recent census figures show that the Urban/Rural population split is 81%/19%. While 19% of the population may appear to be relatively small, it equates to approximately 420,146 people. The counties Laois, Longford, Offaly and Westmeath have more rural than urban population numbers. **Table 2.3** summarises the Urban/Rural population distribution for each Local Authority Area.

Table 6.2 - Urban/Rural Population Distribution in the region

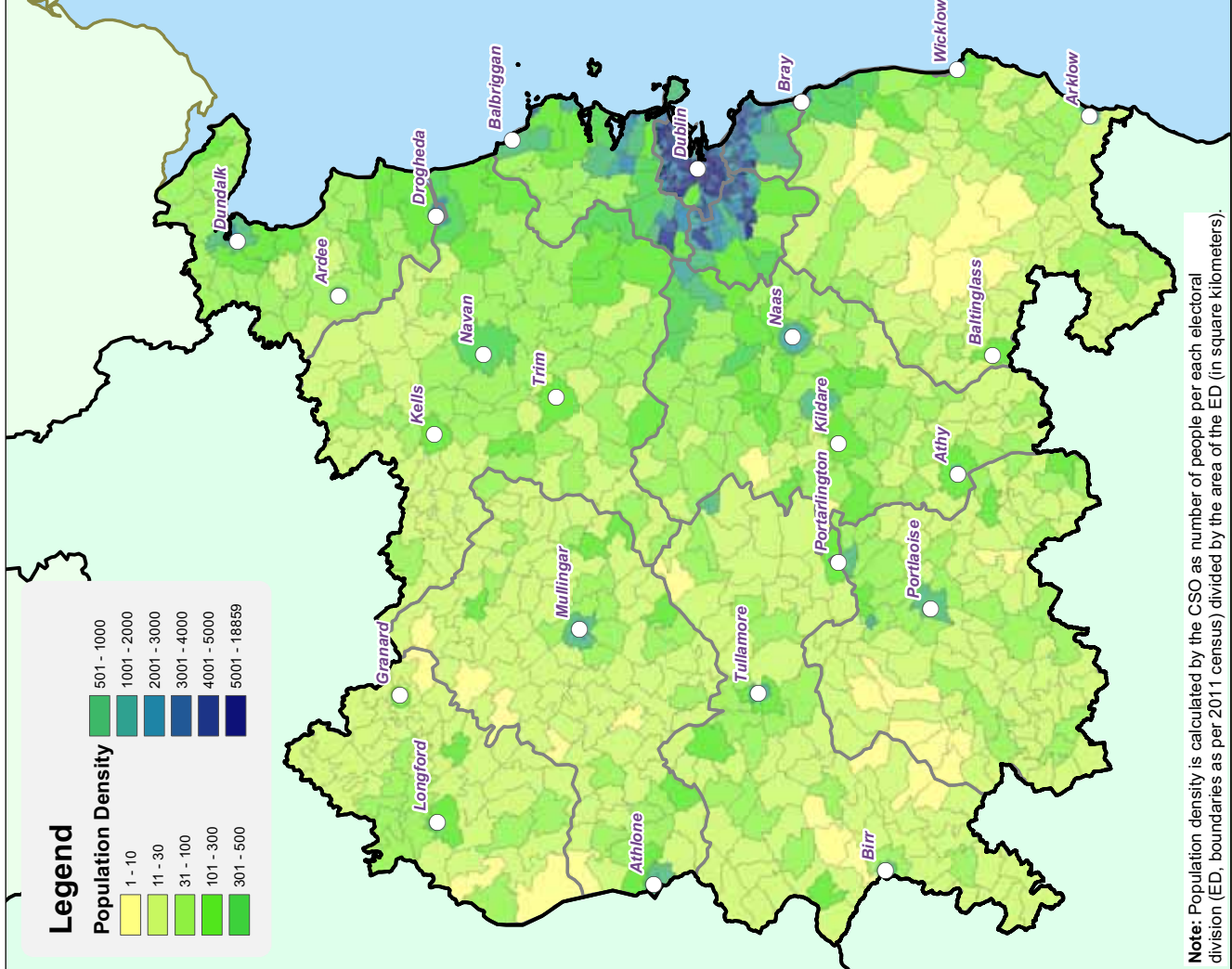
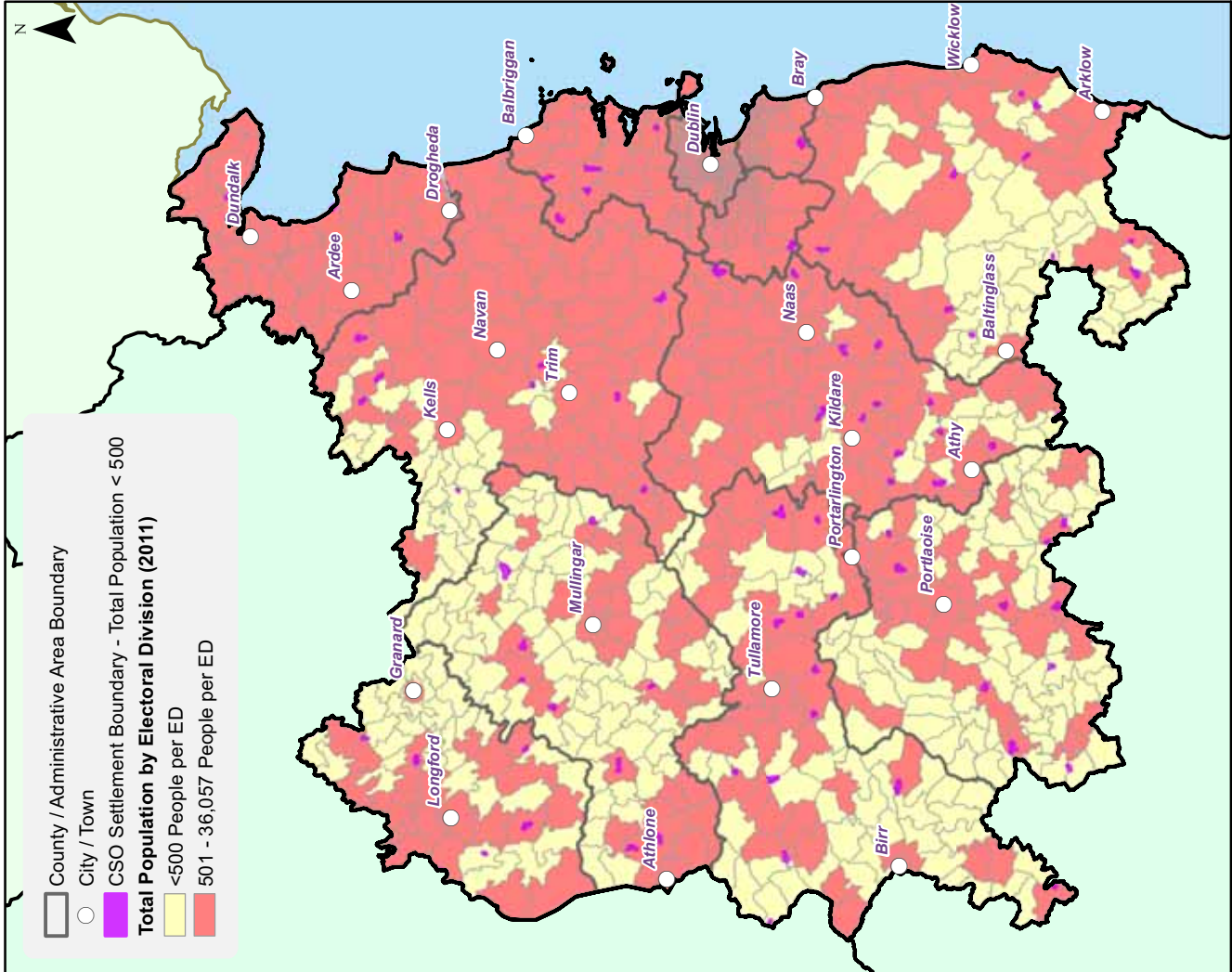
Local Authority	Urban 2011	Rural 2011
Dublin City	527,612	0
Dun Laoghaire-Rathdown	204,354	1,907
Fingal	255,833	18,158
South Dublin	259,729	5,476
Kildare	142,171	68,141
Laois	38,181	42,378
Longford	12,908	26,092
Louth	79,117	43,780
Meath	105,018	79,117
Offaly	33,626	43,061
Westmeath	41,823	44,341
Wicklow	88,945	47,695
Total	1,789,317	420,146

6.3 HOUSEHOLDS

The total number of households in the region is 793,402 (CSO, 2011) an increase of 90,970 or 12.9% since the previous census. In accordance with the 2011 CSO, *'there were just under 1.65 million occupied permanent housing units at the time of the census, an increase of 187,100 units, or 13 per cent, since 2006'*. The number of new residential units provided in the region is on a par with this national increase, with the greatest percentage growth in Laois, Longford, Fingal, Kildare and Meath.

Table 6.3 - Number of Households in the Eastern-Midlands Region

Local Authority	2006	2011	% Increase
Dublin City	190,984	208,716	9.3%
Dun Laoghaire- Rathdown	68,412	75,953	11.0%
Fingal	80,402	93,305	16.0%
South Dublin	80,631	90,148	11.8%
Kildare	60,957	70,882	16.3%
Laois	22,591	28,057	24.2%
Longford	12,111	14,472	19.5%
Louth	38,703	44,043	13.8%
Meath	53,938	62,297	15.5%
Offaly	23,769	26,795	12.7%
Westmeath	27,064	30,811	13.8%
Wicklow	42,870	47,923	11.8%
Total	702,432	793,402	12.9%



Note: Population density is calculated by the CSO as number of people per each electoral division (ED, boundaries as per 2011 census) divided by the area of the ED (in square kilometers).

Figure 6-1 Population Density & Distribution

6.4 EMPLOYMENT AND ECONOMIC ACTIVITY

The 2011 census concluded that there was a total labour force for the region of 1,104,478 of which 901,860 were in employment. The rate of unemployment in the region stood at 19.6% which was close to the National average of 19%. Table 6.2 shows the number of employees per local authority. The 2014 CSO standard unemployment rate nationally is 11.6%, indicative of the ongoing economic recovery and increasing employment opportunities in all local authority areas.

Table 6.2 - Employment in the region in 2011

Local Authority	Number Employed	Local Authority	Number Employed
Dublin City	227,429	Longford	13,871
Dun Laoghaire-Rathdown	87,490	Louth	44,232
Fingal	119,276	Meath	74,342
South Dublin	106,534	Offaly	27,536
Kildare	85,587	Westmeath	32,319
Laois	30,337	Wicklow	52,907

Figure 6-2 shows that the highest percentage of employment in 2011 was in the Commerce and Trade sector accounting for 32% of the total employment in the region. The region hosts large multinational manufacturing companies such as INTEL, Hewlett Packard, and a number of European Customer Service Centres, all generating significant employment. Building and construction, agricultural, forestry and fishing accounted for the lowest percentages of employment in the region.

Educational facilities are generally centred in the Dublin City area. There are several third-level universities located in the core of the city centre, on the northern and southern periphery of the City and also in Maynooth, County Kildare. A number of Institutes of Technology are also distributed in the region including Athlone, Aungier Street, Kevin Street, Dundalk, Dun Laoghaire, Blanchardstown, and Tallaght. Second level and primary level schools are relatively evenly distributed by population.

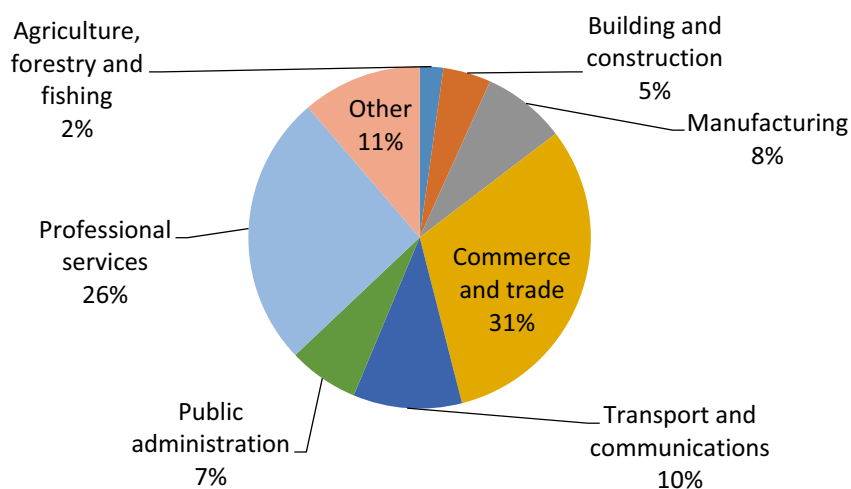


Figure 6-2 - Employment by Sector

There are 23 major healthcare facilities in the region, which are set out in **Table 6.3**:

Table 6.3 - Major Healthcare Facilities

Healthcare Facility	Local Authority Area
Beaumont Hospital	Dublin
Cappagh National Orthopaedic Hospital	Fingal
Children's University Hospital, Temple Street	Dublin
James Connolly Hospital, Blanchardstown	Fingal
Coombe Women's Hospital	Dublin
Mater Misericordiae University Hospital	Dublin
National Maternity Hospital, Holles Street	Dublin
Our Lady's Children's Hospital, Crumlin	Dublin
Rotunda Hospital	Dublin
Royal Victoria Eye and Ear Hospital	Dublin
St. Columcille's Hospital, Loughlinstown	Dun Laoghaire Rathdown
St. James' Hospital, Dublin 8	Dublin
St. Luke's Hospital, Rathgar	Dublin
St. Michael's Hospital, Dun Laoghaire	Dun Laoghaire Rathdown
St. Vincent's University Hospital, Elm Park	Dun Laoghaire Rathdown
Tallaght Hospital	South Dublin
Our Lady of Lourdes Hospital, Drogheda	Louth
Louth County Hospital, Dundalk	Louth
Our Lady's Hospital, Navan	Meath
Midland Regional Hospital, Mullingar	Westmeath
Midland Regional Hospital, Tullamore	Offaly
Midland Regional Hospital, Portlaoise	Laois
Naas General Hospital	Kildare

6.4.1 Tourism

In 2012 over 4.34 million people from overseas visited the region generating approximately €1.5 billion for the economy. In addition there were 2.3 million domestic trips generating €392 million. The top two national visitor attractions, the Guinness Storehouse and Dublin Zoo, are located in the region. There are a number of heritage sites located within the region, notably the World Designated Heritage Site at Newgrange in the Boyne Valley. Other key visitor attractions include numerous lakes and rivers used for boating, fishing and other leisure activities.

6.5 TRANSPORT

The Department of Transport, Tourism and Sport's Strategy for the period 2011-2014 is *'To provide for the maintenance and upgrade of the transport network and ensure the delivery of public transport services with particular regard to economic competitiveness, social needs, sustainability and safety objectives.'* The Exchequer Capital Investment in the Transport Sector will total €4.3 billion over the period 2012-2016. In addition to the investment on the Road and Public Transport Infrastructure, there will be a particular focus on Smarter Travel initiatives including cycle lanes and cycle ways, pedestrianisation projects, signage/information provision and traffic calming across the region together with the extension of bike sharing schemes.

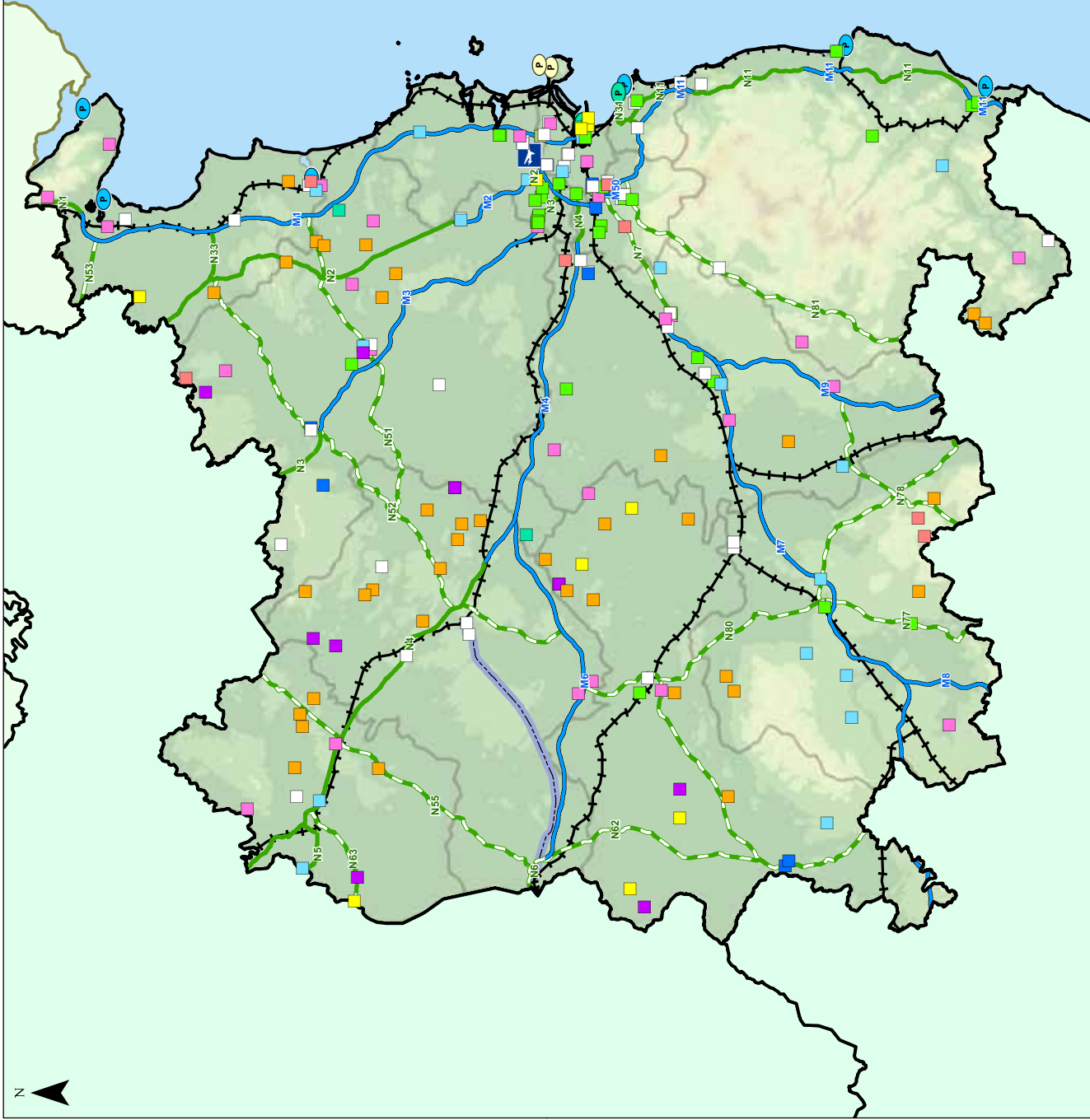
The region is well advanced in terms of accessibility with an extensive road, rail, bus, air and sea transport network. See Figure 6-3. Some of the headline statistics for the region for 2012 are as follows:

- Total national primary road network length 1,319 km, of which 474 km is motorway;
- Over 19.2 million passengers through Dublin Airport
- 19 million tonnes of goods handled at Dublin port - 40% of the national total;
- Over 1,071,000 licensed vehicles in the region;
- 60.3% of people travel to work by car;
- 1.6 million journeys on Dublin Bikes; and
- 29.3 million passengers on Dublin LUAS light rail system.

6.6 LAND USE

The EMR covers about 21% of the country with land area of around 14,500km². Dublin and the Greater Dublin Area (GDA) account for 81% of the region's population (1,795,000) with Dublin City and its suburbs occupying the largest urban land area in Ireland at 372km² and holding 39% of the total urban population. Only 5% of the land area in the EMR is comprised of built-up areas, 75% is agricultural and the remainder natural. The high proportion of agricultural land has in turn given rise to a thriving food manufacturing industry. The region's rivers support fishing and boating activities and the coastline is a popular holiday destination. In addition, some areas in the EMR contain rare and vulnerable habitats and wildlife. These areas include parts of the Boyne, Liffey, Vartry rivers as well as their estuaries. In addition, many coastal sites have been identified to protect recreational bathing areas and habitats of importance.

Local authorities have a key role to play in preserving the natural heritage of their areas arising from the legal responsibilities placed on them and from the increasing public awareness of the importance of nature conservation at a local level. These protected areas are granted special status and their protection is mandatory under European and/or Irish law. Many of these areas are designated at European level (for example Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive). There are also nationally designated areas such as the National Heritage Areas. The Region has 93 Special Areas of Conservation (SACs), 48 Special Protection Areas (SPAs), 38 Natural Heritage Areas (NHAs), and 1 Amenity Area Orders (AAOs). These areas are depicted in **Figure 6-4**.



Legend

IPPC Facility Type

- Mineral Fibres & Glass (1)
- Cement, Lime & Magnesium Oxide (2)
- Other Activities (7)
- Metals (9)
- Energy (11)
- Minerals & Other Materials (11)
- Wood, Paper, Textiles & Leather (21)
- Food & Drink (27)
- Chemicals (37)
- Intensive Agriculture (37)
- Surface Coatings (42)
- Waste Management Region
- County / Administrative Area
- Boundary
- Airport

Road Network

- Motorway
- National Primary Road
- National Secondary Road

Rail Network

- Railway
- Disused/Dismantled Rail
- International Ferry Port
- Commercial Port
- Local Ferry Port

Note: number in brackets denotes the number of licensed facilities in the region.

Employment by Economic Sector

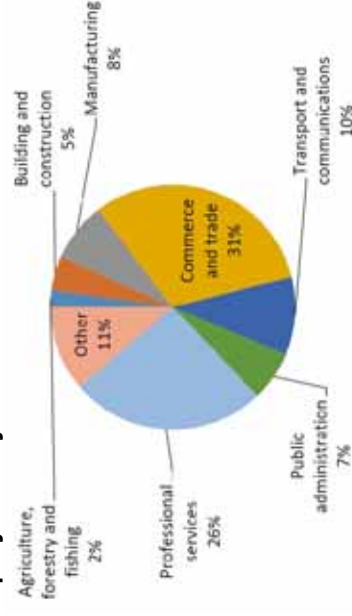


Figure 6-3 Economic Activity & Transportation Network

6.7 TOPOGRAPHY

The topography in the region is varied with a coastline from Louth to Wicklow, which consists of sandy beaches with intermittent rocky headlands. The main mountain ranges include the Dublin and Wicklow mountains and the Cooley Mountains which border Louth to Northern Ireland. The low lying midlands consist of a combination of arable land and raised bogs, primarily in Offaly and Westmeath, which provide for a large scale commercial peat industry in the surrounding area. The River Shannon forms the principal western boundary of the region, and expands into Lough Ree in Westmeath. There are numerous other lakes in the region including Lough Ennel, Lough Owel, and Lough Derevaragh. The plain of Kildare and fertile agricultural land stretches towards Meath. These areas are depicted in **Figure 6-5**.

6.8 GEOLOGY

The dominant rock group is the upper Paleozoics which occur throughout Fingal County, Dublin City and much of South Dublin. This group is entirely composed of calcareous shale and limestone. The geology in the Midlands Region is largely comprised of carboniferous limestone with small pockets of sandstone and some older volcanic and metamorphic rock. In Laois, deposits of basalt and other volcanic rock are noted in the northern part of the county also, while there are pockets of coal measures at its centre. Westmeath is dominated by carboniferous limestone. Offaly is extensively underlain with Lower Carboniferous limestone. The bedrock geology of Kildare is comprised of slate, volcanic rock and old red sandstone formations and carboniferous limestone. The bedrock geology of Wicklow consists of different groups of rocks, including marine and volcanic rock and shales. Leinster granite dominates the central area of Wicklow but its full extent stretches from Dún Laoghaire, Co. Dublin to New Ross, Co. Wexford. The geology of the North East consists of siltstone and shales with small pockets of tuff and lava. There are also significant lead and zinc deposits in the Navan area.

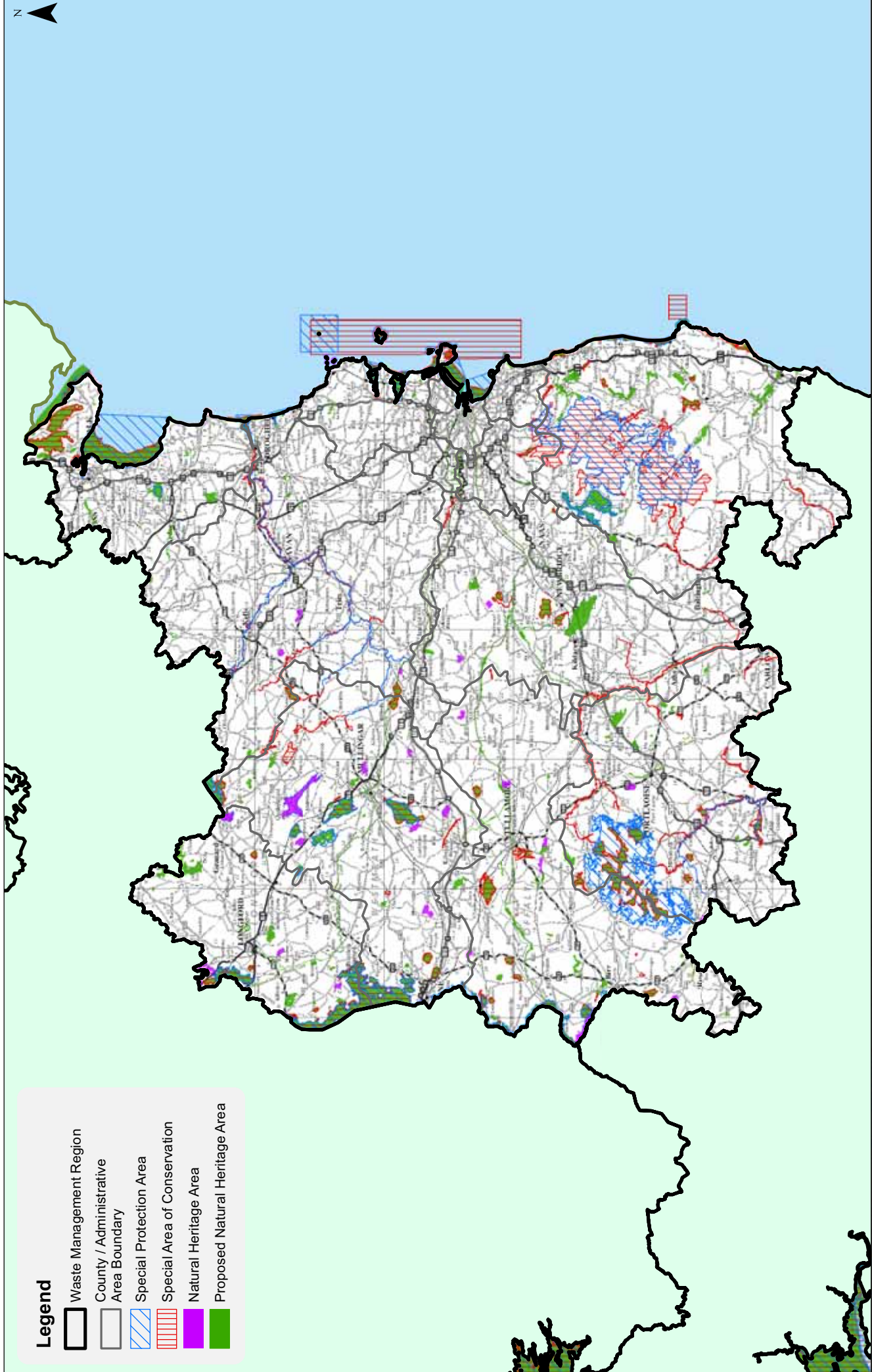


Figure 6-4 Environmentally Sensitive and Protected Areas

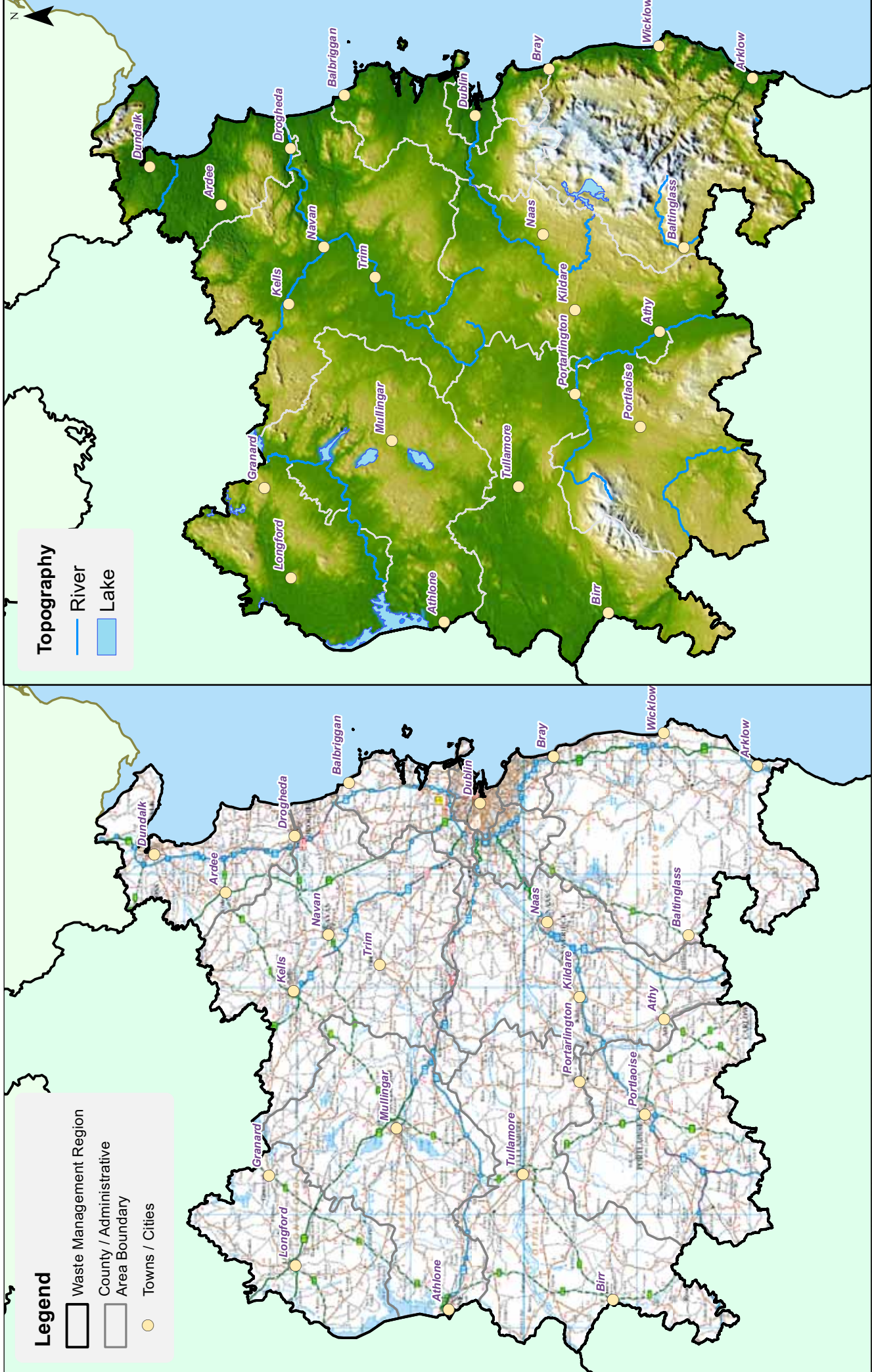


Figure 6-5 Map of the Geographical Area of the Region

6.9 HYDROLOGY

From Drogheda all the way south to Arklow, the river waters enter the Irish Sea along 130km of coastline from the Boyne estuary, Malahide, Dublin, Killiney and Brittas Bays. The River Liffey catchment covers a large part of the Dublin Region; the river rises in the Dublin Mountains near Brittas and loops around through counties Wicklow, Kildare and Meath over 129km before entering Dublin Bay. The principal tributaries near Dublin are the Camac to the south and the Rye-Water to the West. There are two hydroelectric generating plants on the Liffey, at Golden Falls and Leixlip. The other main rivers which discharge to Dublin Bay are the Dodder and the Tolka. Fingal has a number of smaller rivers, typically draining directly west to the Irish Sea from a distance of no more than 30 km inland. In the southern part of the region, the Kill of the Grange Stream and the Shanganagh River are the more important flows which drain Dún-Laoghaire.

The hydrology of the North East Region is marked in the east by the Rivers Boyne, Blackwater, Fane, Glyde and Dee. These rivers have contributed to the formation of fertile plains in counties Louth and Meath.

The major rivers draining County Kildare are the Liffey, the Boyne and the Barrow. The Liffey rises in the Wicklow Mountains, and flows west, and then to the north at Kilcullen. County Wicklow is divided into a number of different catchments. The Liffey and the Glenree Rivers drain the north of the Wicklow Mountains and flow into Dublin. The River Vartry rises in the Wicklow mountains near Roundwood. It then flows South East towards Wicklow town where it joins the Broadlough just north of the town. The Reservoirs of Poulaphuca and Vartry are used to supply Dublin and parts of Wicklow and Kildare. The Poulaphuca Reservoir is used to provide hydroelectric power.

The Midlands Region contains sections of a number of catchments, such as the Shannon, Inny, Barrow and Boyne. There are a number of rivers and canals travelling through the region, the primary ones being the Shannon, Barrow, Nore, Suir, Boyne and the Grand and Royal Canals. Loughs Ree and Lough Derg are the two main lakes in the Midlands. Both the Royal and Grand Canals cross the Midlands Region from east to west connecting Dublin with the River Shannon.

6.10 HYDROGEOLOGY

Groundwater is a major natural resource in the Republic of Ireland providing between 20% and 25% of drinking water supplies. In certain counties in the region the proportion is much greater - over 50%. The 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. There are over 7,000 groundwater wells and springs in the region (those with the highest positional accuracy).

In rural areas not served by public or group water schemes, groundwater is usually the only source of supply. There are at least 7,000 wells and springs in use in the EMR. Of these, approximately 175 are at the appropriate abstraction yield to provide for potable water supply. In addition to groundwater well data, the Geological Survey of Ireland also holds a database on karst features in the country. The majority of karst features (including swallow holes, caves and enclosed depressions) occur in the Midlands and along the west coast of Ireland. Of the nearly 4,000 karst features recorded by the GSI, approximately 151 are scattered across in the EMR, mostly towards the middle to western portions of the region. The database is not comprehensive however, and new features are added as more information becomes available. For the region, groundwater

vulnerability exhibits a range of vulnerability ratings, classified by Low risk up to Moderate, High, Extreme and where rock is exposed near the surface or comprised of karst (X vulnerability rating).

In that context it is imperative that this resource be protected. This can be achieved through appropriate land use planning and practice. To date, the Geological Survey of Ireland has completed Groundwater Protection Schemes for the following local authorities - Dublin (Fingal and South Dublin), Kildare, Laois, Longford, Meath, and Offaly & Wicklow. In addition other reports have been commissioned by Local Authorities from hydrogeological consultants.

DUBLIN REGION: In general the aquifer potential of the Dublin Region is poor. Permeable strata exist within the limestone bedrock. These strata are responsible for higher than expected yields, for example, within the Clondalkin Formation. The North Dublin Fault zone has an associated aquifer within which a water supply has been developed at Bog of the Ring in Fingal County. The granite and metamorphic sediments are classified as poor aquifers with groundwater flow confined to localised discontinuous systems, most of which occur in the upper weathered zone.

LOUTH/MEATH: A significant aquifer in the North East runs from Carnaross in the north of County Meath into Louth and the southern part of Monaghan. The solid geology of this aquifer consists of Calp Limestones and Shallow Water Limestones with some of the sandstones and siltstones of the Navan Beds.

These formations produce reasonable yielding wells in the towns of Nobber and Kilmainhamwood.

In County Meath there is a large formation that spreads from the west of the County to the coast. This is predominantly Calp Limestone with Shallow Water Limestone. There is also a minor Upper Carboniferous aquifer along the coast in Louth to the south of Dundalk and along the coastline of the Carlingford Peninsula. In County Meath drift geology forms a sand and gravel aquifer running South West from Enfield to the north east at Navan and a small aquifer is present along the border with County Westmeath in the Athboy area. There are also large areas of locally important aquifers in the region, which are poor aquifers and yield very small quantities of water. They are sometimes used as water supply for single households or farms. However the capacity of the aquifer is small, with the water being contained only in the uppermost few metres of rock and can therefore run dry in the summer as the water table lowers.

LAOIS/LONGFORD/OFFALY/WESTMEATH: The Counties feature both bedrock and quaternary (sand and gravel) aquifers. The importance of these aquifers will vary with their productivity. County Laois contains two large bedrock aquifer formations. These aquifers are situated between Abbeyleix and Castlecomer, in County Kilkenny, and in the west of County Laois at Mountrath running North East to the outskirts of Portlaoise. Laois also has small sand and gravel aquifers near Portlaoise and Abbeyleix. The bedrock aquifer in the West of County Laois runs into County Offaly in the Slieve Bloom Mountain formations while sand and gravel aquifers are also present in this area in particular just north of Roscrea. There is also a large bedrock aquifer running from Banagher to Tullamore with a minor sand and gravel aquifer south west of Banagher. In Westmeath there are small areas of sand and gravel aquifers near Moate with a bedrock aquifer in the Castletown area. There is also a larger sand and gravel aquifer near Delvin. County Longford has a small bedrock aquifer in the Longford Town area.

Groundwater Schemes - County % of Total Water Supply

- Longford 15%
- Westmeath 20%
- Offaly 80%
- Laois 95%

The proportion of groundwater usage is not reflected in the number of schemes but in the proportion of the total water supply. An estimated 80% of the current water supply in Offaly comes from Groundwater while this figure falls to 15% in County Longford.

The proportion of groundwater abstracted is not a function of the number of wells or schemes within the counties but of the yield from boreholes. In Longford for example, while there is a large number of private abstractions the percentage of the total water supply derived from groundwater is relatively low.

KILDARE: County Kildare has extensive and valuable groundwater resources and has approximately twenty classified aquifer groupings throughout the County. The most important aquifer units are the sand and gravel deposits which overlie limestone bedrock in the central area of the County. Groundwater quality from the highly permeable aquifers of County Kildare is generally excellent. Groundwater from these aquifers tends to be very hard, a characteristic which, although beneficial to health, can cause problems in pipes, hot water systems and some industrial processes. Groundwater yield from the less permeable aquifers is naturally poor and is often characterised by low pH values and high concentrations of iron, manganese and sulphates. These occur naturally in the groundwater in these areas and can be attributed to the bedrock through which the water has passed. Many aquifers in County Kildare are vulnerable to pollution. Water-bearing glacial deposits (sand and gravels), particularly where the water table is shallow, can be at risk from landspreading of fertilisers or septic tank effluent.

WICKLOW: In County Wicklow, three public supply wells - at Roundwood, Redcross and Baltinglass - have been designated as important sources and under the groundwater protection scheme are subject to source protection. In general however the groundwater production in County Wicklow ranges on average from moderately productive in local areas to unproductive. Therefore even in areas where the vulnerability rating is high to extreme, the effect of a pollution event on a groundwater supply would only be considered significant in a local context.

Further detail on each County in the region is available from the GSI www.gsi.ie or the relevant Local Authority.

PART 2 EXISTING SITUATION

7 REGIONAL WASTE DATA

7.1 INTRODUCTION

Since 2005, waste data reporting and recording mechanisms have improved significantly for most waste streams, in part due to the introduction of a new system, hosted by the NWCPO, which allows collectors to submit their annual data return on-line. Improved surveying and data modelling by the EPA and increased validation of all data by the EPA and the local authorities has also contributed to the improvements in data quality. It should be noted that some differences exist between the published National Waste Report (Environmental Protection Agency, 2012) and the data published in this draft Plan. This is due to amendments to EPA data following publication of the NWR, 2012.

Nevertheless there is a need for all stakeholders to improve data management and reporting continually and to ensure that returns are made in an accurate and timely manner. A national register of waste facilities that collates annual returns from facilities needs to be developed during 2015 and be supported by all stakeholders.

7.2 DATA SOURCES

Since the adoption of the previous Waste Management Plans (2008), total waste arisings have continued to reduce marginally in the region, reflecting the national trend as reported in the EPA's most recent 'National Waste Report' (2012). The reporting and recording mechanisms for waste data have improved significantly for household, commercial and construction and demolition waste streams in the past years, however, further improvements in data management and reporting are necessary. The new EMR is an amalgamation of 12 local authorities, from five of the 2005 waste management regions. As a result, the data regarding generation of waste streams cannot be compared to 2005 statistics, therefore, statistics presented in **Table 7.1** compare 2010-2012 data for the region and the key sources include:

- EPA National Waste Reports;
- Local Authority National Waste Returns;
- National Waste Collection Permit Office (NWCPO);
- National Hazardous Waste Management Plan 2008-2012; and
- Producer Responsibility Compliance Scheme Annual Reports, including WEEE Ireland & ERP

Table 7.1, Table 7.2 and **Table 7.3** list the key waste categories in accordance with the requirements set out in the Waste Management (Planning) Regulations, 1997. The total of all waste arisings in 2012 is 4,108,104 tonnes.

This figure excludes animal-by products and other agricultural wastes, which are exempt from the requirements of the waste collection permitting system. The figures reported include all private and any public collections of waste including bring banks, civic amenity sites and waste collected by the existing producer responsibility schemes for waste electrical and electronic equipment (WEEE) and batteries.

While the figures are reasonably consistent over the course of the 3 years, as reported in the EPA's 'National Waste Report' (2012), there has been an overall increase in the total amount of waste generated in the region between 2010 and 2012.

7.3 HOUSEHOLD WASTE

Table 7.1 presents the tonnages of household waste arisings for the years 2010-2012.

Table 7.1 - Tonnes Municipal Waste Arising in the Eastern-Midlands Region, 2010-2012

Household Municipal Waste	2010	2011	2012
Household waste managed(Kerbside)	567,608	581,818	560,786
Household waste collected from CA and bring sites (including bulky waste and excluding WEEE and batteries) ³⁴	103,893	92,463	91,464
Household waste collected from other bring facilities (PTUs) and direct to landfill ¹	n/a	n/a	3,145
Bulky household waste, other than from CA and bring sites ^{1,35}	24,493	32,995	26,054
Household waste (Total)	695,964	707,276	681,449

Over 560,000 tonnes of household waste was collected annually in the region through kerbside collection systems from 2010 to 2012. Kerbside waste is generally segregated at source and collected by private authorised collectors. Kerbside collection represents 81% of total household waste managed (THWM) in the region in 2012. The comparable national figure for 2012 is 79%.

The quantity of waste collected through the extensive EMR network of bring banks and civic amenity sites represents 13% of THWM in 2012, which is similar to the national rate of 15%. While there has been a reduction in tonnage in comparison to 2010, this represents a considerable portion of household waste and support for this infrastructure network needs to be maintained.

The delivery of waste directly to collection facilities (primarily landfill) by householders continues to decline. However, delivery of waste to Pay to Use compactors (PTUs) in the EMR was recorded for the first time in 2012 with less than 125 tonnes collected. The future use of PTUs as part of the waste collection system is under review and their use will be governed by the proposed Household Waste Regulations 2015.

The unmanaged waste reported is an estimate of waste generated by households not availing of a kerbside collection service, taking into account householders delivering waste directly to landfills, PTUs and other bring facilities. The estimate of unmanaged waste has increased substantially in 2012 to 63,333 tonnes. The percentage of households not availing of an authorised collection service is estimated to be 19%. It is worth noting that a number of the less densely populated counties in the region have greater than 50% of households not availing of a kerbside collection service.

³⁴ EPA NWR/LA Returns

³⁵ National Waste Collection Permit Office

7.3.1 Commercial waste

In 2012, commercial waste collected in the region was 568,873 tonnes¹. The commercial waste trend in the EMR is in line with the national picture which shows a continuous decrease in commercial waste from 2007 to 2011. The majority of commercial waste is segregated at source and collected by private waste collectors at commercial premises and holdings.

7.4 PRIORITY WASTE

Table 7.2 presents the tonnages of priority waste arisings for the years 2010-2012.

Table 7.2 - Priority Waste collected in the Eastern-Midlands Region, 2010-2012

Priority Wastes (Collected)	2010	2011	2012
Construction and Demolition ²	2,339,654	2,048,344	1,893,573
Household WEEE ³⁶	12,956	16,598	16,364
Non-Household WEEE ³⁷	12,896	12,656	16,704
Batteries (portable) ³	169	199	232
Batteries (non-portable) ⁴	2,999	7,912	7,194
End of Life Vehicles (EWC 16 01 04) ²	25,556	25,530	29,182
Tyres ²	9,801	12,689	10,374
Healthcare ²	16,361	20,788	15,761
Waste Oils ²	33,150	34,445	37,363
Polychlorinated Biphenyls (PCBs) ²	198	195	152

Nationally there is 140 tonnes of portable lead acid batteries collected by the compliance schemes which cannot be broken down per region and hence not included in the portable battery tonnage for the region.

7.4.1 Construction and demolition waste (C&D)

The estimate of C&D waste arisings for the region in 2012 is 1.91 million tonnes, a reduction compared to 2010 and 2011 tonnage. As the construction sector begins to record increasing activity during 2014, the importance of construction and demolition plans and their enforcement must be stressed. Equally, the appropriate processing facilities need to be in place to facilitate increase reuse, recycling and recovery of this waste stream.

7.4.2 WEEE and batteries

The collection and management of WEEE is primarily carried out by the two compliance schemes - WEEE Ireland and European Recycling Platform (ERP). Each local authority in the region has set up

³⁶ PR Compliance Schemes (WEEE Ireland, ERP)

³⁷ NWCPO and PR Compliance Schemes (WEEE Ireland, ERP)

collection points for WEEE at civic amenity and a number of bring sites. One off collection events are also held throughout the region.

The total household WEEE collected in 2010 was 12,956 tonnes, a figure which reached 16,598 tonnes in 2011 and plateaued in 2012 at 16,364 tonnes. This data does not include an estimate of WEEE segregated from skips and similar sources therefore the data cannot be compared to the National Waste Reports (Environmental Protection Agency, 2010-2012). This regional trend is different to the national trend which shows a decrease in tonnage collected from 2010 to 2011 and a plateauing of figures between 2011 and 2012.

The compliance schemes for WEEE also collect and manage certain portable waste batteries. It is estimated that over 7,000 tonnes of batteries were collected within the region in 2012, primarily by WEEE Ireland and ERP, a significant increase on 2010 data. Nationally there is 140 tonnes of portable lead batteries collected by the compliance schemes which cannot be broken down per region and hence not included in the portable battery tonnage for the EMR.

7.4.3 End of life vehicles (ELVs)

ELVs are mainly managed at Authorised Treatment Facilities (ATFs). An estimated 29,182 tonnes of ELVs were managed in 2012, a 14% increase in tonnage compared to 2010 and 2011 estimates.

7.4.4 Waste oils and polychlorinated biphenyls (PCBs)

Waste oils include both mineral and non-mineral based oils and there has been a notable increase in the amount collected from 33,150 tonnes in 2010 to 37,363 tonnes in 2012.

Capacitors and transformers containing PCBs account for most of the PCB waste stream in Ireland. The use of electrical equipment containing PCBs was banned since 1986 and therefore the tonnage collected largely represents old/historic PCB waste coming to its end of life.

7.5 OTHER WASTES

Table 7.3 presents the tonnages of other waste arisings for the years 2010-2012.

Table 7.3 - Tonnes Waste Arisings in the Eastern-Midlands Region, 2010-2012

Other Wastes (Collected)	2010	2011	2012
Contaminated Soil ²	4,214	6,594	13,133
Mining and Quarry ²	1,339	33	113
Agricultural ²	34,174	28,461	11,331
Non-Hazardous Industrial ²	84,802	78,342	105,980
Hazardous Industrial ²	9,577	17,414	30,499
Industrial Sludges ²	9,649	9,168	2,648
Ash and Incinerator Residues ²	35	5,435	44,348
Landfill Leachate ²	146,270	175,291	236,396

Other Wastes (Collected)	2010	2011	2012
Sewage Sludges ²	223,591	226,433	227,998
Water Treatment Sludges ²	14,244	30,080	43,933
TOTAL	527,895	577,251	716,379

7.5.1 Healthcare waste

Twenty three main hospitals in the region generate healthcare waste. Further waste is generated by clinics, pharmacies, and medical practices. Healthcare waste is collected by authorised collectors and delivered to specialist facilities. 15,761 tonnes was generated in the region in 2012, a reduction from 20,788 tonnes collected in 2011.

7.5.2 Contaminated soil waste

Between 2010 and 2012, 23,941 tonnes of contaminated soil was produced in the region. The 'National Waste Report' reports a significant drop in tonnage of contaminated soil reported compared to 2008 as a result of the downturn in the construction industry.

7.5.3 Mining and quarry waste

An estimated 113 tonnes of waste was generated in this sector in 2012. Tara Mines in County Meath is the sole active mine in the region.

7.5.4 Agricultural waste

Farming organisations and the compliance schemes have made considerable efforts in collecting farm film plastics over the past number of years, by hosting local collection events with the co-operation of the local authorities and shown in **Table 7.4**, there has been a steady increase in the tonnage collected.

Table 7.4 - Farm Film Plastic in the Eastern-Midlands Region

Waste Type	Tonnes per Annum			Source
	2010	2011	2012	
Farm Film Plastics	3177	3651	4326	IFFPG & FRS

The Department of Agriculture, Food and the Marine (DAFM) have estimated that 395,921 tonnes of dry livestock manure was produced by bovines in sheds over the winter period, 2011-2012. This material is classified as an organic fertiliser and is applied to land in accordance with SI 610 2010 (Nitrates regulations, since updated by SI 31 2014) and reduces the need to apply chemical fertilisers.

DAFM calculated the amount of nitrogen produced by livestock annually on the basis of bovine figures on animal identification and movement system (AIMS) in the region. This figure was then

converted to dairy cow equivalents and the weekly slurry production figures for dairy cows were multiplied by 18 to produce an estimated figure that would be produced over the winter period.

4,949,016 tonnes of material was produced; the dry matter was estimated at 7%. This equates to a dry matter production of 395,921 tonnes.

7.5.5 Industrial waste

Table 7.3 details the quantities of industrial waste (hazardous and non-hazardous) collected in the region. In 2012 there was an increase in the amount collected with a total estimate of 105,980 tonnes; this may be related to increased activity. There was a similar increasing trend in hazardous industrial waste, with 30,499 tonnes collected, an increase of 68% over the amount collected in 2010.

7.5.6 Ash and incinerator residues

In 2012 44,348 tonnes of ash/incinerator residue was reported in the region, generated primarily at the Carranstown Waste to Energy Facility in County Meath.

7.5.7 Landfill leachate

Landfill leachate generation has increased over the past three years with 236,396 tonnes generated in 2012. Leachate generation is influenced by a number of factors including waste quality and quantity, rainfall and the amount of landfill face exposed.

In 2012, eleven landfills were managing waste in the EMR. Even after their closure, these landfills will continue to generate leachate, the quantities of which will gradually reduce, over time.

7.5.8 Sewage and water treatment sludges

Sludges are generated in the region from a number of different sources. Industrial sludges decreased in 2012 to 2,648 tonnes, while sewage sludge generation remained similar between 2010, 2011 and 2012. The introduction of the septic tank inspection system may increase the amounts reported. Water treatment sludge increased to 43,933 tonnes in 2012 compared to 14,244 tonnes in 2010.

Policy

The local authorities recognise the waste plan must take account of waste streams which are not covered currently by European or national performance targets. The management of these wastes needs to be addressed over the plan to ensure the systems in place are appropriate and the risk to the environment is managed and minimised. In relation to the management of sludges in the region the local authorities will co-ordinate with Irish Water and other stakeholders to ensure sludges waste managed is safe and compliant. The effective communication between stakeholder groups addressing the control and management of sludge in an environmentally sustainable manner will provide long term protection of the environment.

Policy:

- H1. Work with the relevant stakeholders and take measures to ensure systems and facilities are in place for the safe and sustainable management of sludges (sewage, waterworks, agricultural, industrial, and septic tank) generated in the region having due regard to environmental legislation and prevailing national guidance documents, particularly in relation to the EU Habitats and Birds Directive.

The local authorities recognise that other non-hazardous and hazardous waste streams often require specialised management. The suitability or likelihood of a national compliance scheme for these niche streams, be it voluntary or mandatory, is uncertain. The local authorities in the region are keen to explore opportunities to investigate if management of these streams can be improved. Opportunities to improve the rate of reuse and recycling may exist and the local authorities are committed to piloting measures. Such schemes would protect the environment and may lead to reduced quantities of toxic waste entering the atmosphere, ground or surface waters provided all schemes are conducted in an environmentally sustainable manner.

Policy:

- H2. Investigate the opportunity to establish and expand management schemes for particular waste streams including (but not limited to) paints, medicines, mattresses, other bulky wastes, agricultural and horticultural chemicals and waste oils (where technically, environmentally, and economically practicable).

8 PREVENTION AND REUSE

The EU Waste Framework Directive, published in 2008, resulted in revisions to the waste hierarchy, the principles of proximity and self-reliance and the definitions of waste treatments. The Directive places a greater emphasis on optimising resource efficiency, prevention, reuse and the recovery of mixed residual wastes. The original Waste Framework Directive (Directive 75/442/EEC on waste, amended by Directive 91/156/EEC) called on member states to encourage waste prevention in the first instance, and then promote recovery through reuse and recycling. The revised 2008 Directive outlines a new hierarchy, which should act as a "priority order" in waste prevention, legislation and policy.

Within the EMR, 13 Environmental Awareness officers (EAOs) are working in the area of waste prevention and resource efficiency. In addition to these officers, a number of local authorities have staff who are working specifically with the Green Schools Programme, whilst others have staff providing additional technical and administrative support and assistance.

Over the lifetime of the previous Regional Waste Plans, the role of the Environmental Awareness officers in some local authorities became somewhat diluted and included other aspects of waste management operations, community development and communications. The EAOs role was therefore not prioritised or focussed on advising and assisting the wider community in resource efficiency. In order to ensure that the objectives of this Plan are achieved, and in particular the achievement of resource efficiency measures through waste prevention and reuse activities, the role of Environmental Awareness in the region will need to be clearly defined and resourced.

8.1 AWARENESS RAISING OVERVIEW

Environmental awareness, waste prevention and reuse activities in the region are currently focussed on the following areas:

- Supporting and assisting schools and homes in environmental education programmes: Green Schools, Green Campus and Green Homes programme;
- Participation in and promotion of waste prevention and minimisation programmes stemming from the National Waste Prevention Programme (NWPP), for example, Local Authority Prevention Network (LAPN), Stop Food Waste programme, Freetrade Ireland and Smile Resource Exchange;
- Organising and coordinating green business events and business certification programmes including site visits, resource efficiency audits, briefings, workshops and award ceremonies;
- Assisting and supporting local environmental social enterprises working specifically in the area of re-use and up cycling; and
- Management and coordination of grants and funding: Local Agenda 21, Anti-Litter and Anti-Graffiti grants, Green Enterprise and LAPN;
- Coordinating individual or joint local authority media campaigns in particular, billboards, local radio, print, cinema and social media;
- Participation in National tree week, National recycling week, National spring clean, Gum litter task force and coordinating mobile WEEE collections;
- Participation in seasonal campaigns - green Christmas, Easter and Halloween;
- Promotion of and participation in Tidy Towns and community clean ups;

- Promoting composting through home composting and master composter programmes; and
- Promotion of local recycling infrastructure, (bottle banks, bring centres and recycling centres/CA sites) and the procurement of associated recycling contracts.



Figure 8-1 - Kill Recycling Bank - 2010 Tidy Towns Competition winner

Policy

The aim of the local authorities is to build on prevention activities which are underway throughout the region. The role of local authority awareness staff, in particular the Environmental Awareness officer is central in building a consistent waste prevention programme across the region. In addition the necessary resources need to be available to local authorities, to ensure programme and campaigns can be effectively delivered. Prevention is the most effective waste management option in terms of protection of the environment and human health. It provides environmental and economic savings through a reduced need for transport of materials and wastes and reduced requirements in terms of capacity for collection, treatment and disposal of waste.

Policy:

- BI. Local authorities in the region will ensure the resources required to implement waste prevention activities are available through the lifetime of the plan.

Over the plan period, local authorities in the region will continue to implement local campaigns and activities. However the re-structuring of the region also affords the opportunity to focus towards a

collective and regional collaboration. This approach will be established over the plan period to yield greater co-ordination of activities. Education and awareness is an important policy area in terms of environmental protection as it offers the greatest scope to reduce negative behaviours at the individual, community, regional and national levels. Behavioural changes leading to the prevention of waste ensures reduced levels of waste and consequently reduced requirements to manage waste which positively affects the natural environment.

Policy:

- B2. Promote behavioural change and extend waste prevention activities through information campaigns, targeted training and local capacity building, working with households, communities, schools, business, and other public institutions.

8.2 NATIONAL PROGRAMMES

The NWPP launched in 2004, is managed by the EPA. Updated in 2014 with the publishing of the EPA's Prevention Plan 2014-2020, the Programme adapted to meet the requirements of the 2008 revised Waste Framework Directive. The EPA has now published a fourth iteration of the National Waste Prevention Plan, *Towards a Resource Efficient Ireland* which will run until 2020. The aim of the NWPP is to deliver substantive results with regards to hazardous and non-hazardous waste prevention and minimisation and to integrate a range of initiatives addressing awareness-raising, technical and financial assistance, training and incentive mechanisms.

'Be Green' brings together all of the individual programmes and activities developed under the NWPP and includes the following:

- Be Green Guides - a series of guides aimed at businesses, homes and commercial activities, on how to reduce resource usage;
- Be Green Programmes - brings together programmes that have been put in place by the EPA, local authorities and other partners to promote waste prevention. Programmes include LAPN, Green Healthcare, Green Hospitality, Green Business and Smart Farming;
- Environment and Enterprise which provides details on collaborative or supporting roles for Environment and Enterprise organisations; and
- Resource Efficiency Programmes including FreeTrade Ireland and the Community Reuse Network (CRNI). All local authorities actively promote and participate in National prevention programmes, such as the Stop Food Waste Programme and Freetrade Ireland.

The EPA's Stop Food Waste programme provides advice and tips on how to reduce food waste in the home and on composting food waste that cannot be prevented. EAOs in the region have hosted evening seminars with community groups on the importance of food waste prevention. Certain local authorities across the region have distributed measuring instruments, which assist households with portion control. Recipe books have also been produced and distributed at Christmas with hints and tips on what to do with leftovers. EAOs have encouraged and promoted waste minimisation in local authorities through lunchtime talks/briefing sessions for staff on food waste prevention and ensured food waste from canteens is segregated and sent for composting.

The majority of local authorities in the region have also hosted the Master Composter Programme, whereby participants are trained in the area of home composting, including building a home composting demonstration site, which is further used to demonstrate the various methods of home composting.

Fretrade Ireland is a free online reuse service which allows its users to pass on unwanted items for free, from beds and furniture to electronic goods and garden equipment. The service is free to use and delivers real financial savings to all its users, as well as being good for the environment. After 4 successful years operating in Dublin, FreeTradeIreland.ie was launched nationally in July 2010. Its aim is to facilitate the reuse of household and business items throughout Ireland and in doing so promoting reuse and waste prevention.

Since the national launch, information specific to the region of items exchanged and reused through the dedicated website is set out in **Table 8.1**.

Table 8.1 - Fretrade Exchange and Reuse Data

Region	Number of Items Reused	Diversions (Kg)	Estimated Savings (€)
Eastern-Midlands Region	40,353	695,933	4,174,487

Policy

The NWPP is an exemplar programme. Its initiatives have raised awareness and changes in behaviour to household, business and industry participants. The evaluation of the previous waste plans identified the need for local authorities to continue their work with the NWPP but to better coordinate their activities to deliver more consistent and effective messaging. Over the plan period the local authorities in the region will continue to support the NWPP and through the lead authority, implement campaigns and activities regionally, where appropriate. Having a strong partnership with the NWPP will lead to better integration of established and new national prevention programmes with the potential to leading to waste reduction gains and positive impacts on all environmental receptors.

Policy:

B3. Build and maintain a strong partnership with the National Waste Prevention Programme.

The national hazardous waste plan identifies the regional waste plans as the appropriate mechanism through which to implement hazardous waste prevention activities targeting households and small businesses. The local authorities recognise the need for better synergies between both Plans, in areas of common interest. There are other national programmes and producer responsibility schemes which are involved in activities related to those of the regional waste plan. The local authorities will therefore explore opportunities to work with other stakeholders thus ensuring the message of waste prevention is far reaching.

Policy:

- B4. Harmonise prevention activities in the region to link with the national hazardous management plan, producer responsibility operations and other related programmes (such as litter, sludge, water etc).

8.3 REGIONAL PROGRESS

Progress in the area of environmental awareness extends across a variety of sectors and includes schools, householders, community groups, businesses and public bodies. EAOs within the region have excelled themselves in each area, leading by example and have promoted and encouraged a similar ethos within these communities.

8.3.1 Schools

The Green Schools programme is an environmental management system and award scheme that promotes whole school action for the Environment. **Table 8.2** details the number of schools involved in this programme across the region and the number of flags awarded at primary, post primary level and at third level institutions.

Table 8.2 - Green Schools and Green Campus Programme

Local Authority	Primary Schools		Secondary Schools		3 rd Level Colleges	
	Total Number	% Green Flag Awarded	Total Number	% Green Flag Awarded	Total Number	% Green Flag Awarded
Dublin City Council	226	59	79	39	19	16
Dún Laoghaire - Rathdown County Council	85	78	33	61	7	0
Fingal County Council	95	89	27	33	1	0
Kildare County Council	107	85	26	38	1	0
Laois County Council	69	84	9	67	2	100
Longford County Council	38	95	9	78	0	0
Louth County Council	75	57	16	88	2	100
Meath County Council	118	74	20	50	0	0
Offaly County Council	62	84	12	92	0	0
South Dublin County Council	100	88	35	67	1	0
Westmeath County Council	78	88	14	57	2	100
Wicklow County Council	92	83	20	45	0	0

The aim of An Taisce's Green Schools programme is to increase environmental awareness and good practice among school children of all ages. Throughout the programme children develop an understanding of the impact their own everyday actions have on the environment. The educational

element of the programme, together with the good environmental practices children experience in school, instils a strong sense of personal responsibility for the protection of the environment.

The EAOs/Green Schools officer provides support and advice to schools that are involved in the Green School and Green Campus programmes. Support is provided through school visits, with the majority of green flag award and renewal visits being conducted by local authorities. The programme is promoted through annual Green Schools seminars and through articles and competitions. Resources such as posters and information leaflets are made available to schools as well as presentations and workshops on all aspects of the environment.



Figure 8-2 - Party Entertainers at Green Schools event

8.3.2 Household and Community Groups

Significant progress in the area of waste prevention has been made with householders and community groups. With the direct provision of funds under both the Local Agenda 21 grant and the Anti-Litter and Anti-Graffiti awareness grant, EAOs in the region have encouraged groups to actively participate in environmental initiatives and programmes.

Table 8.3 details the number of projects funded during 2013 under both grant schemes.

Table 8.3 - Local Agenda 21 Projects and Anti-Litter and Anti-Graffiti Programme, 2013

Local Authority	Local Agenda 21 Projects	Anti-Litter and Anti-Graffiti Projects
Dublin City Council	41	1 ³⁸
Dún Laoghaire - Rathdown County Council	14	11
Fingal County Council	40	35
Kildare County Council	16	12
Laois County Council	19	7
Longford County Council	20	14
Louth County Council	6	6
Meath County Council	23	6
Offaly County Council	37	8
South Dublin County Council	21	22
Westmeath County Council	21	5
Wicklow County Council	9	9
Total	267	136

A wide variety of LA21 projects and schemes have been supported under the Fund, which include community gardens and allotments, compost schemes, rainwater harvesting, biodiversity projects, waste reduction initiatives, educational initiatives and environmental exhibitions. Projects funded tend to focus on environmental awareness and actions which complement national environmental policies.

With regards the anti-litter and anti-graffiti awareness grant, projects typically funded include adopt a street, adopt a bring bank, community clean ups, provision of anti-litter materials, awareness competitions and design a poster competition for schools with the winning designs produced as anti-litter posters or anti-litter calendars.

EAOs across the region also assist communities involved with the National Tidy Towns competition. The focus of Tidy Towns is to encourage communities (community groups, residents associations, local businesses) to improve and take ownership of their local Environment. Examples include EAOs hosting and facilitating workshops with Tidy Towns groups on environmental awareness and waste prevention, supporting composting schemes: community & local, grass cycling, greener gardening and advising local business on the more efficient use of resources.

Over the course of the previous waste plans, the region's EAOs have been involved in intensive local and national media campaigns particularly in the areas of waste prevention, recycling, litter, illegal dumping and energy efficiency. In conjunction with campaigns, regular workshops and talks are organised and delivered.

³⁸ This was a City wide campaign utilising National media, local press, outdoor and ambient media. The sole focus of this campaign was on dog fouling.



Figure 8-3 - Master Composting Programme, training community members

Other Regional highlights include:

- A number of local authorities facilitating furniture and textile redesign and upcycling courses. These courses not only provide practical skills training but also demonstrate the ethos of diverting waste from landfill by redesigning and reusing waste materials;
- Coordinating and facilitating re-use events at recycling centres;
- Assisting in the promotion and hosting of WEEE open days within local authority areas;
- Coordination of local competitions to raise awareness and promote waste minimisation e.g. Inter Community Litter Challenges;
- Organising Green shopping initiatives in local supermarkets, to coincide with Repak Recycling Week and promotion of various seasonal campaigns; and
- Coordinating and hosting Annual Eco Weeks and Green Days within individual Local Authority functional Areas.



Figure 8-4 - Portlaoise community environment initiative

8.4 UPCYCLING, REUSE AND PREPARING FOR REUSE

Upcycling and preparing for reuse enterprises have been setting up and developing across Ireland in recent years. The significant contraction in the national economy and as a consequence the level of income available to families has altered personal consumption behaviours. A renewed interest in the value and life of our materials has taken root with many new businesses employing innovative solutions to waste materials.

The recently published EC Barometer *Attitudes of Europeans towards waste management and resource efficiency* found that more than 70% of people would buy second-hand furniture in Sweden, Finland and Denmark but 43% of all respondents in the barometer believed that second hand goods were inferior. If we are to move reuse and upcycling from niche to mainstream, successive regional awareness raising programmes are required.

Upcycling is the repurposing of items that may otherwise be seen as waste or useless products. The process converts these waste materials into new materials or products of higher value & quality - giving them a new purpose and more importantly avoiding adding them to landfill. Upcycling and other similar prevention and preparing for reuse activities can no longer be viewed as add-ons to our waste management system. In addition for those working in the sector and for consumers, there are direct social, environmental and financial benefits.

Fiscal, technical and regulatory supports are currently being provided by the EPA to specific upcycling organisations. The local authorities also provide funding where possible and support to

local initiatives in the sector. To ensure the viability of the upcycling sector funding avenues, such as local enterprise grants, should be explored to help kick-start and grow the sector.

Upcycling activities are varied, in some instances items or products which have never become waste are renewed and converted into higher value items. In other cases, waste materials are repaired or modified or cleaned into usable and valuable products and items. From a waste perspective upcycling activities straddle waste prevention and preparing for reuse treatments as defined on the waste hierarchy.

8.4.1 ONGOING COMMUNITY INITIATIVES

The Community Reuse Network (CRNI) is an umbrella body for community based organisation who are engaged in re-use activities. Funded by the EPA under the NWPP, CRNI members are involved in both direct reuse and preparing for reuse upcycle activities. The members of the group work together to promote the reuse movement, to expand the organisation, and to share experiences. The group is researching and developing a unified brand for the reuse sector in Ireland. It is anticipated that this brand will operate in a similar style to a quality mark with the intention of elevating the profile of the reuse sector and addressing some of the misconceptions relating to upcycled and reused goods. . The CRNI membership is listed in **Table 8.4**.

Table 8.4 - Members of CRNI Ireland

Community Reuse Network Ireland			
Bryson Recycling	ReCreate Ireland	Eco Mattress	SMILE
Busy Bees	Rediscovery Centre	ICSA	Sunflower Recycling
Camara Ireland	Revamp 3R	FreeTrade	Rehab Recycling
CCRI	Voluntary Services Lisburn	Upside Design	Revamp Furniture Recycling Project
The Upcycle Movement	Boomerang Mattress Cork		

During 2014, CRNI executed two successful projects under the EPA Strive Programme focussed on Green Enterprise. These projects were: developing a smartphone application, “Reuse It!” , to provide information about reuse service providers and Revival by CRNI: a pop-up reuse education and retail space. The newly launched “Reuse It!” allows users to find the nearest and most appropriate reuse enterprise or venue to which they can bring their pre-loved items. The app is available for download from Google Play Store and iTunes. Revival by CRNI was a unique project which established a summer pop-up retail and educational space. The pop-up shop located in Dublin city centre retailed high-end highly desirable reused items and had sales of over €18,000 for the 3 month period.

EAOs also assist and support the CRNI in particular through the availability of paint, mattress and bicycles from recycling centres for recycling or repair and reuse. Bicycles and paints are recovered by various environmental community organisations for further reuse at community level. Mattresses on the other hand are recycled and recovered - the wood is sold as fuel, metals are recycled and fabric

is shredded and used for fuel in cement kilns. These projects will provide useful data for quantifying the amount of these wastes that can be reused or recycled annually.

Policy

The recent publication, Action Plans for Jobs 2014, by the Government supports the reuse sector (which incorporates preparing for reuse and upcycling) in Ireland which is implementing a direct action calling for “job creation through the greater use of waste as a resource”. This specific action is part of the transition towards a greener, healthier and more sustainable economy which mirrors the underlying strategy of the regional waste plan. The local authorities recognise the value to which reuse, repair, upcycling and preparing for reuse activities add to communities and the economy. The development of these enterprises will be supported and encouraged by the local authorities over the plan period. From an environmental perspective the reuse of materials to prevent them becoming waste in the first place is significant with many positive impacts on the environment. It reduces the quantity of waste to be managed and thereby reduces the associated environmental impacts with recovery and disposal of wastes.

Policy:

CI. Establish reuse, repair, and preparing for reuse activities and networks to recirculate and extend the lifespan of items.

8.5 COMMERCE AND INDUSTRY

In addition to local authority staff assisting and providing technical support and advice to businesses in the area of resource efficiency by means of briefings and workshops, site visits and audits, the EcoMerit Programme is a partnership between local authorities, the EPA and environmental consultants, Econcertive. A number of local authorities across the region are involved with this programme which has resulted in local businesses demonstrating savings on waste, energy and water costs while improving their environmental performance and becoming environmentally certified.

A number of local authorities within the region coordinate and host green business award ceremonies in association with their respective chamber of commerce or have specific business categories as part of overall community awards, the focus of which is rewarding organisations that demonstrate excellence in protecting the environment.

EAOs also promote resource efficiency in the business and industrial sector through the www.greenbusiness.ie website. Green Business is a free resource efficiency service and its objective is to deliver substantive resource efficiency improvements and cost savings, through waste prevention and reductions in water and energy consumption.

EAOs also promote the Green Hospitality Programme and the Green Healthcare Programme. By participating in the Green Hospitality Programme, the hotel sector can make significant savings on waste, energy and water. The work involved in the Green Healthcare Programme is primarily

focused on the area of waste, in particular food waste, risk waste and recyclables. 11 healthcare facilities in the EMR have benefited from participating in this programme.

Table 8.5 details the number of green hospitality award members, the number of businesses partaking in the Green Business Programme and the number of hospitals/healthcare facilities that have been the subject of green healthcare audits during 2013.

Table 8.5 - Green Hospitality, Green Business Programme and Green Health Care, 2013

Local Authority	Green Hospitality Awards Members	Green Business Participants	Hospitals/ Healthcare facilities undertook Green Healthcare Audits
Dublin Local Authorities	56	21	9
Kildare County Council	5	4	0
Laois County Council	1	0	1
Louth County Council	2	1	0
Meath County Council	4	2	0
Offaly County Council	9	4	1
Westmeath County Council	14	2	0
Wicklow County Council	3	2	0
Total	94	36	11

8.6 LOCAL AUTHORITY PREVENTION NETWORK (LAPN)

LAPN aims to build capacity amongst local authority staff to enable and promote waste prevention for the benefit of the region. LAPN commenced in 2010 and follows on from the successful completion of the local authority prevention demonstration (LAPD) programme (2006-2009) which also involved a range of waste prevention projects around Ireland. The network acts as a mechanism to engage with local authorities directly in implementing waste prevention and resource efficiency projects both within their own organisation's activities and throughout their functional areas. It accomplishes this by either piloting new prevention initiatives locally and/or promoting other NWPP in their areas.

There are three main stakeholders involved with the network are local authorities, the EPA and the Clean Technology Centre (CTC). The EPA provides financial and promotional support to participating local authorities and the CTC is funded by the EPA to provide technical assistance and training with resource efficiency initiatives.

Training and up skilling has been a significant component of the LAPN programme. 18 local authority staff in this Region availed of food waste prevention training and 10 have availed of water conservation training. 10 staff also completed waste prevention FETAC level 5 training through LAPN.

The Region has been an active participant in LAPD and LAPN since its inception and has participated in successful prevention and minimisation initiatives including waste prevention studies at service

station delicatessens, food waste prevention initiatives and worm composting at a range of service providers including hostels, care centres, canteens and small restaurants. Other LAPN projects focused on waste minimisation, energy and water conservation in the farming and sports ground sector and food and solid waste prevention initiatives in shopping centres and town centres. The Region has also been actively involved in the greening of festivals and public events.

2014 is the European year against Food Waste and to coincide with this programme, a 'waste garden' was commissioned at Bloom 2014, the main focus of which was food waste prevention. This was the national launch of the stop food waste challenge, which the region are participating in, throughout the remaining part of the year.

With regards to a Regional approach to waste Prevention and reuse, the local authorities were successful with their 2014 LAPN application to host at least 12 Repair Cafés across the newly formed Region. Repair Cafés teach individuals to view their possessions in a new light and, to appreciate their value. They are free meetings whereby individuals learn how to repair everyday household items, for example clothes, furniture, electrical appliances and bicycles. These cafés will be held across the region during 2014 and 2015.



Figure 8-5 - President Michael D Higgins and his wife Sabina at Bloom 2014

9 HOUSEHOLD WASTE

This chapter provides a comprehensive overview of the management of household waste in the EMR. The data presented is for the most part on a regional basis, with the corresponding data for individual local authorities available in the National Waste Reports, 2010-2012 (Environmental Protection Agency, 2011-2013).

Household waste generated in the EMR is collected through a number of collections systems, which include:

- Kerbside collection systems;
- Civic amenity facilities;
- Bring banks;
- Residual waste directly to the landfill;
- Bulky waste collected by authorised collectors;
- Waste electrical and battery take-back schemes;
- One off collection events; and
- Pay-to-Use (PTUs) waste compactor units.

Table 9.1 details the wastes arising from the above sources, in the EMR, over the period 2010-2012. The flow diagram presented in **Figure 9-1** shows that household waste consists of both managed and unmanaged household waste.

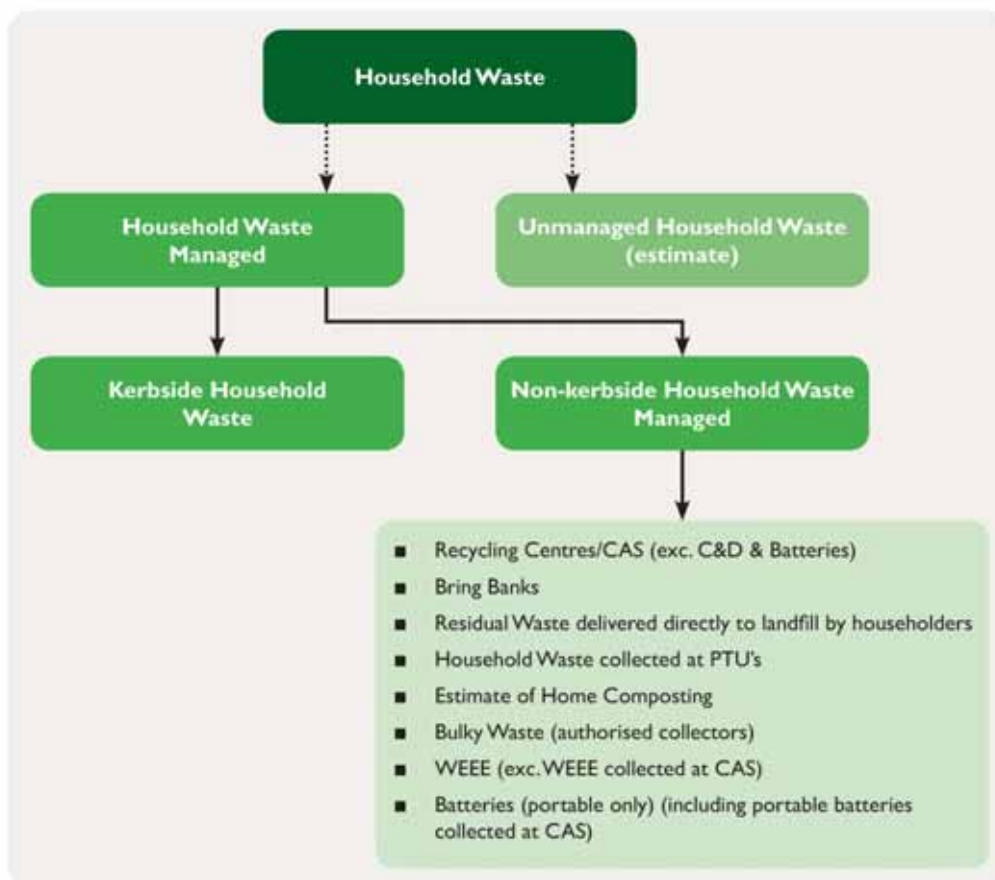


Figure 9-1 - Household Waste Flow Diagram

The household waste managed (HWM) is the sum of the household waste collected at kerbside and the non-kerbside household waste. The kerbside household waste collected includes residual, mixed dry recyclables (MDR), organic and glass wastes mainly collected by authorised private collectors. The non-kerbside household waste collected includes bulky household waste collected by authorised collectors, waste brought by householders directly to landfills, PTUs, bring banks and civic amenity facilities. It also includes WEEE and batteries brought to retailers and quantities collected at collection events.

The unmanaged household waste is an estimate of the quantity of waste generated by households but not collected via one of the above collection systems. This is explored further in section 9.5.

9.1 QUANTITY OF HOUSEHOLD WASTE

As illustrated in **Table 9.1**, 2011 was the first year that the household recovery rate (51%) exceeded the disposal rate (49%) in the EMR and this trend continued in 2012 with a 76% recovery rate and 24% disposal rate respectively for household waste managed. Increasing landfill levies, incineration of municipal waste and the export of refuse derived fuel and baled municipal waste contributed to the diversion of waste for disposal in the region.

Table 9.1 - Details of the HWM within the Eastern-Midlands Region, 2010-2012.

Year	HWM ³⁹ (tonnes)	HWM / inhabitant (tonnes)	% HWM directed to recycling / recovery	HWM - Directed to recycling / recovery per inhabitant (tonnes)	% HWM disposed	HWM - disposed / inhabitant (tonnes)
2010	715,980	0.32	47%	0.15	53%	0.17
2011	726,518	0.33	51%	0.17	49%	0.16
2012	694,441	0.31	76%	0.24	24%	0.08

Details of the HWM per local authority area, in the EMR, 2010 - 2012, are available in Appendix C.

9.1.1 Kerbside Household Waste Managed

As detailed above, HWM consists of kerbside household waste managed (HWM) and non-kerbside HWM. **Table 9.2** details the quantity of kerbside HWM collected in the EMR between 2010 and 2012. Of the HWM managed the percentage collected at kerbside increased from 79% in 2010 to 81% 2012.

³⁹ Includes WEEE and batteries

Table 9.2 - Details of the Kerbside HWM in the Eastern-Midlands Region, 2010-2012.

Year	Kerbside HWM (tonnes)	Kerbside HWM / household served (tonnes)	Total residual kerbside household waste collected / household served (tonnes)	Total non-residual kerbside household waste collected 'Directed to Recycling' / household served (tonnes)
2010	567,608	0.86	0.59	0.27
2011	581,818	0.88	0.59	0.29
2012	560,786	0.88	0.59	0.30

The kerbside HWM collected per household served, in the EMR has increased slightly since 2010, with the total residual kerbside household waste collected per household served remaining static. The quantity of non-residual kerbside household waste collected per household served has increased slightly year on year during the period 2010-2012.

9.1.2 Non-Kerbside Household Waste Managed

As detailed in **Table 9.3**, the non-kerbside HWM within the EMR has decreased year-on-year since 2010, with a 2.4% decrease recorded in 2011 and a further 8% in 2012. This decrease is due in part to a decline in the quantity of residual waste delivered directly to collection sites at landfills within the region due to the closure of a number of these facilities (refer to Chapter 12). The reductions may also be due to decreased levels of personal consumption. The reductions in the quantity of waste collected at bring banks and civic amenity facilities have also contributed to an overall reduction in the quantity of non-kerbside HWM collected.

Table 9.3 - Details of the Non-Kerbside HWM within the Eastern-Midlands Region, 2010-2012.

Year	Non-Kerbside Household Waste Managed (tonnes)
2010	148,372
2011	144,700
2012	133,655

9.2 TREATMENT OF HOUSEHOLD WASTE

Figure 9.2 shows the treatment of household residual waste collected at kerbside in the EMR in 2012. As illustrated the majority of waste streams are either source segregated and brought directly to bulking stations for onward transfer to appropriate treatment facilities or are brought directly to the treatment facility.

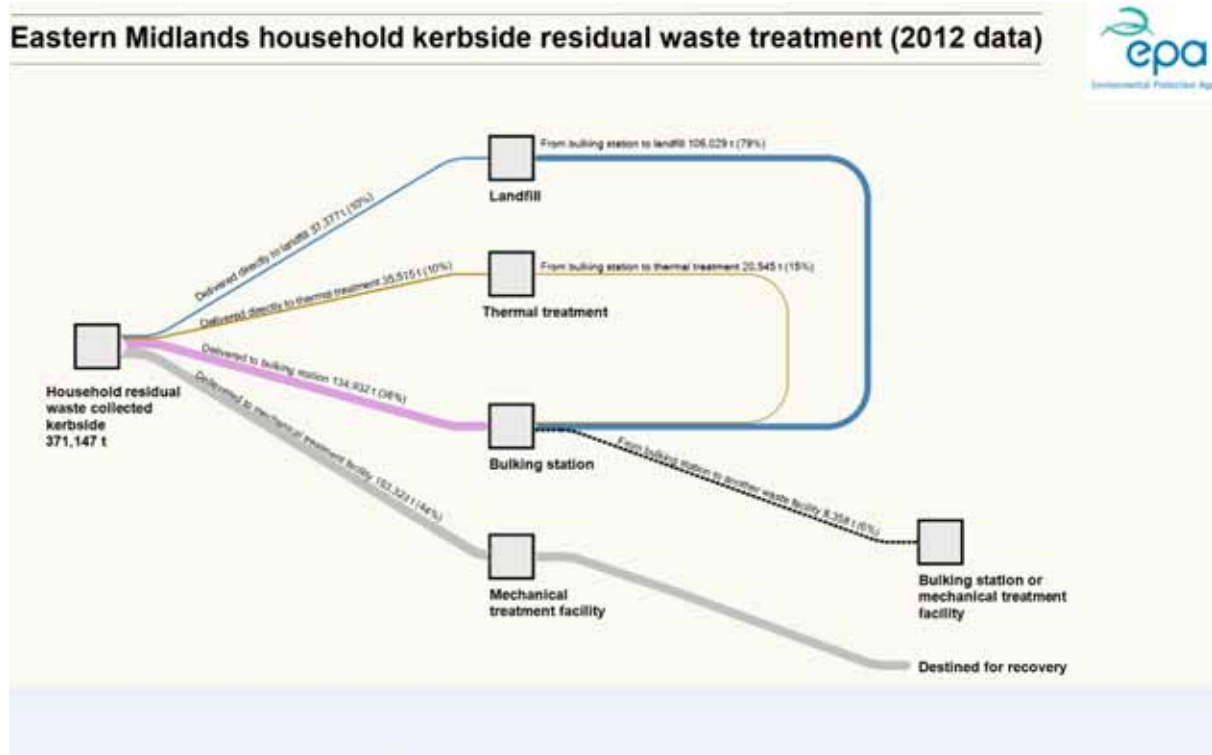


Figure 9.2 - Treatment of Household Residual Waste Collected at Kerbside in EMR, 2012.

The treatment of household residual waste collected in the EMR in 2012 post analysis of the bulking station destinations is detailed in **Table 9.4**.

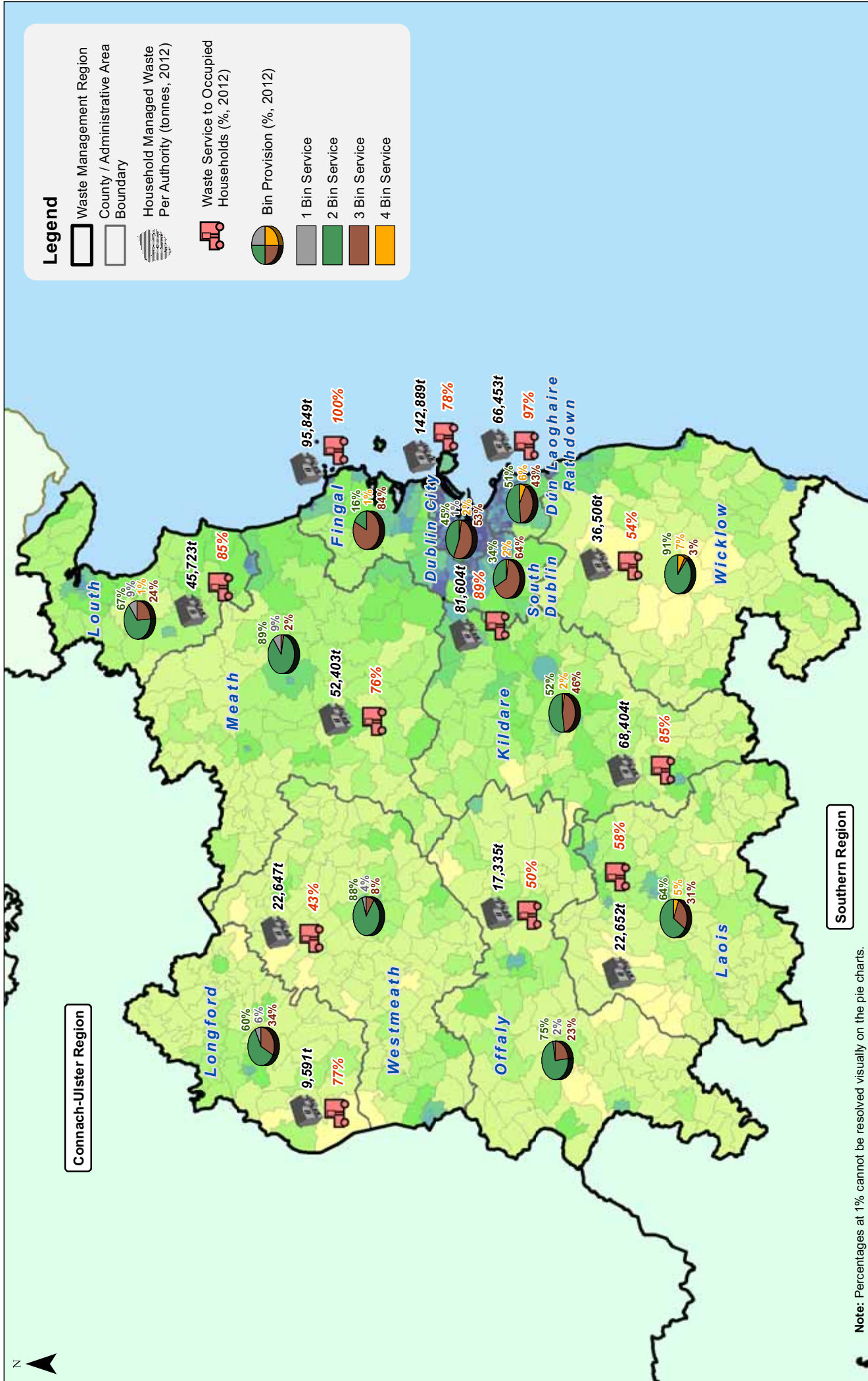
Table 9.4 - Treatment of Kerbside Household Residual Waste in EMR, (2012)

	Quantity in EMR (tonnes)	% To Destination in EMR
Household residual waste collected.	371,158	
Residual directly to landfill and from bulking station to landfill	143,267	39%
Residual (directed to recycling) DREC	163,310	44%
Residual directly to thermal treatment facility and from bulking station to thermal treatment facility	55,674	15%
Residual from bulking station to another waste facility (bulking or mechanical treatment facility)	9,279	2%

9.3 KERBSIDE HOUSEHOLD WASTE

9.3.1 Collection Service

Kerbside household waste collection in the EMR is operated by private operators. In 2012, the waste collection operators reported that there were 642,546 households (81%) in the region who availed of a waste collection service. Whilst the statistics illustrate that on a Regional average, 19% of households do not have a waste collection service, in some counties that can be as high as 50% or as low as 2%, refer to **Figure 9.3**.



Note: Percentages at 1% cannot be resolved visually on the pie charts.

Regional Waste Plans, SEA and AA

File Ref: MDR098AR-c019F01

Figure 9-3 Waste Services in the Eastern-Midlands Region

The figures are in line with those reported in *the National Waste Report 2012* (Environmental Protection Agency, 2014b) which estimates that approximately 28% of households in the State do not avail of a waste collection service. These figures are based on the data contained in the waste collection permit Annual Returns by authorised waste collectors to the NWCPO and rely on the accuracy of the waste operators in reporting households serviced.

Although 642,546 households are availing of a service in the region, other households are not included in this figure for a number of possible reasons, including:

- Inaccurate reporting of the number of customers / households; and
- Householders disposing of their waste at landfills; transfer stations; civic amenity facilities or PTUs.

In the EMR in 2012, 49% of households on a collection service were provided with a 2-bin system for residual waste and MDR. Also in 2012, 46% of households on a collection service were provided with a 3-bin system for residual waste, MDR, and organic waste. Thus, 95% have a 2-bin or a 3-bin service.

Organic waste accounted for 10% of all kerbside waste collected in the region in 2012 and MDR accounted for 24%.

Whilst bins are the preferred receptacles for waste collection, large urban areas have encountered difficulties with the use of bags as receptacles. Bags are in use in cities where there are storage limitations. Householders availing of a bag collection service are not currently registered with the service provider as bags are usually purchased at retail outlets. This makes it difficult to estimate how many of these households avail of a paid service. It will be necessary for local authorities to engage with the service providers to ensure that householders availing of a bag services are registered to the service provider and have a waste collection service in place.

Policy

The kerbside collection service in the region captures the highest volume of residual and recyclable waste from householders. Over the plan period the local authorities in the region will aim through regulatory measures to maintain and develop the existing systems so that the highest number of households possible is part of a reliable and cost effective 3 -bin system. Local authorities will work with householders and collectors to ensure consistent compliance with the regulations in place for managing household waste. This approach will have environmental and social benefits for the region.

Policy:

- G4. Implement a co-ordinated approach to address unmanaged waste and the potential impact to the environment and human health.

9.3.2 Collection Charges and Customer Charters

All authorised household waste collectors within the region have been issued a WCP in accordance with the Waste Management (Collection Permit) Regulations 2007 and Waste Management (Collection Permit) Amendment Regulations 2008, with the exception of local authority operated collection services (only Dublin City and Dún Laoghaire-Rathdown reported collecting household waste at kerbside during 2012).

The WCPs have specific conditions in relation to the charging mechanism for household customers and the type of bins to be provided. In relation to the charging mechanism for household customers the WCP requires the collector to implement a 'pay-by-use' charging system i.e. pay-by-weight, pay-by-lift or pay-by-tag. A number of household waste collectors within the region utilise microchip technology to identify and weigh the bins.

While there are no charges for the use of bring banks, there are charges at the civic amenity sites and landfills which vary, depending on the waste types collected. Some sites within the region accept segregated recyclables free of charge while at others a charge is applied. Residual waste is accepted at some of the civic amenity sites and is generally charged on a per bag/per vehicle basis. A number of the recycling centres also accept bulky waste items and a charge generally applies.

9.3.3 Residual Waste

Although household waste collectors are required to provide all householders with a minimum two-bin collection service, 2% of householders were offered a residual collection service only in the EMR in 2012.

Table 9.5 - Residual Kerbside Household Waste Collected in EMR, 2010 - 2012

Year	Residual kerbside household waste collected (tonnes)	Residual kerbside household waste collected / household served (tonnes)
2010	390,922	0.59
2011	387,878	0.59
2012	371,158	0.59

As indicated in **Table 9.5** the residual kerbside household waste collected in the EMR has decreased slightly each year since 2010. This slight decrease has led to residual waste collected per household served remaining static from 2010 to 2012.

9.3.4 Mixed Dry Recyclables (MDR) Waste

As detailed in **Table 9.6**, the quantity of MDR collected in the region decreased slightly by 3.2% in 2012 compared to 2011, the quantity of MDR waste collected per household served, remained static between 2011 and 2012.

Table 9.6 - Kerbside MDR Collected in the Eastern-Midlands Region, 2010 - 2012

Year	MDR kerbside household waste collected (tonnes)	MDR kerbside household waste collected / household served (tonnes)
2010	132,340	0.20
2011	138,889	0.21
2012	134,366	0.21

9.3.5 Organic Waste

On a phased basis, household waste collectors must provide an organic waste bin to all householders. The roll-out of the organic waste bin must comply with the European Union (Household Food Waste and Bio-waste) Regulations, 2013 which specifies a phased roll-out, based on agglomeration sizes. In accordance with the regulations organic waste bins will be rolled out to the majority of towns and villages within the EMR, by July 2016. It is anticipated that tonnages will increase year on year with the implementation of the European Union (Household Food Waste and Bio-waste) Regulations 2013 (S.I. No. 71 of 2013).

Table 9.7 - Organic Kerbside Household Waste Collected in EMR, 2010 - 2012

Year	Organic kerbside household waste collected (tonnes)	Organic kerbside household waste collected / household served (tonnes)
2010	43,959	0.02
2011	54,755	0.08
2012	54,647	0.09

Organic household waste collected in EMR increased by 24% from 2010 to 2011 but decreased slightly from 2011 to 2012. It is anticipated that tonnages will increase in the EMR with the implementation of the European Union (Household Food Waste and Bio-waste) Regulations 2013 (S.I. No. 71 of 2013).

9.3.6 Glass

Waste service providers in 8 local authority areas have provided a fourth bin for the collection of source segregated kerbside glass. This service is normally only provided in larger urban areas. In 2012, waste collectors were required to report on the number of households who were provided with a separate glass collection service. The quantity of kerbside segregated glass collected within the region increased in 2012 compared to the preceding year. Overall quantities are low, possibly because the region has a comprehensive bottle bank network.

Table 9.8 - Kerbside Household Glass Collected in the Eastern-Midlands Region, 2010 - 2012

Year	Kerbside household glass collected (tonnes)
2010	387
2011	296
2012	615

9.4 NON-KERBSIDE HOUSEHOLD WASTE

9.4.1 Civic amenity sites

Civic amenity sites are classed as either “recovery” or “recovery/disposal” facilities. In 2012, there were 34 civic amenity sites in the EMR, which equates to an average of 0.08 sites per 5,000 inhabitants. The total number of civic amenity sites and the quantity of waste collected throughout 2010 to 2012 are detailed in **Table 9.9**.

Table 9.9 - Number of Civic amenity sites and quantity of waste collected in EMR, 2010-2012

Year	Number of civic amenity sites	Number of civic amenity sites per 5,000 inhabitants	Waste collected (tonnes)	Waste collected (tonnes) per inhabitant
2010	31	0.07	73,057	0.03
2011	34	0.08	61,991	0.03
2012	34	0.08	62,273	0.03

The tonnage of household waste collected at civic amenity sites accounted for approximately 9% of the HWM in 2012. Civic amenity sites have contributed significantly to the overall household recycling rate over the past number of years. It is assumed that a small quantity of commercial waste is included in the above materials captured in this system.

9.4.2 Bring Bank Network

Bring banks are unmanned, fixed receptacles used for the collection of non-hazardous, dry recyclables such as segregated glass (clear, brown and green), ferrous and non-ferrous metals and textiles. Bring banks are classified as “recovery” facilities.

Table 9.10 - Bring Banks in the Eastern-Midlands Region, 2010-2012

Year	Number of bring banks	Number of bring banks per 5,000 inhabitants	Waste collected (tonnes)	Waste collected (tonnes) per inhabitant
2010	673	1.52	36,773	0.02
2011	651	1.47	37,184	0.02
2012	618	1.4	36,092	0.02

The number of bring banks in the EMR has decreased year on year since 2010. Problems with illegal dumping, public complaints, antisocial behaviour and other local issues have resulted in the removal of banks from certain sites. The tonnage of household waste collected at bring banks accounted for approximately 5.1% of the HWM in 2012 and 0.02t of waste collected per inhabitant. It is assumed that a small quantity of commercial waste is included in the above materials captured in this system.

9.4.3 PTUs

Pay-to-Use waste compactor units (PTUs) are designed as a means of disposal for household residual waste only. There are 2 PTUs located in the EMR and an estimated 123 tonnes of household residual waste was disposed in these units in 2014. PTUs can accept approximately two large plastic bags of waste per use with householders accessing the unit by purchasing a unique code from an adjacent retail facility. Changes in the existing regulatory structure will see the requirement for PTU operators to comply with the proposed household waste collection Regulations.

9.4.4 Non-Kerbside Organic Waste

In addition to kerbside collection, a number of civic amenity facilities within the region collect organic waste, primarily garden organics

Table 9.11 - Household organic waste collected at civic amenity sites, 2010 - 2012.

Year	Quantity (tonnes) - household organic waste
2010	15,414
2011	11,796
2012	12,408

9.4.5 Bulky Waste

Bulky waste items, for example household/garden furniture, are those items generally too large to be accommodated in a standard 240l wheeled bin. Bulky waste is collected by authorised waste collectors and quantities collected are reported as part of the Annual Returns. A number of the civic amenity sites within the region also accept bulky waste and a charge per vehicle size or material weight is applied.

Table 9.12 - Quantity of Household Bulky Waste Collected, 2010 - 2012

	2010	2011	2012
Household bulky waste collected, authorised collectors (tonnes)	24,493	32,995	26,054
Household bulky Waste collected at Civic Amenity Facilities (tonnes)	10,890	10,745	9,971
Total Household bulky waste collected (tonnes)	35,383	43,740	36,025

The quantity of household bulky waste collected by authorised collectors increased by 35% in 2011 compared to 2010 with a decrease of 17% reported for 2012. For the purpose of estimating the quantity of HWM directed to recycling/recovery and quantity disposed, it was assumed that collected bulky waste consisted of 7.6% mixed waste i.e. waste sent for disposal with the remaining 92.4% sent for recycling/recovery. This assumption is in accordance with the findings of the *All island Bulky Waste Reuse Best Practice Management Feasibility Study* (RX3, 2013).

9.4.6 Household WEEE

The quantity of household WEEE is collected through compliance scheme collection points in the EMR. In 2012, the 340 retailer collection points collected on average 25 tonnes per point whereas the 39 civic amenity sites collected on average 173 tonnes per site. As stated in section 7.4.2, this data does not include an estimate of WEEE segregated from skips and similar sources. The civic amenity sites therefore play an important role in the collection of WEEE across the region.

Table 9.13 - WEEE collection points and quantity of Household WEEE collected, 2010 - 2012

	2010	2011	2012
Number of retailer collection points	341	368	340
Quantity of household WEEE collected at retailers (t)	8,524	8,290	8,351
Number of civic amenity facility collection points	39	39	39
Quantity of household WEEE collected at civic amenity sites (t)	8,037	6,587	6,752
Number of one-off collection days	52	75	88
Quantity of household WEEE collected at one off collection events (t)	1,102	1,205	1,262

9.4.7 Batteries

The quantity of portable and non-portable batteries collected in the EMR, are detailed in **Table 9.14**. The quantity of portable batteries has risen year on year with a 15% increase reported in 2012 when compared to the preceding year. As stated in section 7.4.2, nationally there is 140 tonnes of portable lead acid batteries collected by the compliance schemes which cannot be broken down per region. The quantity of non-portable batteries also increased from 2010 to 2011, with only a 9% decrease recorded for 2012.

Table 9.14 - Quantity of Batteries Collected in the Eastern-Midlands Region, 2010 - 2012

	2010	2011	2012
Portable batteries collected (t)	169	201	232
Portable batteries collected per inhabitant (g)	76	90	105
Non-portable batteries collected (t)	2,299	7,912	7,194

9.4.8 Household Hazardous Waste

Most civic amenity sites within the EMR accept common household hazardous waste types. Quantities of common household hazardous wastes collected in the EMR are referenced in

Table 9.15.

In addition to the hazardous waste collected at civic amenity sites, WEEE and batteries are also collected at retail premises and one-off collection events. Details are provided in sections 9.4.6 and 9.4.7.

Table 9.15 - Tonnes of household hazardous waste collected at CAS, 2010 - 2012.

Year	Batteries ⁴⁰	Waste mineral oils & filters	Paint & varnish ⁴¹	WEEE	Household hazardous	Other ⁴²	Total (exc batteries)
2010	236	143	526	8,037	35	72	9049
2011	126	132	823	6,587	145	98	7,911
2012	150	138	696	6,751	64	45	7,844

9.5 UNMANAGED HOUSEHOLD WASTE

Unmanaged household waste is waste that is generated by households but which is not collected via kerbside or non-kerbside. This Plan used the EPA's calculation method to estimate the quantity of unmanaged household waste presented in **Table 9.16**¹. Details of this calculation are provided in Appendix M of the *National Waste Report 2012* (EPA, 2014)⁴³.

Table 9.16 - Estimate of Unmanaged Household Waste in EMR, 2010-2012.

Year	Unmanaged Household Waste (estimate) tonnes
2010	37,852
2011	52,882
2012	63,333

The estimated quantity of unmanaged household waste in the EMR has increased year on year. The 2010 and 2011 estimated quantities were calculated differently than the 2012 figure and hence are not comparable. The 2012 is a more accurate estimation and the quantity reported, over 63,000 tonnes, accounts for approximately 9% of the household waste generated.

It is anticipated that the accuracy of the estimated quantity of unmanaged household waste generated will improve when results from the newly incorporated green module in the Central Statistics Office's Quarterly National Household Survey (QNHS) become available. The green module will provide information on the waste management options availed of by households.

Policy

Unmanaged waste remains a problem in the region which the local authorities intend to address over the plan period. Unmanaged waste leads to backyard burning and illegal waste activities. The extent of these polluting activities in the region is unknown but the potential is significant considering the numbers of household currently not on a collection service. The environmental consequences of unmanaged waste was documented in the evaluation reports with backyard burning leading to uncontrolled emissions to the air impacting on local air quality and the climate

⁴⁰ 80% of which (in t) are lead acid

⁴¹ Paints, thinners, wood preservatives & adhesives

⁴² Other = tyres, aerosols, gas cylinders, books, miscellaneous recyclables, fluorescent tubes, lamps and light bulbs; etc.

⁴³ http://www.epa.ie/pubs/reports/waste/stats/EPA_NWR12_Complete_to_web_5Aug14.pdf

while discharges from illegal dumping can impact on receiving waters and the landscape. The consequences and costs of these acts to local authorities and Irish society needs to be addressed and over the plan the local authorities will implement progressive actions.

Policy:

- G4. Implement a co-ordinated approach to address unmanaged waste and the potential impact to the environment and human health.

10 MUNICIPAL SOLID WASTE AND BIODEGRADABLE MUNICIPAL WASTE

This chapter provides an overview of the management of municipal waste in the region including biodegradable municipal waste.

10.1 MUNICIPAL SOLID WASTE MANAGED

The definition of municipal solid waste (MSW) in Ireland is broad. As highlighted in Figure 10-1 it comprises of wastes from households, municipal sweepings and parks, as well as from the commercial and services sector (shops, offices), including non-process industrial wastes. These waste types are comparable in nature and are managed through similar treatment processes. MSW does not include municipal waste-water treatment sludges or effluents.

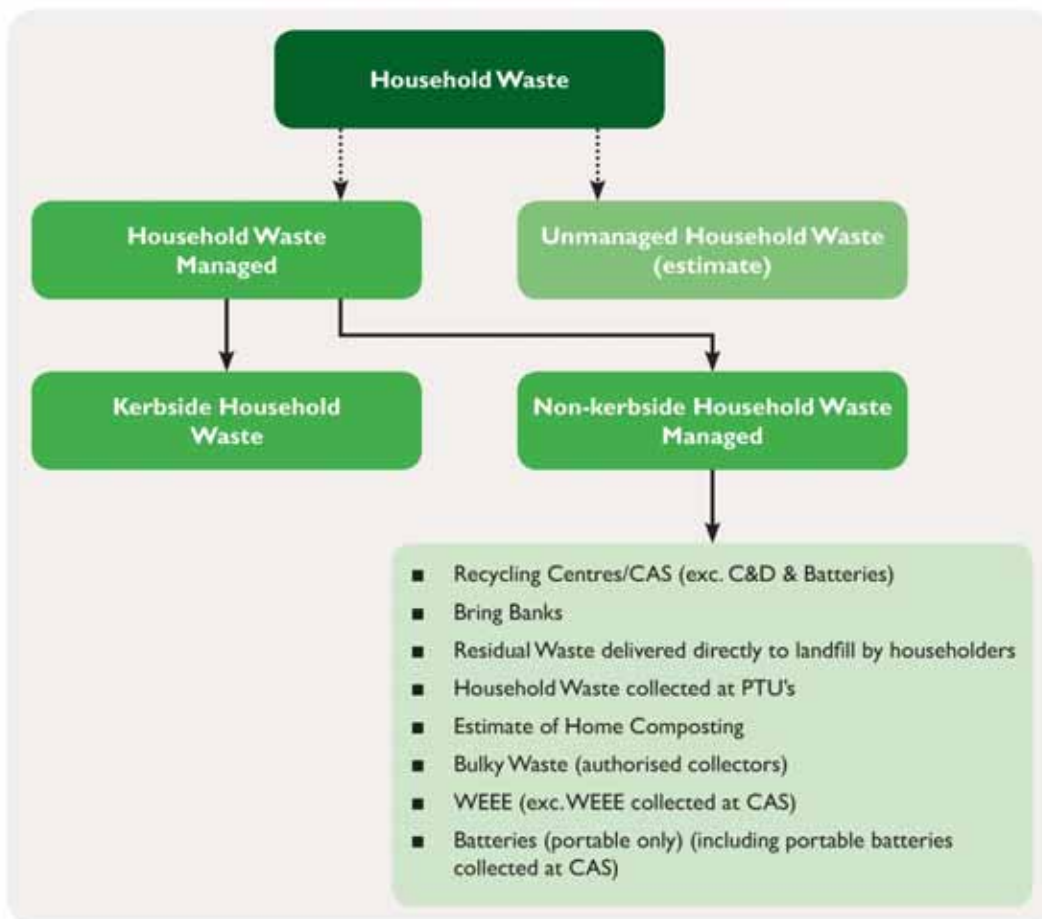


Figure 10-1 - Municipal Solid Waste flow diagram

The quantity of MSW managed in the EMR in 2012 was 1,298,239 tonnes. Nationally the quantity of MSW managed has decreased since a peak in 2007 and this trend continued in 2012 with a 3% decrease in tonnage managed compared to 2011. This decrease is linked to a decrease in personal consumption as the economy contracted despite, an increase in population over the same time period.

Table 10.1 - MSW Managed in the Eastern-Midlands Region, 2012

	2012
EMR - MSW managed (tonnes)	1,298,239
EMR - MSW managed / inhabitant (tonnes)	0.59
National - MSW managed/ inhabitant (tonnes)	0.54

The National Waste Report 2012 (Environmental Protection Agency, 2014b) provides national percentage rates which have been applied to quantify the tonnage of MSW recovered and disposed in the region (see Chapter 9 household waste, **Figure 9.2**). This percentage takes the following into account; the point of final treatment within the state or at the point of export for treatment i.e. landfill, incineration/energy recovery, composting/digestion, and material recycling.

10.2 MSW RECOVERED

The percentage of MSW recovered in 2012 in the EMR is detailed in **Table 10.2**. This is the first year that the percentage of MSW recovered in the EMR (59%) exceeded the percentage managed for disposal (41%).

Table 10.2 - MSW Recovered in the Eastern-Midlands Region, 2012

MSW Recovered	2012
MSW managed recovered	769,030 tonnes
MSW managed recovered	0.348/ tonnes inhabitant
% MSW managed recovered	59%

10.3 MSW DISPOSED

The EU Sustainable Development Indicator on municipal waste groups MSW disposal activities as (i) land filling and ii) incineration/disposal (i.e. incineration without energy recovery, D10). **Table 10.3** details the MSW managed and sent for disposal in the EMR in 2012.

Table 10.3 - MSW Disposed in the Eastern-Midlands Region, 2012

MSW Disposed	2012
MSW disposed	532,278 tonnes
MSW disposed	0.242 tonnes/ inhabitant
% MSW disposed	41%

MSW managed and sent for disposal has been decreasing on a yearly basis in the region since 2010. A number of key factors are driving the diversion of MSW from landfill and thereby increasing the recovery of this waste type:

- The decreasing number of landfills accepting MSW within the country;
- Requirements, e.g. food waste regulations, to divert biodegradable municipal waste (BMW) from disposal to landfill under the Landfill Directive targets;
- Increases in the landfill levy over the last number of years;
- The development of alternative treatment options such as incineration and the production of refuse derived/solid derived fuel; and
- The use of waste as a fuel at cement kilns is taking on an increasingly significant role.

The number of landfills in the EMR accepting MSW for disposal decreased from 11 in 2010 to 7 in 2012, this further contracted to 2 by October 2014. It should be noted that quantities of MSW accepted to landfills may not have been generated in the EMR. The national Waste report (Environmental Protection Agency, 2014b) reported higher quantities of MSW accepted to landfills in the region compared to quantities managed and sent for disposal, as detailed above.

The breakdown of total waste accepted to landfill by waste type and the tonnage disposed is detailed in Chapter 13, **Figure 13-3**, which highlights that MSW is the most significant element of the total waste accepted at landfills in the region.

The Landfill Directive (1999/31/EC) and Waste Framework Directive (2008/98/EC) set out measures to progressively divert and reduce the amount of biodegradable municipal waste sent to landfill by 2016. **Table 10.4** details the percentage of BMW in the MSW delivered to landfills in the EMR during the period 2010 to 2012. The reported national percentage of BMW in MSW delivered to landfills (EPA, *National Waste Report 2014b*) is also given.

Table 10.4 - Percentage of BMW in MSW Disposed to Landfill, 2010 - 2012

	2010	2011	2012
EMR - % BMW in MSW	58%	57%	56%
National - % BMW in MSW	58%	57%	54%

The percentage of BMW in the MSW landfilled in the EMR has decreased year-on-year since first quantified in 2010. There was a decrease from 2011 to 2012, which is consistent with the national trend.

The increased landfill levy in recent years and the economic down-turn, have both significantly influenced the percentage of BMW content in MSW landfilled. Pre-treatment of commercial, household food and garden waste has been enhanced by the introduction of separate kerbside collections. However, meeting the 2016 target is at risk particularly should economic recovery lead to increased generation of MSW.

10.4 NON-HOUSEHOLD MUNICIPAL (COMMERCIAL) WASTE MANAGEMENT

Non-household municipal waste, hereafter referred to as commercial waste, is waste derived from premises used for the purposes of a trade, business, sport, recreation, education, health or entertainment. It also includes non-process industrial waste i.e. from factory canteens, offices etc.

The managed national commercial waste figure published by the EPA, is calculated from the quantities delivered for final treatment within the State or at the point of export for treatment. To estimate the quantity of this stream managed within the EMR, figures were calculated by multiplying the percentage of this stream collected by the quantity of this stream managed nationally. The quantity recovered and disposed was calculated using the relevant national percentage recovery and disposal rates.

Table 10.5 - Commercial Waste Collected in the Eastern-Midlands Region, 2012

	2012
Commercial waste managed (t)	568,873
Commercial waste managed per inhabitant (t)	0.257
National - Commercial waste managed per inhabitant (t)	0.243
Commercial waste recovered (t)	347,013
Commercial waste recovered per inhabitant (t)	0.157
Commercial waste recovery rate for commercial waste managed	61%
Commercial municipal waste disposed (t)	221,860
Commercial waste disposed per inhabitant (t)	0.100
Disposal rate for managed commercial waste	39%

The managed commercial waste recovery rate was recorded at 61% for 2012. The disposal rate shows a corresponding decrease which was due to the increased energy recovery of residual waste and mechanical treatment destined for recovery.

10.4.1 Commercial Organic Waste Managed

The introduction of the Waste Management (Food Waste) Regulations, in 2009 promoted the segregation and beneficial use of food waste arising in the commercial sector. In particular, the Regulations facilitated the achievement of the targets set out in Landfill Directive (99/31/EC) by directing source-segregated food waste to composting and biogas plants and to other forms of treatment (other than incineration).

Table 10.6 - Commercial Organic Waste Collected, 2010 - 2012

	2010	2011	2012
Source segregated organic waste collected	62,898	60,002	57,604
Source segregated organic waste collected per inhabitant	0.0285	0.0272	0.0261
Source segregated kitchen and canteen waste (EWC 20 01 08) collected	34,735	30,282	27,495
Source segregated kitchen and canteen waste (EWC 20 01 08) collected per inhabitant	0.016	0.014	0.012
Waste residual waste collected	78,403	75,762	194,962

Within the EMR there has been a slight decrease in the tonnage of commercial organic waste collected since 2010, despite the legislation requiring its segregation. By contrast, the quantity of commercial residual waste collected over the same period increased significantly. This may reflect treatment of organics extracted during SRF production.

Despite the requirement to provide and to use a source segregated organic waste collection service, EPA characterisation surveys have found significant quantities of BMW in the residual bin even where a 3-bin service is provided.⁴⁴ This BMW fraction in the residual waste is either disposed or recovered along with the residual waste.

10.5 MUNICIPAL SWEEPINGS AND PARKS

Municipal sweepings and parks waste comprises of street cleansing waste, the content of street bins, park and garden waste, cemetery maintenance waste and litter campaign material. **Table 10.7** details the municipal sweepings and parks waste collected within the EMR from 2010 to 2012.

Table 10.7 - Tonnes Municipal Sweepings and Parks Waste, 2010-2012

	2010	2011	2012
Municipal sweepings and parks waste collected ¹	10,333	43,902	34,925

The total quantity of municipal sweepings and parks waste collected has increased year-on-year since 2010. The local authority areas within Dublin and in particular Dublin City Council, account for the largest tonnage of municipal sweepings and parks waste within the region. This can be directly related to footfall arising from the tourism industry, sporting and other major entertainment events.

⁴⁴ <http://www.epa.ie/waste/municipal/>

11 PACKAGING WASTE AND OTHER PRIORITY WASTE STREAMS

11.1 PACKAGING WASTE

Table 11.1 provides an estimate of the packaging waste managed in the EMR for the years 2010 to 2012. The regional data was estimated using the national packaging waste figure as reported by the EPA and an amount apportioned to each region based on ratio of packaging waste data collected through the NWCPO reporting system. The data presented shows that the total packaging waste managed in the region increased between 2010 and 2011 but decreased again in 2012.

The national recovery rate increased from 74% in 2010 to 87% in 2012, which was well in excess of the 60% recovery target for 2011 under the Packaging Directive. The increased rate in 2012 was due to the increased diversion of residual waste from landfill to energy recovery which contains a significant element of packaging waste. It is expected that the total recovery rate for the region is similar. It was not possible to report on the quantity of packaging waste landfilled on a regional basis due to the movement of residual waste generated in the region to disposal facilities outside of the region.

Table 11.1 - Estimated Packaging Waste Managed in the Eastern-Midlands Region, 2010 - 2012

Year	Managed (tonnes)	Managed (tonnes/inhabitant)
2010	475,043	0.215
2011	544,066	0.246
2012	469,511	0.212

11.1.1 Packaging waste collection & recovery system

Packaging waste are collected for recovery via two collection routes kerbside (commercial 62% and household 23%) and civic amenity sites/bring sites (15%) (Repak, 2012). The recovery route for packaging waste is primarily mechanical recycling and re-processing with some quantities of packaging waste being sent for energy recovery. Following segregated collections, packaging waste is delivered to Material Recovery Facilities (MRF) where it is prepared for recycling. The final stages of recycling takes place outside Ireland except for wood and plastics with 100% and 26% of total recovery of each respectively taking place within Ireland (*National Waste Report, 2011* (EPA, 2013)). Packaging waste from the processing of municipal residual waste and contaminated packaging from the MDR fraction is being processed into Refuse-Derived Fuels (RDF) and going for energy recovery.

Major producers of packaging waste can be categorised into four groups:

- Businesses that are self-compliant and arrange for the free take-back, collection and recovery of their own specific packaging waste,
- Businesses that join a compliance scheme,
- Businesses that are below the “de minimis” thresholds of waste tonnages are exempted from major producer obligations (i.e. enterprises with a turnover greater than €1 million and who supply 10 tonnes or more of packaging material or packaging to the Irish market), and

- Businesses that are “non-compliers” which are not exempted from the “de minimis” thresholds and are neither self-compliant nor a member of the compliance scheme.

Sections 11.1.2 and 11.1.3 describe both the compliance scheme and self-compliance systems in more detail. In addition to the requirements for major producers all producers are responsible for segregation of packaging waste that arises from their premises into specified waste streams and have it collected by an authorised waste operator for recovery.

11.1.2 Packaging waste compliance Scheme

Repak Ltd. was set up in 1997 as a non-profit company. It is the only compliance scheme to have been approved for packaging waste since the regulatory system commenced. Repak had 2,178 members in 2012 (DECLG, 2014) and is responsible for the achievement of the national targets. In 2011, Repak members accounted for 95% (DECLG, 2014) of the compliant obligated producers (Repak members and self-compliers).

Figure 11-1 shows the evolution of Repak membership from 1997 to 2012 which increased significantly up to 2005 but the pace of increase reduced even with the change in the “*de minimis*” thresholds brought about by the Waste Management (Packaging) Regulations, 2007. Membership continued to increase up to 2009 but decreased from 2010 to 2012. As a result of the recession previous members abandoned the scheme to reduce cost and due to less packaging placed on the market some became exempt under the “*de minimis*” rule.

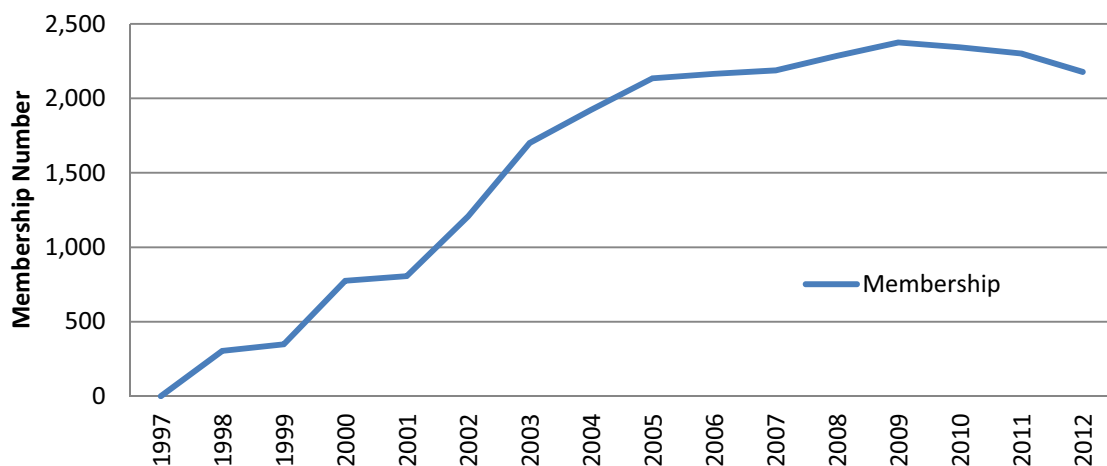


Figure 11-1 - Evolution of Repak Membership 1997-2012⁴⁵

Repak operates the Repak Payment Scheme of subsidy payments to fund the recovery of waste packaging that is sourced by service providers. Rates are agreed between Repak and the waste management industry (based on the material type and source, recovery activity for that material, landfill levy, the market value of that material and the recycling and recovery target that Repak is committed to meet).

The quantities of packaging waste recovered by Repak in 2012 amounted to 669,000 tonnes. Repak data showed increases in packaging recovery/recycling for the following material types - plastic:

⁴⁵DECLG (2014) Review of Producer Responsibility Initiative Model in Ireland

15%, paper: 7%, wood: 5% and glass: 3%. The 15% increase in plastic packaging recovered primarily reflects strong growth in Refuse Derived Fuel. Subsidies for over 87,000 tonnes of RDF were funded by Repak from contaminated paper and plastic, which would have traditionally gone to landfill, an increase of 56% in 2012 versus the previous year (DECLG, 2014).

11.1.3 Packaging waste Self-Compliance

Producers of packaging have the option to self-comply directly with the requirements in the Regulations and that arrange for the free-take back, collection and recovery of their own packaging waste. All self-complying producers have a legal obligation to submit reports to their relevant local authority on packaging placed on the market and waste packaging reused, recovered and disposed. In 2012, nationally there were 136 self-compliers registered with the local authorities (representing 186 unique producers). Eighty five of these self-compliers were located in the EMR, representing 98 premises (refer to **Table 11.2**). From 2011 to 2012 the number of self-compliers has reduced slightly from 91 to 85. In 2012 the self-compliers in the EMR put 18,818 tonnes of packaging on the market and subsequently recovered 3,804 tonnes of packaging waste (20%) (EPA, 2014⁴⁶). However it was noted by the EPA that local authorities reported that a small number self-complying producers failed to provide their full 2012 packaging recovered data in quarterly reports, therefore the packaging recovered tonnage is an incomplete dataset. In comparison with those producers that are members of Repak, self-compliers are required to meet their own targets and not the national targets and they also have limited obligations to contribute to public awareness campaigns.

The performance of self-compliers is determined by their ability to take back at their premises packaging waste from the public regardless of where it is purchased. However, as most self-compliers do not take enough packaging waste from the public, they have to purchase packaging waste recovery evidence from waste operators to make up the difference to achieve the targets.

Packaging self-compliers have reported that it has been difficult to purchase this evidence as all the packaging waste recovery is being allocated to Repak. Self-compliers could pay over and above the Repak subsidies, but a waste operator may still decide to allocate all the packaging waste recovery to Repak to simplify Repak audits. This is one of the reasons why self-compliers are under performing.

Table 11.2 - Packaging Self-Compliers Registered in the Eastern-Midlands Region, 2010 - 2012⁴⁷

Year	No. of self-compliers	No. of premises
2010	90	103
2011	91	103
2012	85	98
2012 Data	No. of self-compliers	No. of premises
Dublin City Council	17	20
Dun Laoghaire Rathdown County Council	7	8
Fingal County Council	17	17
Kildare County Council	2	3
Laois County Council	1	1

⁴⁶ EPA emailed data 14th August 2014.

⁴⁷ EPA NWR 2012

Year	No. of self-compliers	No. of premises
Longford County Council	3	3
Louth County Council	5	6
Meath County Council	6	7
Offaly County Council	1	3
South Dublin County Council	24	24
Westmeath County Council	1	4
Wicklow County Council	1	2

11.1.4 Progress against packaging waste targets

Ireland has met and exceeded the recovery and recycling targets for packaging waste set by the EU Packaging Waste Directive for 2011 (EPA, 2014) (**Figure 1.2**). The success in achieving the targets is due to a combination of measures (DECLG, 2014):

- Financial support from the packaging producers, compliance scheme (introduced in 1997) and the environmental fund which has provided financial support for the recovery of packaging waste,
- Landfill levy which was introduced in 2002 and has steadily increased to its current level of €75 per tonne,
- Landfill bans for specific packaging materials from commercial sources (introduced in 2003),
- Obligation on producers to segregate and recycle packaging waste (introduced in 2003),
- Roll-out of household kerbside collection and development of bring bank and civic amenity sites infrastructure (2002-onwards),
- National waste awareness campaign run annually by Repak, raise the profile of waste including packaging waste and help to drive a change in behaviour towards recovery, and
- Enforcement (ongoing).



Figure 11-2 - Progress towards EU Packaging Waste Targets

11.1.5 Packaging waste enforcement

Local authorities are responsible for the enforcement of the Packaging Regulations nationally and **Table 11.3** shows that inspections have reduced significantly since 2007.

Table 11.3 - Local Authority Packaging Producer Responsibility Inspections 2007-2011⁴⁸

Year	2007	2008	2009	2010	2011
No. of Inspections	3,104	2,034	2,244	813	1,187 ⁴⁹

Repak indicates that there have been 50 prosecutions made under the Packaging Waste Regulations between 1997 and 2010 (majority taking place before 2003) by eight local authorities, with Dublin City Council accounting for 64% of the prosecutions (DECLG, 2014).

It is estimated that 5,000 to 5,200 businesses were likely to be designated obligated major producers by the change in the “de minimis” thresholds under the Waste Management (Packaging) Regulations, 2007. This was not reflected in the increase in Repak membership and number of self-compliers registered. These non-compliant businesses put compliant businesses at a competitive disadvantage and risk which undermines the whole system (DECLG, 2014). More detail on Enforcement is included in Chapter 14.

11.1.6 Packaging waste future activities

The DECLG undertook a Review of the Producer Responsibility Initiative Model in Ireland for the relevant waste streams including packaging waste. The review examined the operation of the compliance scheme, Repak, the activities of self-compliant members and issues which cut across all of the initiatives including enforcement.

The review has put forward a list of recommendations for consideration and many of these will impact on specific activities of the local authorities during the life time of this plan such as enforcement. The following recommendations from the report are relevant:

- Examining how the self-complier reporting system needs improvement and including examining how the existing system can be used to assess distance to targets and allow for financial compensation if the targets are not met.
- Reviewing the fees paid by self-compliers to provide a level playing field between large self-compliers, small self-compliers and compliance scheme members.
- The enforcement activities on non-compliant packaging producers should be increased to tackle free-riders and to improve the financial sustainability of the producer responsibility operator.

⁴⁸DECLG (2014) Review of Producer Responsibility Initiative Model in Ireland

⁴⁹Not validated by the EPA

To ensure future targets are attained the Local Authorities must assist DECLG in improving the self-complier reporting system and increase enforcement activities on non-compliant packaging producers.

11.2 CONSTRUCTION AND DEMOLITION WASTES

Construction and Demolition (C&D) waste is described in the EPA National Waste Reports as all waste that arises from C&D activities (including excavated soil from contaminated sites). These wastes are listed in Chapter 17 of the European Waste Catalogue. C&D calculations in this plan also include soil and stone waste collected from gardens and parks (EWC 20 02 02).

11.2.1 Regional Quantities

C&D waste is primarily collected by private authorised collectors with only a small percentage collected at civic amenity facilities. **Table 11.4** details the quantity of C&D waste collected in the EMR during the period 2010 - 2012.

Table 11.4 - Quantity of C&D Waste Collected in the region, 2010-2012

	2010 (tonnes)	2011 (tonnes)	2012 (tonnes)
Soil and stone waste collected	1,734,377	1,358,080	1,328,875
Contaminated soils collected	4,214	6,594	13,133
C&D waste collected	2,343,868	2,054,939	1,910,887

Nationally the quantities of C&D waste managed peaked in 2007 and decreased year-on-year during the period 2007 - 2011 mirroring the national economic downturn. The EPA's '*National Waste Report 2012*' does not provide details on the quantity of C&D waste managed in 2012.

The national year-on-year trend of decreasing C&D waste arisings was evident in the total C&D waste collected in the EMR during the period 2010 to 2012 where the total C&D waste collected reduced by 3% and the soil and stone waste collected reduced by 10%. There are signs of recovery in the C&D sector in the region in 2012, where the total C&D waste collected increased by 8% and the soil and stone waste collected increased by 13%, when compared to 2011. The commencement of a number of significant construction projects has impacted on the increased quantities of C&D waste collected.

11.2.2 Management of Construction and Demolition Waste in the Region

Figure 11-3 shows the bulk of the C&D waste collected is waste materials such as rubble, metals, timber, plastic, glass, wood, contaminated soils and mixed C&D waste accounting for approximately 59% of all C&D waste collected with the remaining 41% consisting of soil and stones,

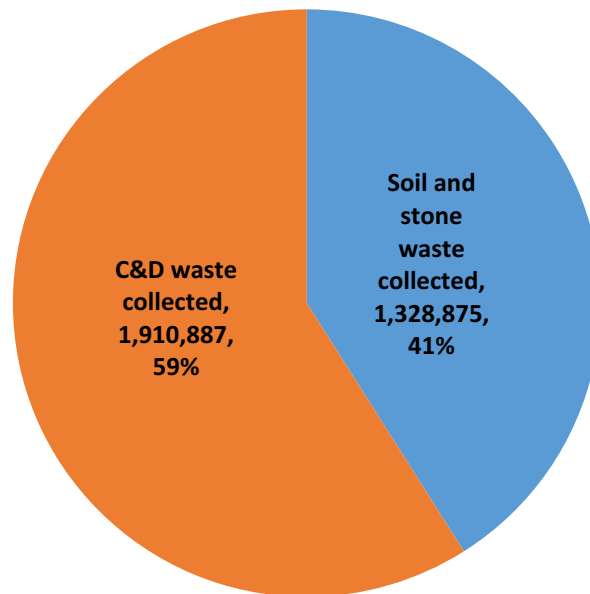


Figure 11-3 - C&D Wastes Collected in the region in 2012

The soil and stone waste collected within the EMR is primarily managed at local authority permitted infill sites with the other C&D waste types primarily managed at EPA licensed activities. Contaminated soils are treated at appropriately licensed hazardous waste sites, in the EMR.

Traditionally, the recovery of much of the C&D waste stream has been managed by placing it in a variety of land use applications. This treatment, collectively known as backfilling includes land reclamation, improvement or infill works. The largest fraction of the C&D waste stream arising is soil and stones which (if uncontaminated) typically undergoes little if any treatment prior to recovery at these sites. Many sites selected for infill facilities are considered marginal agricultural land, and may include wetland habitats or lands subject to flooding. There is an increasing recognition of the potential ecological and biodiversity value of these wetland sites. There is also a sense that at many of these sites, the deposition of waste material was the primary purpose of the activity rather than for purposes of improvement or development of the land.

Given the sharp decrease in the number of operational landfills nationally, which have been a significant outlet for C&D waste in the past, alternative recovery options will be required to facilitate the recovery of C&D waste arising in future years. It needs to be considered if the placement of inert waste at many of the types of infill sites used in the past is an appropriate land use strategy or indeed best use of a potentially recyclable material. Concrete, stone and other masonry-type waste can be crushed and screened and used as a substitute for virgin quarried stone material in a variety of engineering applications, if the appropriate technical criteria have been met, e.g. road construction, access tracks for agricultural or forestry holdings. Quarries also frequently require large quantities of soil material to fill voids, and for other remediation and landscaping applications.

11.2.3 Progress against Targets

The EC (Waste Directive) Regulations, 2011 sets a 70% target for the re-use, recycling and recovery of man-made C&D waste in Ireland, by December 2020. The *National Waste Report 2012* (EPA, 2014) reported that Ireland has achieved this target with a recovery rate of 97% being reported. Backfilling activities account for a significant portion of the recovery rate with recycling of C&D

wastes not as prevalent. The quantification of the different treatment options for C&D wastes is important to show if higher recovery activities, i.e. preparing for reuse and recycling, are growing.

11.2.4 C&D Waste Data & Classification

There are inconsistencies in the classification of construction and demolition wastes post-mechanical processing. In the *National Waste Report 2011* the EPA noted that “there is an issue with regard to the types of material that the construction industry defines as waste, which may lead to secondary resources not being properly accounted for.”

Many of the local authority authorised sites where recovery of C&D waste is undertaken do not have weighbridges and the figures for quantities of waste managed are estimates. The EPA also noted the importance of good record keeping by waste operators and enforcement and data verification efforts by local authorities, which can have a huge impact on the quality of the national waste datasets.

The use of appropriate EWC codes is critical to the tracking of waste both through the waste collection permitting and waste facility regulatory systems. Skips of mixed waste collected from households, businesses or construction sites are typically recorded as either mixed C&D waste or mixed municipal bulky waste. While there is some overlap between the 2 streams, for reporting purposes they arise from two distinct sources and should be recorded as accurately as possible. Misclassification of municipal waste as C&D or vice-versa could impact the reporting on the collection, generation and management of both municipal and C&D waste. It is important that those involved in regulating the waste industry take a precise approach to the use of EWC codes and that consistent and clear guidelines are communicated to the waste industry. This will require coordination between local authorities, the EPA and other relevant stakeholders.

11.2.5 Future Activities

There is significant potential for recycling of the C&D waste stream given the nature of its characteristics.

Articles 27 and 28 of the European Communities (Waste Directive) Regulations, 2011, set out the grounds by which a material can be deemed to be a by-product rather than a waste (Article 27) and the grounds for deeming a material to be no longer a waste (Article 28).

Article 27 allows an “economic operator” to decide, under certain circumstances, that a material is a by-product and not a waste. Decisions made by economic operators under Article 27 are to be notified to the EPA. The EPA is entitled to decide that a notified by-product should in fact be considered as waste. The EPA is obliged to consult with the economic operator and the relevant local authority before making such a decision.

Article 28 sets out the grounds by which a material which is recovered or recycled from waste can be deemed to be no longer a waste. 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 accordance with the following conditions:

- The substance or object is commonly used for specific purposes;
- A market or demand exists for such a substance or object;

- The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- The use of the substance or object will not lead to overall adverse environmental or human health impacts.

To-date the European Commission has not developed specific regulations governing the end-of-waste criteria for C&D waste therefore the EPA are allowed to decide on a case-by-case basis. Proposals for end-of-waste status must come from industry and be funded by industry however this is a complex process and the EPA have made no decisions to date under Article 28.

Much of the inert fraction of the C&D waste stream, particularly concrete, can be recycled and used in engineering applications as a replacement for virgin materials. At present, recycling is not being distinguished from recovery in the recording and reporting of waste statistics for construction and demolition waste.

Anecdotally, it is evident that material derived from waste is being sold or transferred from waste facilities for use at unauthorised sites e.g. shredded wood or processed aggregate being used by farmers and other members of the public; without securing end-of-waste status.

For a material to be no longer deemed a waste, the criteria outlined above must be met. It is important that a consistent approach is taken, both at EPA-licensed and local authority authorised facilities, to ensure that operators who comply with the regulatory process are not undermined by those in non-compliance or operating outside it.

11.3 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

Two compliance schemes have been approved by the Minister for the Environment, Community and Local Government to manage the collection, recovery and recycling of WEEE; WEEE Ireland and European Recycling Platform (ERP). The schemes must report annually to the DECLG, and demonstrate achievement of the European targets for collection and recovery of WEEE. Companies considered to be a producer of electrical and electronic equipment (EEE), also have the option to become “self-compliant”. This involves rigorous reporting obligations to the WEEE Register Society, arranging and financing for free “take-back”, as well as a number of technical requirements in accordance with the Regulations.

A system for the free “take-back” of WEEE from the household waste stream is well established through retail outlets, recycling centres/civic amenity sites and one off collection events in the EMR. In 2012, WEEE generated by households is accepted at 39 recycling centres/civic amenity sites, the majority of which are operated by local authorities.

Non-household end-users of EEE are also provided with free take back through the distributors and/or producers of EEE in the region. A number of private companies collect and manage WEEE from commercial/industrial activities.

11.4 BATTERIES AND ACCUMULATORS

WEEE Ireland and ERP are the approved compliance schemes for batteries and accumulators. Producers must finance the environmentally sound management of waste batteries by joining either

one of the compliance schemes or by self-compliance. Self-complying producers must submit waste management reports and plans on batteries and accumulators to the EPA annually.

Portable batteries and accumulators are collected for recovery and recycling via the retailer and recycling centre/civic amenity network throughout the region. Portable and automotive (car only) batteries are accepted at 39 recycling centres/civic amenity sites. A number of private companies collect non-portable batteries and accumulators from the commercial and industrial sector in the region. These include a variety of battery types such as those in trucks, electric vehicles, golf buggies and boats.

Nationally there is 140 tonnes of portable lead acid batteries collected by the compliance schemes which cannot be broken down per region and hence not included in the portable battery tonnage for the region.

11.5 WASTE TYRES

The Central Statistics Office indicated that in 2012 approximately 3 million tyres were imported for supply in Ireland in 2013, which equates to approximately 24,000 tonnes of tyres. The *National Waste Report 2012* (EPA, 2014) reported that approximately 24,165 tonnes of waste tyres were managed in the state in 2012.

While waste tyres are not classified as hazardous waste, they can cause environmental pollution if disposed of incorrectly or irresponsibly. Stockpiles of tyres may cause environmental pollution due to the potential for uncontrolled fires to occur and the subsequent emission of toxins which are detrimental to both humans and animals.

The Waste Management (Tyres and Waste Tyres) Regulations, 2007 (S.I. 664 of 2007) were enacted in Ireland on 1st January 2008. These regulations allow for the environmentally sound management of waste tyres by providing a regulatory framework for comparing quantities of waste tyres arising with the quantities placed on the market and tracking the movement of waste tyres. Persons who supply tyres to the Irish market and waste tyre collectors must either register with each local authority area where they operate or register with a compliance scheme. TRACS are the only operating compliance scheme in November 2014.

Table 11.5 below details the quantity of waste tyres collected by authorised collectors, within the EMR for the period 2010 to 2012. The details provided below were obtained from the WCP AER returns to the NWCPO.

Table 11.5 - Quantity of Waste Tyres Collected by Authorised Collectors 2010-2012

	2010	2011	2012
Quantity of waste tyres collected (t)	9801	12,689	10,374

According to the *National Waste Report 2012* (EPA, 2014), in 2012, approximately 40% of the total managed waste tyres in Ireland were exported, with the majority used as fuel (33%). The main treatment activity in the State in 2012 was the crumbing of waste tyres for conversion into saleable products (41% of the total managed waste tyres in Ireland).

11.6 END-OF-LIFE VEHICLES (ELVS)

Unlike the legislation for other compliance schemes such as packaging and WEEE, the ELV Regulations do not make provision for an approved body or compliance scheme. Therefore the responsibility for compliance with the legislation rests with each individual vehicle importer. However in 2012, the producers' trade association, SIMI indicated that it had recently submitted to the DECLG a proposal for the establishment of an ELV compliance scheme to improve target achievement, and will be funded by SIMI members.

There are 29 facilities permitted to recover and dismantle end-of-life vehicles in 2014 in the EMR.

The only permitted shredding facility in the EMR is located at Hammond Lane Metal Company, Ringsend, Dublin 4. At this facility, the metal is shredded and processed prior to export.

Following publication of its *Review of the Producer Responsibility Initiative Model in Ireland* in 2014, the DECLG established a working group on ELVs. The role of the Working Group is to examine the recommendations set out in the final report on ELVs and to assist the Department in the drafting of any new Regulations. The Working Group is also involved in facilitating the further development of a compliance scheme for the sector.

12 PRE-TREATMENT AND RECOVERY INFRASTRUCTURE

This chapter provides details on pre-treatment and recovery infrastructure in place in the EMR. Pre-treatment infrastructure covers a wide variety of facilities in the region, but is mainly mechanical sorting/separation/segregation plants which vary greatly in size and sophistication. Recovery infrastructure covers the full range of recovery facilities including reuse, preparing for reuse, recycling and other recovery. Pre-treatment and recovery facilities can be authorised either by the EPA or the local authorities, and the facilities with the larger handling capacity tend to hold an EPA waste licence.

12.1 LOCAL AUTHORITY WASTE AUTHORISATIONS

The local authorities in the region authorise waste facilities under one or more classes of activity, as prescribed by the Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended). There are 12 classes of authorised activities covered by waste facility permits and 13⁵⁰ classes of authorised activities covered by certificates of registration.

A comprehensive database of all local authority authorised waste sites did not exist prior to the preparation of the new Regional waste plans. During the preparation of the Plans, the local authorities spent considerable time developing a baseline of permitted and certificate of registration capacities for the purpose of regional waste management planning. This data has been compiled using information⁵¹ provided by each local authority and, for the first time, a detailed analysis of local and national capacities and activities has been undertaken.

12.1.1 Facilities and Treatment Capacities in the region

Figure 12-1 provides details of all local authority authorised facilities in the region. The figure shows the distribution of waste facility permitted (WFP) and certificate of registration (CoR) facilities and the scale of total capacity authorisation in each local authority area.

In mid-2014, there are 246 local authority authorised facilities in the region with a total market authorisation of 4.24 million tonnes.

The data shows that 50% of the authorised capacity in the region is in the functional areas of four local authorities, Kildare, Louth, Meath and South Dublin County Councils. The local authorities with the least authorised capacity are Dun Laoghaire-Rathdown and Longford County Councils.

Louth and Meath County Council have the greatest number of authorised facilities (33 each) with Dun Laoghaire-Rathdown County Council authorising the smallest number (3).

⁵⁰ Class 8 of the certificates of registration is a spare class, not used.

⁵¹ Includes local authority permitting records and Annual Environmental Reports

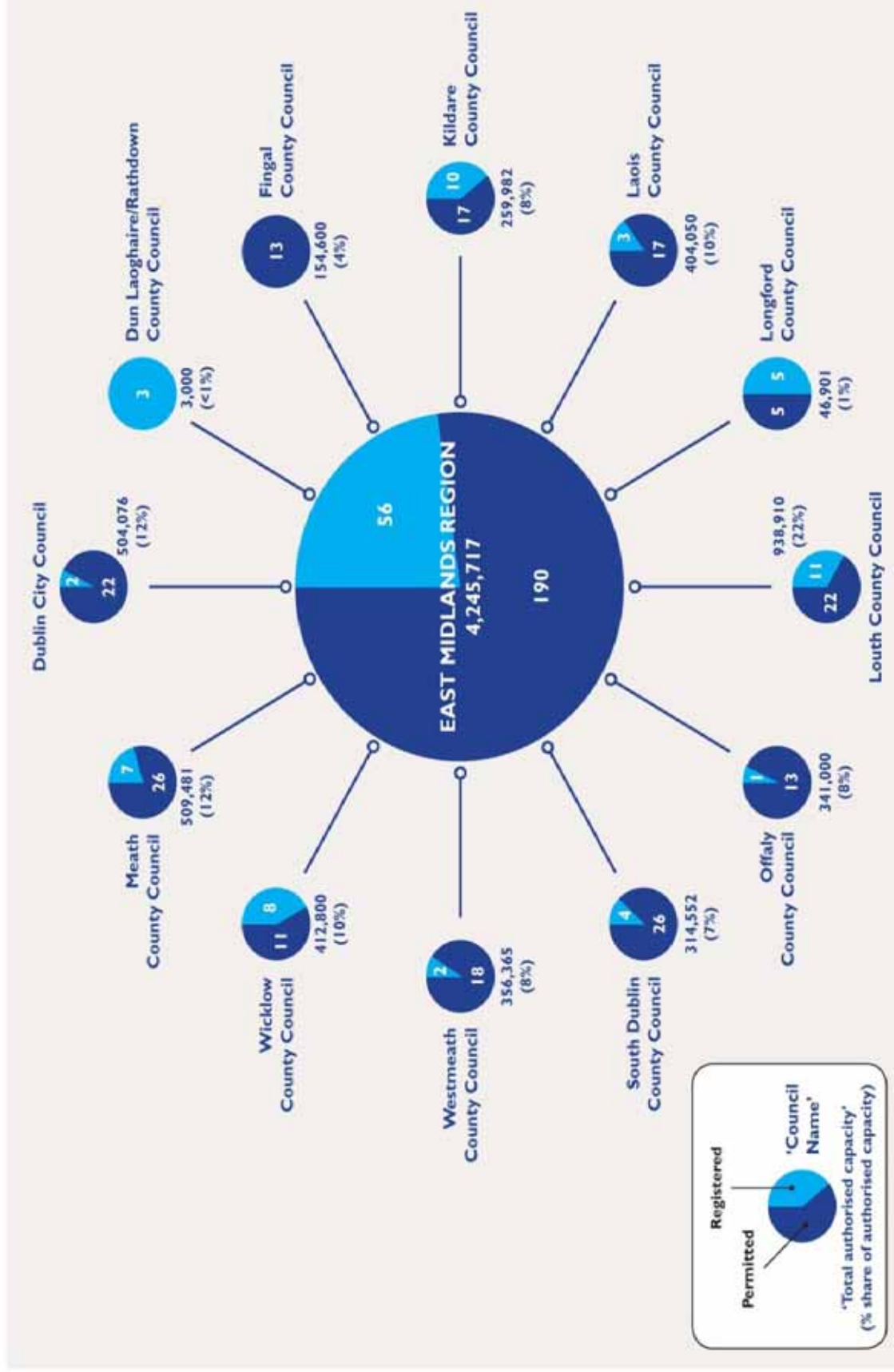


Figure 12-1 - Number and Capacity of Local Authority Authorised Facilities

12.1.2 Market Capacity in the region

There are similarities between many of the classes of waste activities authorised by waste permits and certificates of registration. To allow for effective analysis of the treatment capacity, including an examination of the use of existing treatments in the region, the local authorities have grouped similar activities together where possible. Table 12.1 presents the grouped activities covering the 25 classes of activities as included in the regulation.

Table 12.1 - Details of Facilities by Type and Authorisation

Group and Description	WFP Classes ⁵²	COR Classes ⁵³	No. of Facilities	2012 input
G1 - Store/transfer of waste & MSW	1,7,10	1,7,10	79	635,863
G2 - Metals and ELVs	4,12	-	36	307,346
G2a - Other waste vehicles	2	3	26	61,130
G3 - WEEE, Batteries	3,9	4	9	16,691
G4 - Land improvement	5,6	5,6,9	56	126,150
G5 - Biological	8	11,12	12	50,772
G6 - Organic landspread	-	13	13	2,199
G7 - Non-haz & CFC	11	14	8	5,221
G8 - Temp. storage	-	2	7	1,010
Total	12 classes	13 classes	246	1,206,381

Figure 12-2 details of the number of facilities in each class and indicates that the storage and processing of waste (Group 1), metals and land improvement (Group 4) represent the largest group in terms of numbers of local authority authorised facilities.

Group 1 activities represent the largest bundle of treatment capacity in the region. This Grouping accounts for the largest number of facilities (79) with these as the main activity, and includes mechanical pre-treatment facilities for inert and municipal wastes. This group took in some 635,863 tonnes of waste in 2012. The Region has a significant quantity of authorised capacity of mechanical pre-treatment for the processing of inert and municipal wastes in November 2014. The issuing of future authorisations must take account of the existing scale of oversupply as well as the needs of the market.

The authorisation for Group 4, land improvement activities, is difficult to present as an annual available tonnage as authorisations are often issued as a single quantity to be utilised over the lifespan of the site (as opposed to an annual amount). While the total input in 2012 was 126,150, the available market capacity was 1.5 million tonnes at 56 authorised facilities. The data suggests that the land improvement tonnage is substantially underutilised at ~8% reflecting the downturn in

⁵² Under Part 1 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended)

⁵³ Under Part 2 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended)

that sector. Low levels of recovery were being reported in the construction market in 2014 which may lead to higher demand in coming years for this type of outlet. However, future planning should take account of the location of existing capacities and the scale of available capacity across the region.

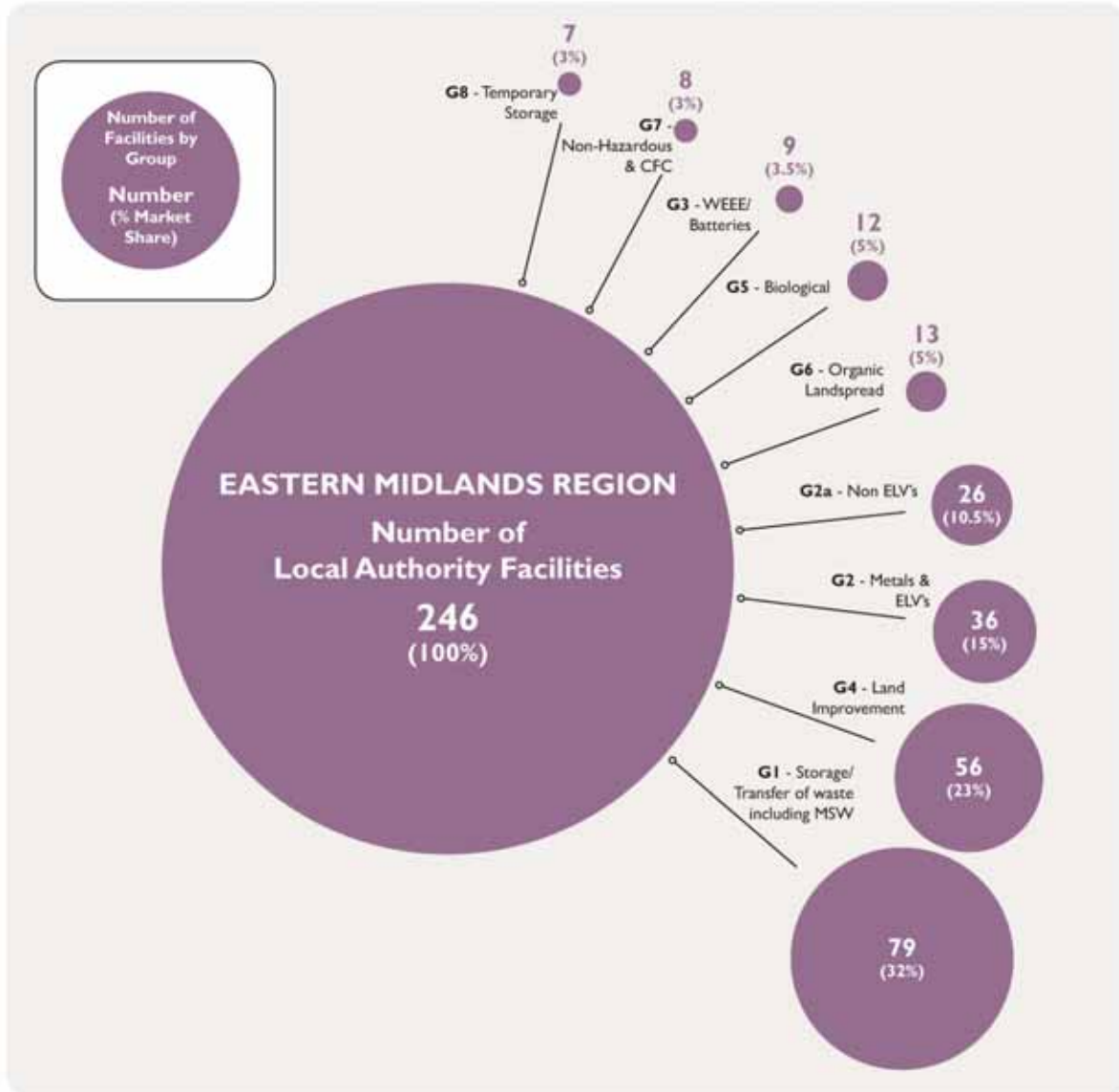


Figure 12-2 - Local Authority Waste Authorisations by Group

Figure 12-3 to Figure 12-6 show the locations of a various groups of facilities in the EMR.

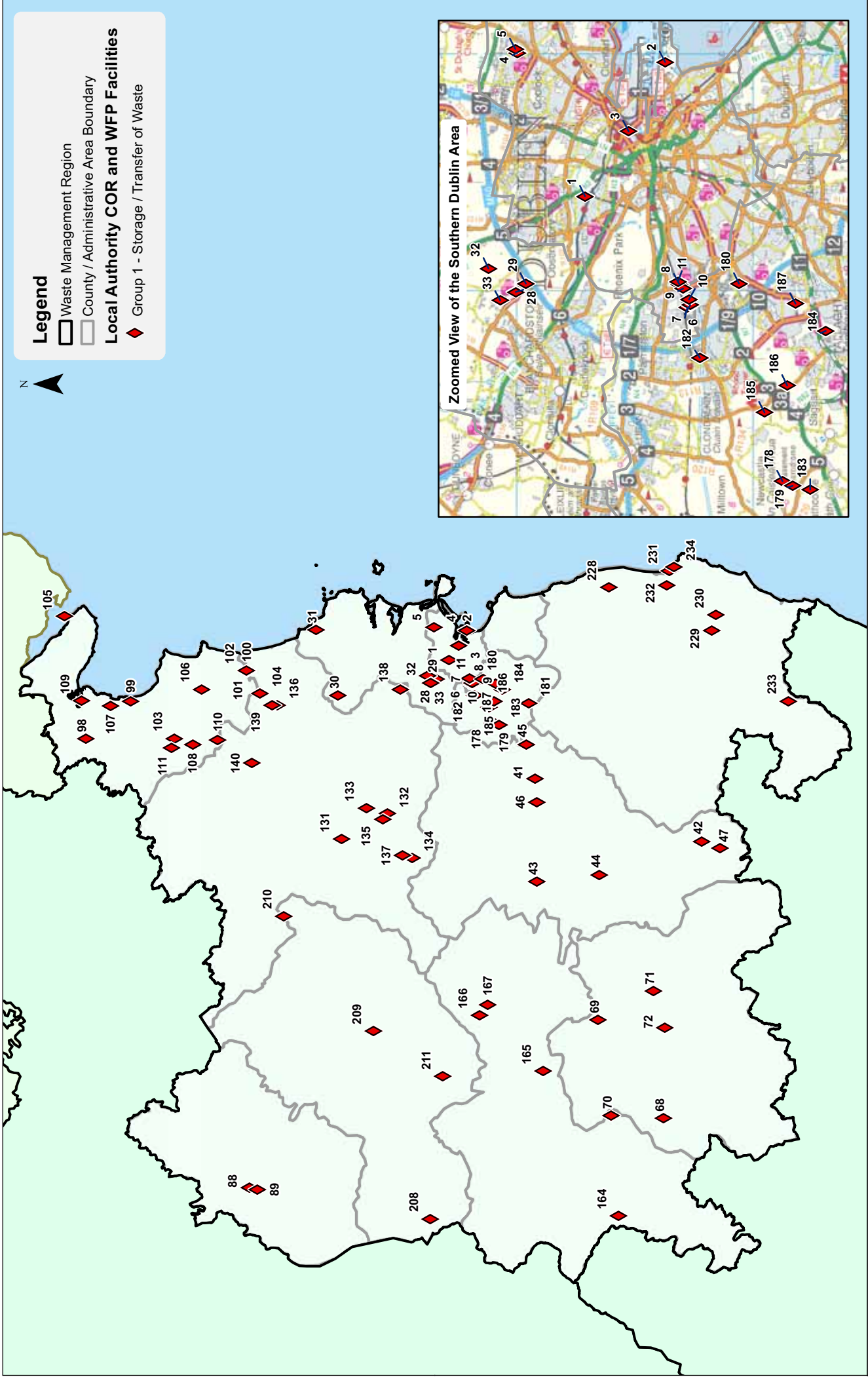


Figure 12-3 Group 1 Local Authority Authorised Waste Facilities in the Eastern-Midlands Region

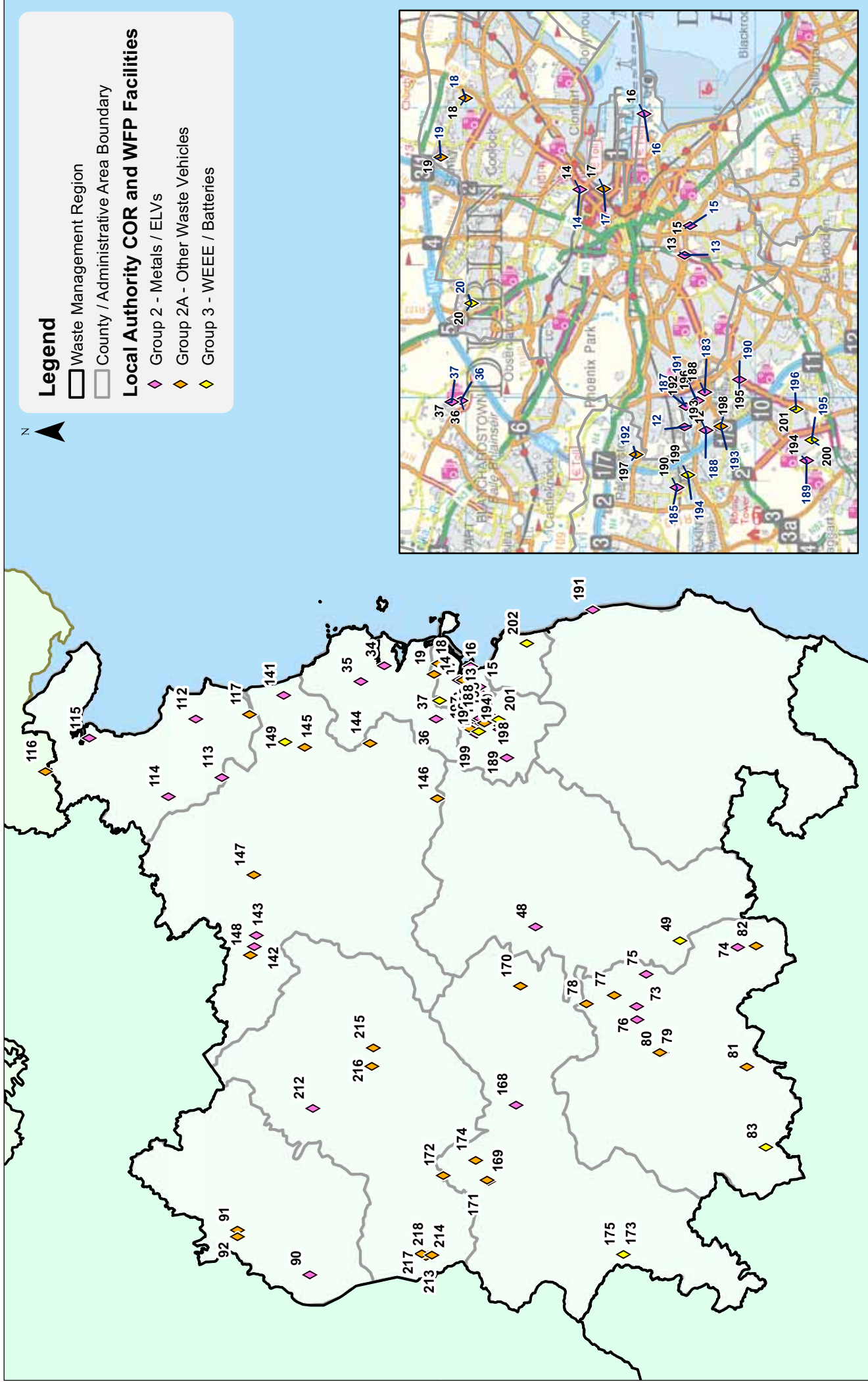


Figure 12-4 Group 2, 2A and 3 Local Authority Authorised Waste Facilities in the Eastern-Midlands Region

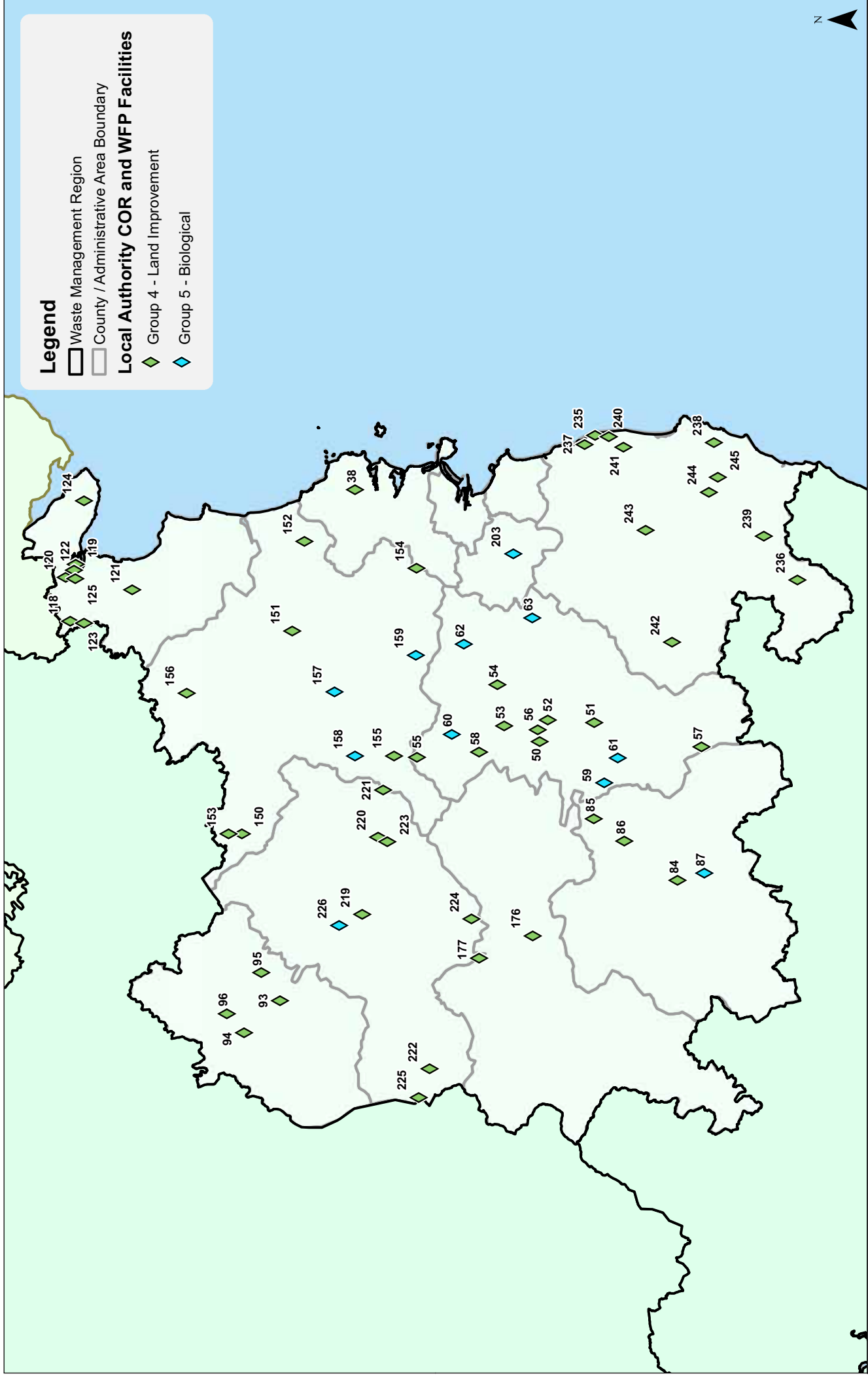


Figure 12-5 Group 4 and 5 Local Authority Authorised Waste Facilities in the Eastern-Midlands Region

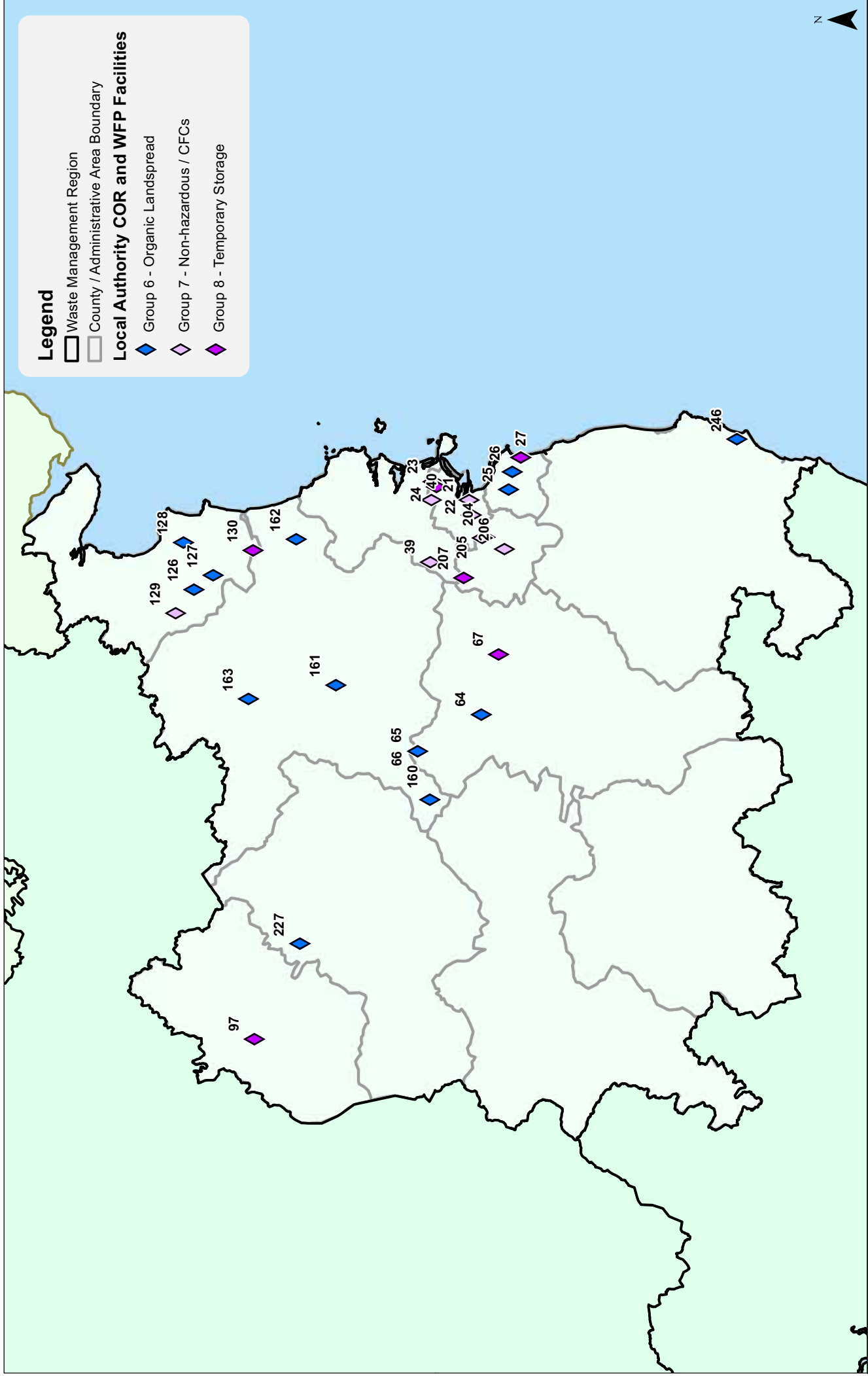


Figure 12-6 Group 6, 7 and 8 Local Authority Authorised Waste Facilities in the Eastern-Midlands Region

12.2 EPA WASTE AUTHORISATIONS

In 1996 the Environmental Protection Agency (EPA) began licensing activities in the waste sector carried out by local authorities and private operators. These include significant waste recovery activities such as, materials recovery facilities, mechanical treatment facilities and thermal recovery facilities.

The EPA also issues Certificates of Registration to local authorities for smaller scale waste activities listed in the Third Schedule Part II of the Waste Management (Facility Permit Registration) Regulations, S.I 821 of 2007 as amended and are primarily bring facilities (CASs and bring banks). These activities have not been included in the capacity analysis as the waste accepted at these sites is handled by other waste facilities along the management chain.

12.2.1 Overview of Waste Licensed Facilities in the region

The EPA provided data to the local authorities relating to waste licenced pre-treatment & recovery activities in the region. **Table 12.2** provides details on the classification of pre-treatment & recovery facilities. This classification by recovery and pre-treatment is based on the R & D Code waste classification in the Eurostat Waste Methodology Handbook, 2013. The classification below has been informed by reviewing the actual operations at the facilities in question and/or market intelligence, as opposed to solely relying exclusively on the consented principal class of recovery codes on the waste licence, which are not always an accurate reflection of the actual activities undertaken at a particular facility. **Figure 12.3** depicts EPA waste licensed facilities in the EMR.

Table 12.2 - Details of EPA Authorised Waste facilities authorised by Class

	Number of Active Facilities	Total Capacity
Pre-Treatment Disposal	18	2,240,437
Pre-Treatment Recovery	27	3,837,000
Recovery	1	200,000
Total	46	6,277,437

The majority of the EPA authorised facilities in this region are pre-treatment facilities and **Table 12.2** provides details of the capacities of the groupings. There are 27 EPA authorised facilities involved in recovery and their authorised capacity is 3,837,000 tonnes.

Policy

The data presented in this chapter shows the authorised capacity for the treatment of waste is substantial particularly the extent of local authority authorisations. To date local authorities in the region have not co-ordinated authorisation activities which has resulted in an over-authorisation and inconsistencies in the approach to the issuing of permits and certificates of registration. Over the plan period the local authorities in the region, led by the lead authority will develop a better understanding of treatment capacity in the wider region. The local authorities will work with operators, through regulatory measures and guidance, to improve the quality and value of material collected and processed. Better quality secondary material will have access to more reliable end destination markets as well as helping to support indigenous enterprises requiring quality recyclates.

Policy:

- C2. Optimise the value of recycled and residual waste resources in the system to turn these materials into reliable sources of secondary raw materials for reprocessing and recovery.

The potential for reprocessors and recyclers of secondary waste materials to set-up and establish indigenous enterprises will be supported by the local authorities over the plan period. The local authorities recognise that better interaction is needed between the waste (environment) section and relevant departments who are working with small businesses with a focus or need for secondary wastes as part of their operation. Growth of secondary material markets will ensure more material is diverted from landfill and other lower tier recovery options which would have a positive impact on the environment.

Policy:

- C3. Identify and promote the growth of secondary material markets and enterprises in the region through regional and local supports.

12.3 CAPACITY ANALYSIS

A comprehensive market analysis of treatment capacity in the region, in addition to considering the national levels of available treatment, is provided in Chapter 16.

12.4 WASTE RECYCLING AND MATERIALS RECOVERY

A network of bring banks, bring centres and civic amenity/recycling centres are located in each local authority area and serve an important role in accepting waste from both households and the commercial sector. This Regional network of facilities accepted ~ 98,000 tonnes of waste in 2012. Recyclable material is accepted at these facilities, free of charge in a number of local authority areas and transferred to other facilities for segregation and processing and ultimately to reprocessing markets.

12.4.1 Material Recovery Facilities (MRF)

These facilities accept, sort and bale recyclable materials for transfer to reprocessing markets. There are five MRFs in the region, handling mainly commercial waste but also household recyclables in November 2014. Throughput of commercial/ industrial recyclables in MRFs was approximately 230,000 tonnes in 2012. Typically MRFs and transfer stations have been located in industrial areas.

Mixed dry recyclable waste collected as part of the dry recyclable bin service is delivered to MRFs where it is sorted into recoverable fractions, baled and transferred to reprocessing facilities. This processing results in a residue, which is either landfilled or diverted for energy recovery.

12.4.2 Reuse and Repair

The area of reuse and repair of goods (furniture, electronic equipment etc.) is an emerging and expanding business in the region. The main role of the local authorities is to facilitate/support this sector where possible. Examples of facilitation include:

- The www.freetrade.ie or www.smileexchange.ie websites, (both EPA-funded initiatives);
- Local authority supported activities that target materials like paint, bicycle, furniture and textiles. (as described in Chapter 8) This sector is served by the voluntary and private sectors:
- Environmental social enterprises and voluntary sector; and
- Private Sector
 - Classified advertisements in publications such as 'Buy and Sell' enable items to be traded or sometimes given away free, i.e., www.donedeal.ie.
 - There are also a small number of businesses involved in the resale of office furniture and architectural salvage, where items of furniture of historical or architectural value or appliances, are sold e.g. Revamp 3R Furniture Store in Longford.

12.4.3 Biological Treatment Facilities

There are 8 private sector biological treatment facilities in the region that are engaged in the composting of bio-waste. A number of these facilities are also engaged in the biological stabilisation (also termed mechanical biological treatment or MBT) of the organic fraction of residual household and commercial waste. There is increasing interest in the development of anaerobic digestion treatment facilities which will have the benefit of also generating biogas for energy generation. A number of community composting schemes underway in the region are supported and encouraged by the local authorities to assist in the diversion of this waste from landfill.

12.4.4 Waste Transfer Stations

There are 24 waste transfer facilities in the region, a number of which also have the capacity to mechanically sort, compress and bale municipal waste for transfer for further recycling, landfill and also for export for energy recovery, in the form of refuse derived fuel (RDF). Such waste derived fuels, produced at mechanical waste treatment plants, can be comprised of paper, plastic, and other combustible wastes used in waste to energy plants, cement kilns or other industrial furnaces.

12.4.5 Energy Recovery

At national level, between 2010 and 2012, there was a notable increase in the use of RDF/SRF as fuel from 94,174t to 158,297t to 230,399t. There was also a notable national increase in the use of other non-hazardous wastes as a fuel, including residual municipal waste from 19,293t to 57,420t to 244,334t between 2010 and 2012 respectively.

Energy recovery within the region included waste recovered at a waste to energy facility, and SRF used as an alternative fuel source in two cement manufacturing facilities. RDF/SRF was also

exported from ports within the region for energy recovery at waste-to-energy facilities in Europe. Ireland's first municipal waste waste-to-energy facility, located in Carranstown, County Meath licensed to treat up to 200,000 tonnes of waste per year and to recover energy, was fully operational in 2012. The facility accepted 175,000 tonnes of mixed municipal waste in 2013, in addition to other waste for energy recovery. The EPA has granted a licence for a second waste-to-energy facility in the region at Poolbeg, Dublin. Cement kilns in Westmeath and Meath, while they are not classified as waste facilities, also accepted SRF for use as fuel.

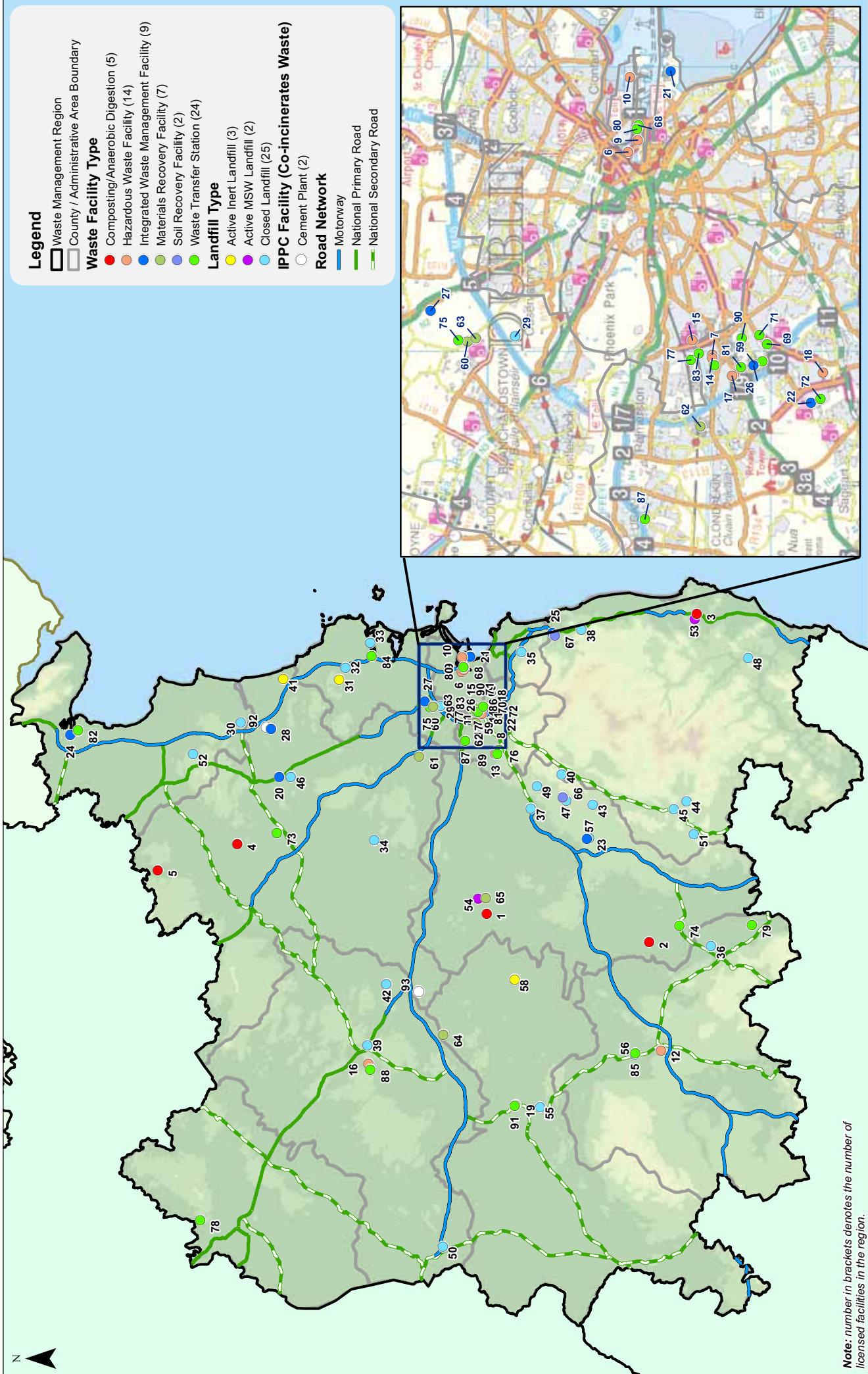


Figure 12-7 EPA Waste Licensed Facilities in the Eastern-Midlands Region

13 DISPOSAL INFRASTRUCTURE

One of the main principles of waste policy over recent years has been to significantly reduce the reliance on landfill as a disposal method for waste. The EU Landfill Directive (1999/31/EC) has set challenging targets for Ireland with regard to the diversion of biodegradable municipal waste from landfill. Significant increases in the landfill levy in the last 13 years have assisted the region in diverting waste from landfill and driving waste up the hierarchy towards waste to energy facilities and increased recycling rates. The landfill levy has increased from £15/tonne in 2001 to €75/tonne in 2013. The number of operational landfills in the EMR has continuously declined over the years, mainly due to the changing national waste infrastructure and government policy on the elimination of landfill for waste disposal.

13.1 LANDFILL ACTIVITY IN THE EASTERN-MIDLANDS REGION

Waste disposal by landfill remains a method of waste management in the EMR. As illustrated in **Figure 13.1**, there are five landfills serving the region; Drehid Waste Management Facility (W0201-03), Ballynagran Residual Landfill (W0165-02), Clonbullogue Ash Repository (W0049-02), Murphy Environmental Hollywood Ltd. (W0129-02) and Murphy Concrete Manufacturing Ltd. (W0151-01).

The total quantities of household, commercial and industrial waste accepted at landfill from 2010 to 2012, as derived from *National Waste Reports (Environmental Protection Agency, 2010-2012)* are detailed in Table 13.1. The quantity of waste accepted has decreased year-on-year since 2010, with a significant decline observed in 2012 in comparison to 2011. This decrease has continued in 2013 and 2014 due to the closure of the landfills in the EMR.

A breakdown of remaining built and consented disposal capacity by landfill is also shown in Table 13.1, it should be noted that the tonnages for total waste accepted, comprises of waste both accepted for disposal and recovery. *National Waste Reports (Environmental Protection Agency, 2010-2012)* for the landfills in the EMR, indicate that in 2012 there was 1,015,500t remaining of active landfill disposal capacity for MSW. Future capacity needs are discussed in detail in Chapter 16, Infrastructure Planning.

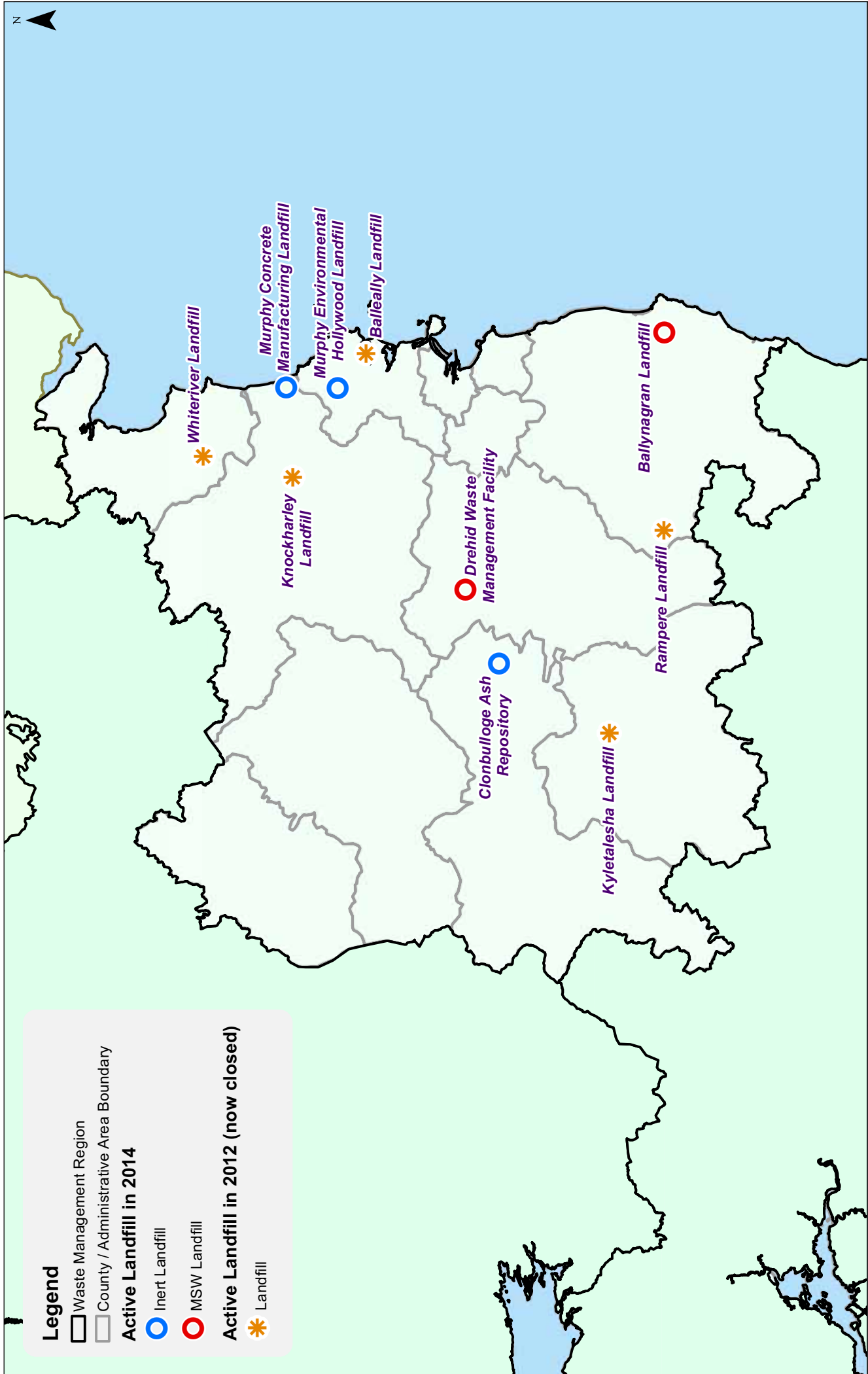


Figure 13-1 Active Landfills in the Eastern-Midlands Region

Table 13.1 - Total Waste Accepted at Landfills in the Eastern-Midlands Region, 2010-2012

Landfill Facility Name	Waste Licence Reg No.	MSW	Total waste accepted - Disposed/Recovered (t)			Status 2014	Remaining consented disposal capacity (t)	Remaining constructed disposal capacity (t)	Remaining life expectancy consented	Remaining life constructed /consented
			2010	2011	2012					
Balleally	W0009-03	Yes	97,726	89,503	238,362	Closed	0	0	0 years	0 years
Kylealesha	W0026-03	Yes	58,289	43,720	40,830	Closed	171,677	0	5 years	0 years
Whiteriver	W0060-03	Yes	41,664	120,381	143,291	Closed	0	0	0 years	0 years
Derryclure	W0029-04	Yes	51,332	110,123	-	Closed	0	0	0 years	0 years
Arthurstown	W0004-04	Yes	255,379	33,438	27,703	Closed	0	0	0 years	0 years
Ballydonagh	W0028-03	Yes	23,993	-	-	Closed	0	0	0 years	0 years
Rampere	W0066-03	Yes	31,630	38,825	20,354	Closed	No data	No data	No data	No data
Clonbullogue Ash Respository	W0049-02	No, ash	32,157	34,663	31,422	Open				
Drehid	W0201-03	Yes	418,243	415,583	415,554	Open	3,469,435	250,000	12 years	1 years
Knockharley	W0146-02	Yes	198,365	126,128	132,744	Inactive	2,076,989	265,500	24 years	3 years
Ballynagran	W0165-02	Yes	169,475	212,192	231,257	Open	1,678,180	500,000	12 years	4 years
KTK Ltd.	W0081-04	Yes	57,654	258,751	-	Closed	0	0	0 years	0 years
Murphy Hollywood	W0129-02	No, inert	30,626	27,378	41,565	Open			No data	No data
Murphy Concrete	W0151-01	No, inert	151,477	60,427	11,176	Open			No data	No data
Kerriffstown	W0047-02		3,731	-	-	Closed	No data	No data	No data	No data
Total			1,621,740	1,571,112	1,334,258		7,396,281	1,015,500		

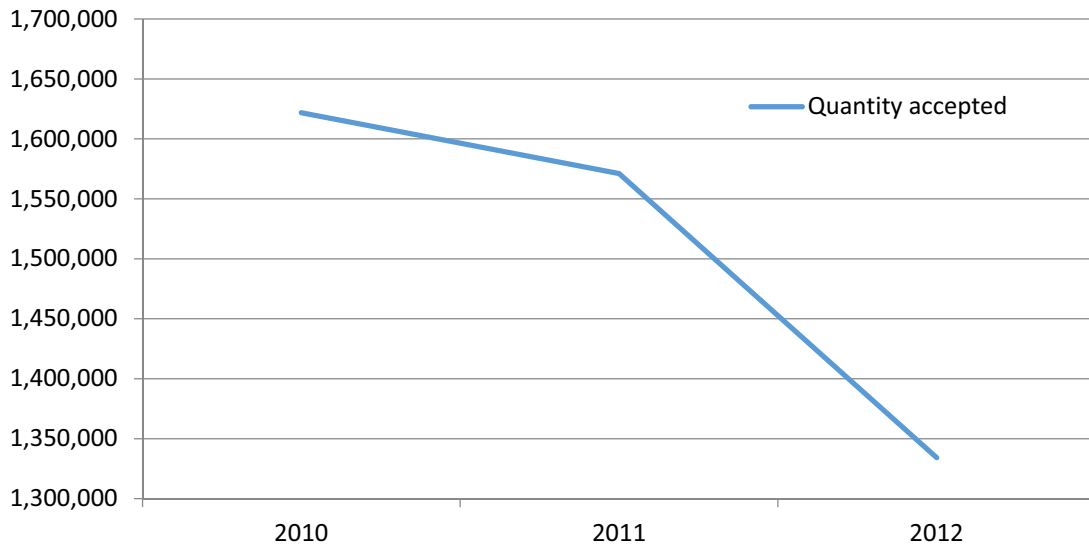


Figure 13-2 - Wastes Accepted (tonnes) for recovery and disposal at Landfill 2010 - 2012

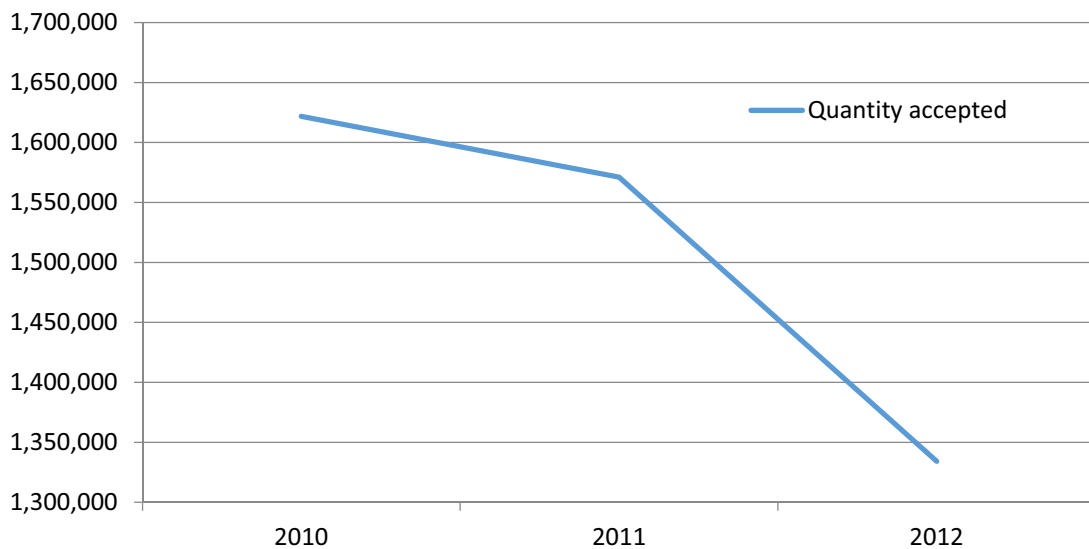


Figure 13-2 illustrates that the level of waste disposal in the region has decreased since 2010, and as discussed previously in this Plan, landfilling is no longer the primary treatment route for municipal, industrial and C&D waste.

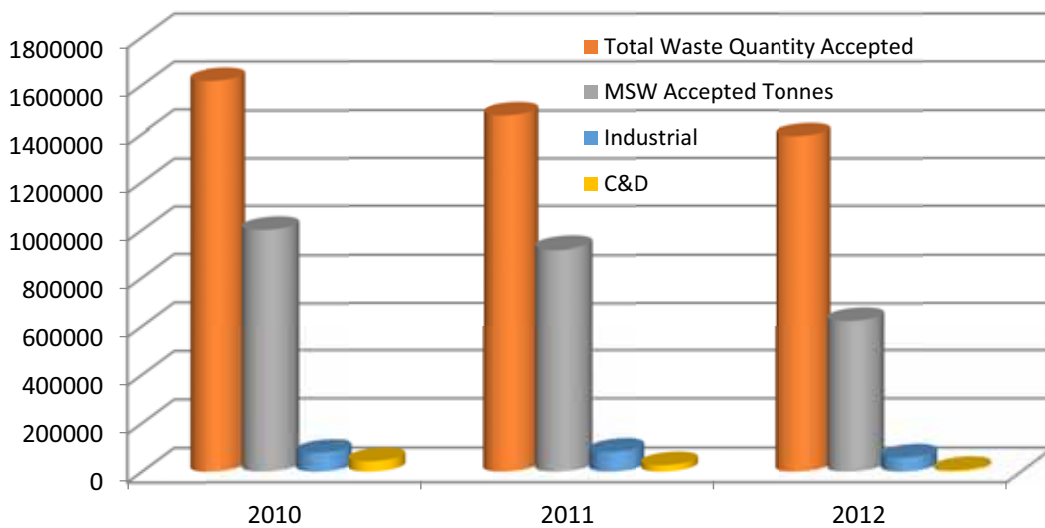


Figure 13-3 - Total Waste accepted at Landfill 2010 to 2012.

Figure 13-3 illustrates that waste disposal for each waste type is decreasing on a yearly basis since 2010. In the years 2010 to 2012, the quantities of municipal waste sent to landfill reduced by 37%, industrial waste by 24% and construction and demolition waste by 83%.

13.1.1 Biostabilised Solid Waste Accepted at Landfills

Biostabilised solid waste is generally an output from composting plants that process a type of waste from a mechanical processing facilities that it is typically referred to as 'organic fines'. Mechanical processing plants accept and process mixed municipal residual waste. This material contains some BMW. The residual waste is put through a series of mechanical segregation processes (such as shredding and screening), which gives rise to several fractions, including the organic fines material. The composting plant then accepts and processes the organic fines to produce a compost-like output that has been stabilised.

This compost-like output does not meet quality compost standards, as it is generated from mixed residual waste, and consequently it is directed to landfill as an inert waste. The EPA has set stability standards for biostabilised waste that is being landfilled. A more restrictive standard will come into effect from 2016⁵⁴ onwards. These are outlined in the text box below:

'Stabilisation' means the reduction of the decomposition properties of biowaste to such an extent that offensive odours are minimised and that the Respiration Activity after four days (AT4) is <10 mg O₂/g DM (until 1-1-2016), and <7 mg O₂/g DM thereafter

⁵⁴ Municipal Solid Waste – Pre-treatment & Residuals Management An EPA Technical Guidance Document, 2009

The estimated national figures for biostabilised residual waste reported as having been accepted to landfill for 2012 and 2103 are illustrated in **Table 13.2**.

Table 13.2 - National Quantity of Biostabilised Waste Accepted at Landfill, 2012 & 2013

Year	Quantity Accepted at Landfill (Tonnes) est.
2012	36,800
2013	58,257
2014	77,000 (est.)

This table indicates that there has been a trend of increasing production of biostabilised residual waste over the last few years. However, the region anticipates that increased segregation of household and commercial bio-waste will reduce the volumes of biostabilised residual waste requiring disposal in coming years.

Decreasing availability of landfill as an option for this stabilised waste requires the region to continue to investigate alternative options for biostabilised residual waste.

13.2 REPATRIATION OF WASTE FROM NORTHERN IRELAND

In accordance with an intergovernmental agreement in 2008, the repatriation of waste originating in Ireland, but which was illegally disposed of in Northern Ireland in the early 2000's is now underway. A co-operative agreement provides a template for dealing with this historical legacy issue and, which was endorsed by Ministers from both jurisdictions and by the EU Commission. Under the agreement, the costs of disposing of the waste will be met by the Irish Government together with 80% of the costs of removing the waste from Northern Ireland.

In April 2012, Dublin City Council's National TFS Office established a Framework Agreement for licensed waste disposal facilities in the Republic of Ireland in order to provide a service for the disposal of waste excavated from sites in Northern Ireland. The Framework duration is four years, and 8 landfills are on the Framework, located within the three Regional waste areas. In 2014, however, only four landfills on the Framework are open and accepting waste, with three being located in the EMR. The fourth landfill site is located in the Connacht-Ulster Region. There are 7 sites remaining in Northern Ireland with an estimated 120,000 tonnes of mixed municipal waste to be repatriated for disposal over the coming years.

13.3 LEGACY AND HISTORIC LANDFILLS

Under the WMA Act Section 22(7) (h) the waste management plan is required to include an inventory of sites identified as previous disposal/recovery sites. A risk assessment of these sites is required as well as identifying the remedial action to be taken. In 2005, a Ministerial Direction was issued by means of Policy 60 guidance under the WMA (reference Circular WIR 94/05) requiring local authorities to meet the Section 22 requirements in the last round of waste management plans.

To assist local authorities with risk assessing closed landfills, the EPA issued a *Code of Practice for Environment Risk Assessment for Unregulated Waste Disposal sites* in April 2007. The Code of Practice was produced to ensure a consistent approach to environmental risk assessment by local authorities. The risk assessment methodology is a structured transparent and practical process that

allows for the prioritisation of the sites in high, moderate and low risk, known as Class A, B and C respectively. The methodology has three phases as outlined here:

- Tier 1: Qualitative Risk Assessment (Risk Screening and Prioritisation)
- Tier 2: Site Investigations and Refining Risk Screening
- Tier 3: Quantitative Risk Assessment (Detailed Site Specific)

The EMR has identified and registered 135 closed landfills in accordance with Section 22 (7) (h) of the WMA. It should be noted that a risk assessment of environmental pollution is pending on Calliaghstown Upper (S22-02818) located in South Dublin County Council.

A summary of the number of high, medium and low risk sites is shown in **Table 13.3**. A more detailed list can be found in Appendix F. The 19 remaining sites, which are pre-1977 landfills, were not assessed.

Table 13.3 - Landfill Risk Assessment for the EMR

Landfill Class	Risk	Number of Landfills in EMR
A	High	18
B	Medium	33
C	Low	65

The Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008 requires all landfills closed between 1977-1997 to have at a minimum Tier 1 Assessments completed by the 31st December 2009 and that Tier 2 and 3 stages would follow on as soon as possible. The EMR has carried out assessments on four landfills and has applied to the EPA for a Certificate of Authorisation for each site. There are no sites authorised in the EMR Q4, 2014.

The DECLG provided funding for the investigation of landfills in the region over the last number of years; many of these landfills have now Tier 2 and Tier 3 phase assessment completed. The three regions have agreed a road map for dealing with the remaining Category A facilities over the lifetime of the Plans. The road map ranks the landfill and those landfills which are placed in Category A due to a gas related emission, will be dealt with first.

An estimate of the cost range per hectare for remediation of the different classes of site has been prepared and this is based on actual costs to date for each of three classes of landfill and where a class has not yet been completely remediated it is a best estimated based on actual cost to date. The costs⁵⁵ are based on a per hectare price as follows:-

- CLASS A: €200,000-€350,000 per hectare
- CLASS B: €140,000-€200,000 per hectare
- CLASS C: €10,000-€140,000 per hectare

In August 2012 the DECLG published a circular WP 15/12 which set a road map of deliverables for bringing the historic landfills through to certificate of authorisation application stage but as this was contingent on the availability of funding this left an enormous challenge to complete the roadmap by 2016. In order to prioritise the high risk sites, the three waste management regions have now

⁵⁵ Indicative costs based on best available data from local authorities remediating historic sites

agreed a process for the investigation, authorisation and remediation of the remaining Class A facilities over the lifetime of these plans. The process will firstly rank the high risk landfills according to risk screening process and these sites will be dealt with in the following order:-

1. Sites with a gas source-pathway-receptor linkage containing hazardous waste;
2. Sites with a gas source-pathway-receptor linkage;
3. Sites with a ground-water vulnerability source-pathway-receptor linkage; and
4. Sites with a surface water vulnerability source-pathway-receptor linkage

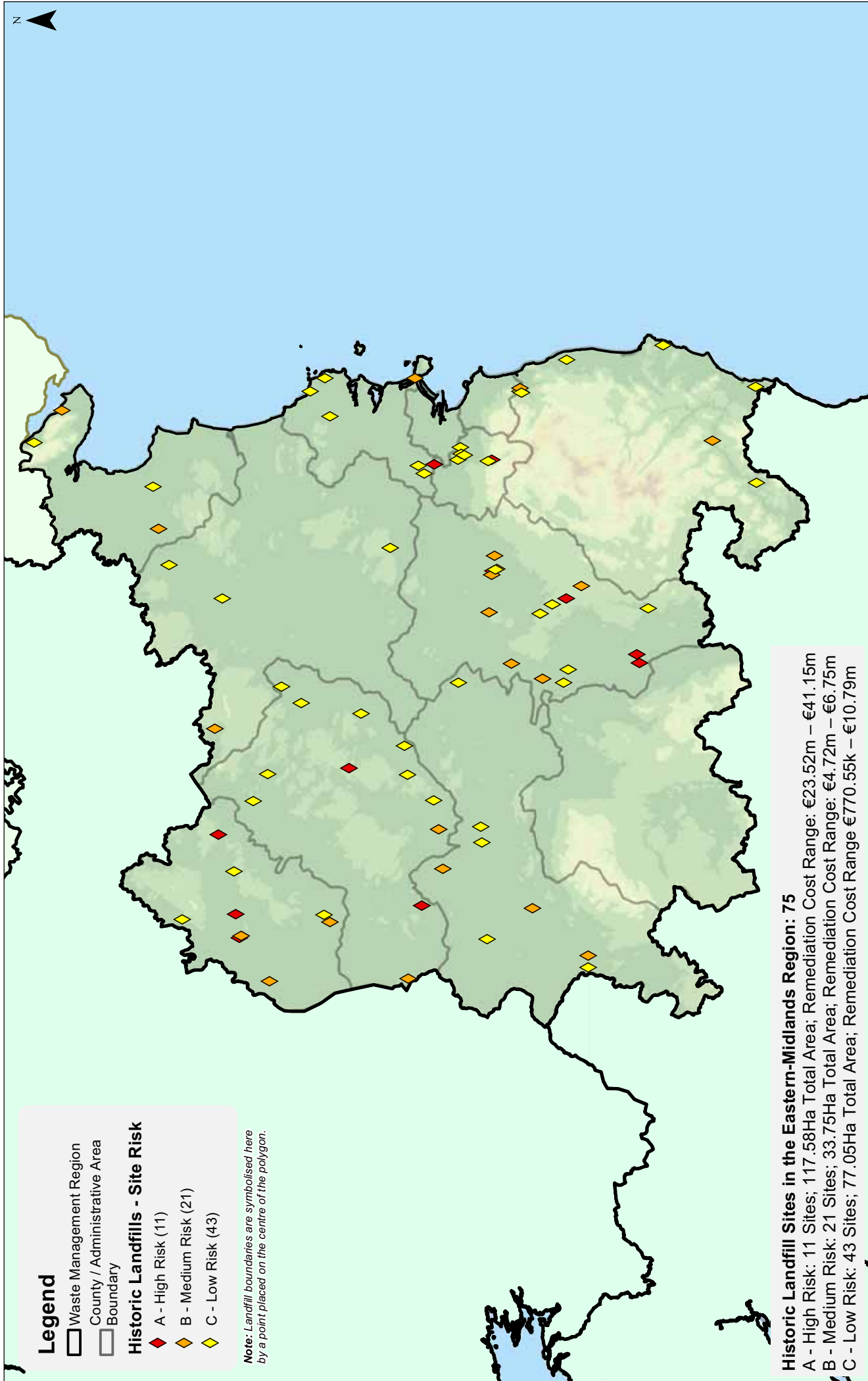
Following the ranking, a Class A road map will be prepared both for the process of application for certificate of authorisations when investigations are complete and for the remediation of these high risk sites over the lifetime of this plan.

Policy

The local authorities recognise the need to address legacy, historic and closed licensed landfills in the region over the plan period. The risk to environmental receptors, such as ground and surface water, from waste buried at these sites needs to be tackled and minimised. A clear process to remediate sites has been discussed with the Department d. These communications have shaped the policy and implementable actions in the Plan. The local authorities are committed targeting and addressing the highest risk sites as soon as possible and subject to funding from the DECLG being made available.

Policy:

- G2. Rollout the plan for remediating historic closed landfills prioritising actions to those sites which are the highest risk to the environment and human health.



Legend

- Waste Management Region
- County / Administrative Area
- Boundary

Historic Landfills - Site Risk

- ◆ A - High Risk (11)
- ◆ B - Medium Risk (21)
- ◆ C - Low Risk (43)

Note: Landfill boundaries are symbolised here by a point placed on the centre of the polygon.

Historic Landfill Sites in the Eastern-Midlands Region: 75

A - High Risk: 11 Sites; 117.58Ha Total Area; Remediation Cost Range: €23.52m – €41.15m
 B - Medium Risk: 21 Sites; 33.75Ha Total Area; Remediation Cost Range: €4.72m – €6.75m
 C - Low Risk: 43 Sites; 77.05Ha Total Area; Remediation Cost Range €770.55k – €10.79m

Figure 13-4 Historic/Legacy Landfill Sites which have Undergone Risk Assessment

14 ENFORCEMENT AND REGULATION

Since the introduction of the Waste Management Act (WMA) 1996 and subsequent regulations, the task of regulation and enforcement has become increasingly important in the region. In April 2005, the landmark European Court of Justice (ECJ) judgement (Case C494/01) ruled that Ireland had infringed the Waste Framework Directive by generally and persistently failing to fulfil its obligation to fulfil various articles under that Directive. This ruling resulted in structural and administrative deficiencies as well as site specific cases been addressed. In addition, other issues such as unregulated ELVs and illegal sites or orphan sites, such as Irish Ispat Ltd., were subsumed under the case. A comprehensive response to the case is available on the DECLG website⁵⁶.

14.1 ROLES AND RESPONSIBILITIES

Waste enforcement is operated on the ground primarily by local authorities and by the EPA. In addition, the DECLG, the NWCPO and the National TFS Office play a role in enforcement.

14.1.1 Department of Environment, Community and Local Government (DECLG)

Under the WMA, the Minister for Environment, Community and Local Government is responsible for developing the policy and legislative framework for waste management in Ireland. The Minister is precluded by Section 60(3) of the WMA from exercising any power or control in relation to the performance of the EPA or a local authority of any functions conferred onto them under the Act.

14.1.2 Environmental Protection Agency (EPA)

The EPA carries out its waste enforcement functions through the Office of Environmental Enforcement (OEE), and the Office of Climate, Licensing, Resource and Research (OCLRR). The OEE, which was established in 2003, has a mandate to deliver enhanced environmental compliance through enforcement of EPA licences issued to waste, industrial and other activities. It exercises a supervisory role in respect of the environmental protection activities of local authorities. In this regard, the OEE acts as a resource to members of the public who have exhausted all other avenues of complaint. The OEE's main functions in relation to waste enforcement are to:

- Improve overall compliance with environmental protection legislation;
- Raise awareness about the importance of enforcing environmental protection legislation;
- Enforce waste licences and Integrated Pollution Prevention and Control Licences;
- Audit and report on the performance of local authorities in their environmental protection functions, including enforcement in respect of breaches of waste permits, taking action on illegal dumping, implementation of conditions of waste collection permits, and enforcing producer responsibility initiatives in areas such as packaging waste;
- Take action against local authorities failing to discharge environmental protection functions;
- Prosecute, or assist local authorities to prosecute, for significant breaches of environmental protection legislation, in a timely manner; and

⁵⁶ <http://www.environ.ie/en/Publications/Environment/Waste/FileDownload,30458,en.pdf>

- Assist local authorities in improving their environmental protection performance on a case by case basis, through establishing an enforcement network to promote information exchange and best practice, and by providing guidance.

In terms of its supervisory role in relation to local authority enforcement performance, the OEE may request information from local authorities on the discharge of their statutory environmental protection functions. They may also carry out broad assessments of their environmental performance, such as environmental audits and provide advice, recommendations, assistance or support. Where appropriate, the OEE may issue a direction to a local authority to take specific action within a specified timescale if there is a real and imminent risk of significant environmental pollution due to a local authority's failure to carry out its statutory environmental protection functions, or to follow advice or recommendations made by the OEE.

Complex legislation and many different enforcement authorities, often with overlapping jurisdictions results in the need for a high degree of coordination. As a result, OEE set up and now coordinates the Network for Ireland's Environmental Compliance and Enforcement (NIECE) network. NIECE brings key enforcement bodies together within a framework of coordination and cooperation in their enforcement efforts thereby ensuring efficiencies and consistency amongst environmental regulators. The enforcement network has now over 1,000 public sector staff registered from circa fifty agencies within Ireland.

Further enforcement responsibility is assigned to the OCLRR, including:

- Producer responsibility enforcement related to WEEE and batteries;
- Maintenance of the National Polychlorinated Biphenyls (PCB) Inventory; and
- Preparation of the National Waste Report.

14.1.3 National Transfrontier Shipment Office (NTFSO)

In July 2007, Dublin City Council was nominated as the single national competent authority in relation to the export of, import to or transit through Ireland of waste. The establishment of the NTFSO consolidated and streamlined the administration and enforcement of waste exports and imports and a dedicated enforcement team is in place to enforce the waste shipment regulations and prevent the export or import of illegal shipments of waste. In July 2011, the NTFSO was nominated as the competent authority for the administration of hazardous waste movements within Ireland. All hazardous waste movements are tracked and traced via an on-line system linking authorised waste collectors with authorised waste facilities.

14.1.4 National Waste Collection Permit Office (NWCPO)

The NWCPO was established in Offaly County Council in 2012 and significantly streamlined the collection permitting system from 10 issuing authorities into a single entity. The NWCPO processes waste collection permit (WCP) applications and review applications for all 31 local authorities. It also manages all WCP annual environmental report data, maintains the WCP register and associated IT system and websites, revokes WCPs as appropriate, and provides data reports to relevant stakeholders where required. The enforcement function of WCPs and the verification of AER data is generally the responsibility of the local authority, with consideration given to the area where most collection activity is undertaken.

14.1.5 Local Authorities

Each of the local authorities within the EMR has a dedicated waste enforcement team which is grant funded since 2004, by the Environment Fund. Revenues from the levies on plastic shopping bags and the landfill of waste are paid into the Environment Fund; however revenues into the fund have decreased considerably in recent years, primarily due to the reduction in the quantity of waste landfilled in the country. Nevertheless, the Department is committed to continuing to grant assist local authorities until at least the end of 2014.

The primary enforcement objective of local authorities is to achieve regulatory compliance in relation to waste activities in the local authority's functional area. This covers a wide range of roles, but can be grouped into the following categories:

- Regulatory Enforcement: Undertaking inspections and taking appropriate measures to bring the relevant parties into compliance. This includes enforcement of regulations in relation to,
- for example - waste facilities, waste collection, ELVs, WEEE, food waste, packaging, plastic bags, batteries and accumulators, farm plastics, tyres and waste tyres and prohibition of waste disposal by burning;
- Unauthorised waste activities: Enforce the provisions of the WMA in relation to unauthorised waste activities. This encompasses a broad range of possible infringements of legislation, from individual householders or businesses not handling waste correctly, to the large-scale illegal deposition of waste;
- Litter: There is considerable overlap between enforcement of the Litter Act 1997 and the WMA; and
- Complaints: Responding to complaints is a significant part of local authority enforcement activity.

It is a matter for the each individual local authority, in the first instance, to investigate illegal disposal of waste in their functional area and to take the appropriate enforcement action. Local authorities have significant powers available to them under the WMA to enable them to tackle illegal waste activity, including, the power to:

- Investigate complaints;
- Prosecute offences;
- Apply to the Courts for the imposition of fines;
- Enter onto and inspect premises at any time where there are reasonable grounds for believing that there is a risk of environmental pollution;
- Direct a holder of waste to dispose of it in a certain way and in a specific timeframe;
- Request the assistance of An Garda Síochána in the exercise of these powers; and
- Monitor and inspect waste holding, recovery and disposal facilities.

Notwithstanding these very significant powers and responsibilities, in recent years there has been considerable centralisation of waste management functions previously discharged by the local authorities which are detailed in Part 1, Chapter 3.

14.2 ENFORCEMENT IN THE EASTERN-MIDLANDS REGION

Since 2007 the local authorities within this region have been preparing inspection plans in accordance with the 2001 European Parliament and the Council adopted *Recommendation providing for Minimum Criteria for Environmental Inspections Plan* (RMCEI). The purpose of RMCEI is to strengthen compliance with, and contribute to a more consistent implementation and enforcement of environmental legislation in all EU Member States. The RMCEI establishes criteria for environmental inspections of installations, other enterprises and facilities whose air emissions, water discharges or waste disposal or recovery activities are subject to authorisation, permit or licensing requirements. Planning of inspection activities is a key requirement of the RMCEI. Planning is about determining and defining the proposed work scheduled to be undertaken based on available resources, so that it can be performed in an effective, efficient, transparent and accountable manner. Inspection and monitoring is primarily risk based and is focussed on solving long-term and recurring non-compliances. The key requirements of the plan are as follows;

- Prepare a plan for environmental inspections to include routine and non-routine inspections;
- Undertake inspections of relevant regulated facilities; and
- Produce written reports of site inspections.

Copies of the annual RMCEI plans along with Annual Reports for the preceding year are prepared by the local authorities and submitted to the EPA on an annual basis for assessment. The EPA routinely audits the local authorities in relation to the implementation of these plans and provides annual guidance to local authorities in relation to the national waste priorities for the following year.

In 2008, local authorities were directed to prepare an enforcement policy in respect of unauthorised waste activities to encourage and promote systematic and consistent enforcement actions against illegal waste operators across Ireland. The EPA published the *Code of Practice for the Development of an Enforcement Policy for Unauthorised Waste Activities* (EPA, 2009) for use by local authorities. All local authorities have now developed documented enforcement policies that set out how instances of illegal waste activities in their functional area will be handled. The purpose of the enforcement policy is to ensure effective, proportionate and dissuasive actions against unauthorised operators and operations through the use of legislative powers. Enforcement policy is underpinned by five key principles:

- Proportionality in the application of environmental law and in securing compliance;
- Consistency of approach;
- Transparency;
- Targeting of enforcement action; and
- Implementation of the polluter pays principle.

A number of enforcement tools are used to ensure compliance with legislation, with prosecution being the ultimate sanction.

14.2.1 Inspections

Local authorities undertake routine and non-routine inspections and respond to complaints as they arise. Routine inspections are carried out to assess compliance with specific waste legislation i.e. waste permitted facilities, waste collectors and food waste. Local authorities carry out inspections of the permitted waste facilities (including facilities authorised by certificates of registration) in the EMR. Routine inspections are also carried out to ensure compliance with producer responsibility regulations i.e. packaging, WEEE, batteries and ELVs. Non-routine inspections include response to complaints and unauthorised activities, and new emerging challenges such as waste associated with diesel laundering activities, particularly in the border area of the region.

Figure 14-1 shows the total number of inspections carried out in the region in 2012.

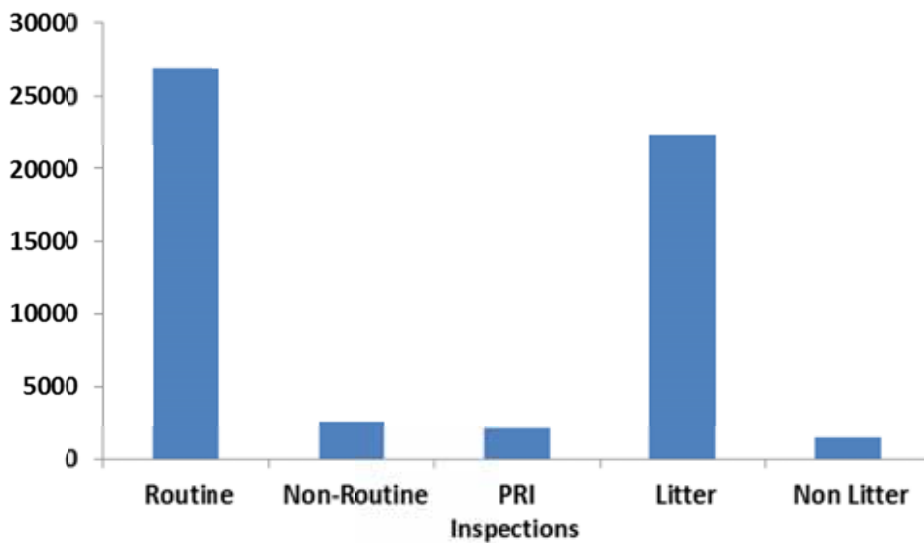


Figure 14-1 - Total Annual Inspection in the EMR, 2012⁵⁷

In excess of 26,000 routine inspections were carried out in the region in 2012 in addition to 22,370 litter-related inspections. The non-routine inspections consist of non-litter complaints and include unauthorised sites, abandoned cars and inspections in relation to waste facilities and waste collection activities. The 2,545 non-routine inspections account for a small proportion of total inspections in the region over the year. Investigations of non-routine inspections may lead to the taking of enforcement action in order to resolve the issue. Non-routine inspections can present challenges to local authorities as they are not included in the pre-planned RMCEI and often require the reallocation of resources from planned activities over the year.

⁵⁷ Local Authority RMCEI Annual Returns, 2012

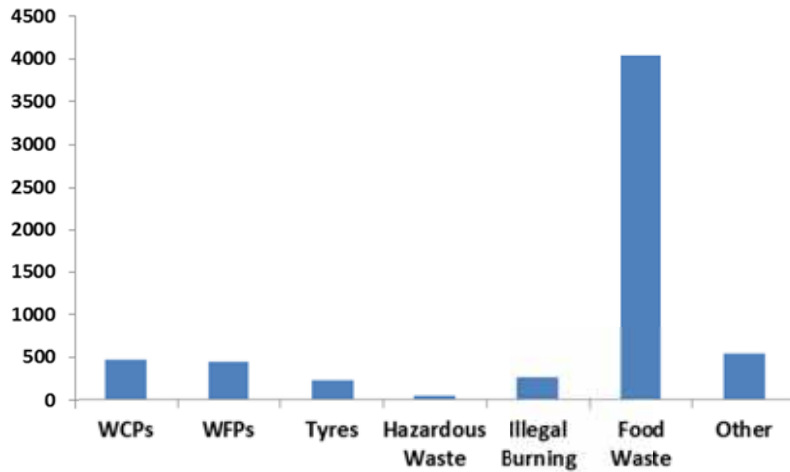


Figure 14-2 shows the breakdown of waste inspection activities. Approximately 500 inspections were carried out in relation to authorised facilities and collectors operating in the region. Inspections classified as 'Other' include historic landfills, roll-out of segregated bins, waste surveys/surveillance, and inspections under respective bye-laws. A notable 4,037 inspections in relation to food waste were carried out in response to DECLG's priority on food waste inspections and the specific targeting of hotels, restaurants and other food establishments. Illegal burning of waste, primarily household waste, accounted for 259 inspections.

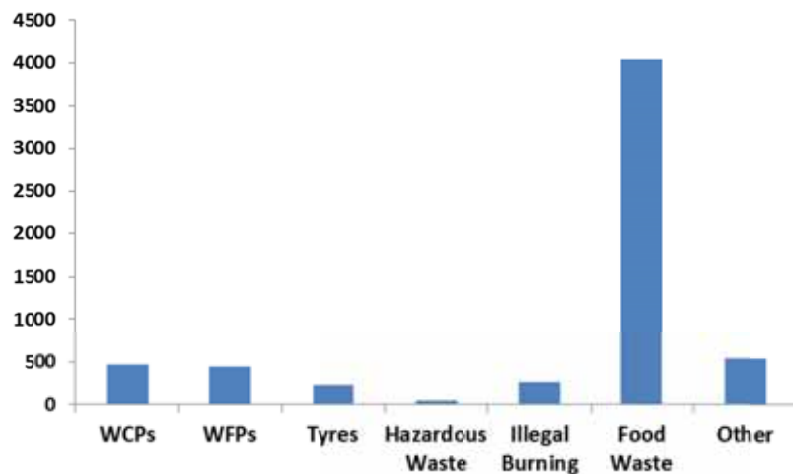


Figure 14-2 - Waste Inspection Activities in the EMR, 2012⁵⁷

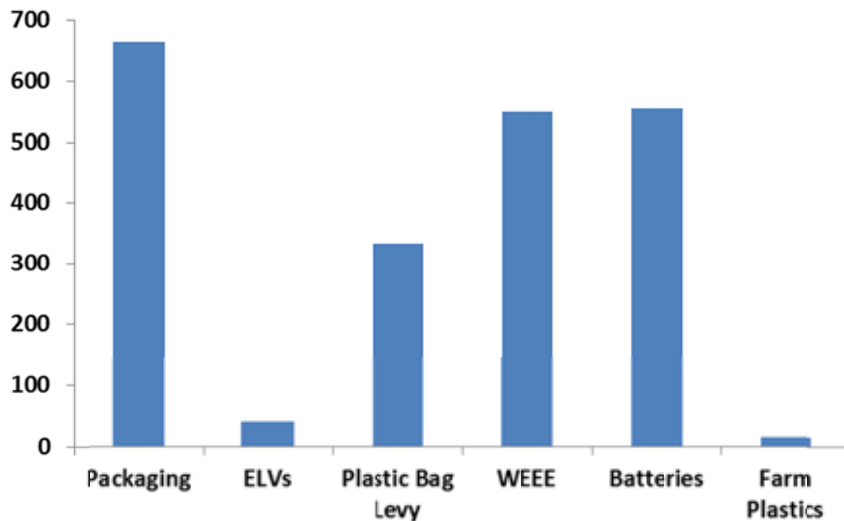


Figure 14-3 shows 2,160 inspections were carried out in relation to producer responsibility initiatives in 2012. 665 inspections relate to packaging to ensure that all major producers of packaging are in compliance with the 2007 Regulations. A major producer is any producer who sells or supplies packaging material which exceeds 10 tonnes in a calendar year and has a turnover of more than €1,000,000. In excess of 1,000 inspections were carried out in relation to WEEE and batteries, accounting for 51% of total PRI inspections in 2012. Inspections in relation to the plastic bag levy were carried out as part of normal business audits of premises. Some 40 inspections were carried out in relation to facilities (authorised and unauthorised) dealing with end of life vehicles.

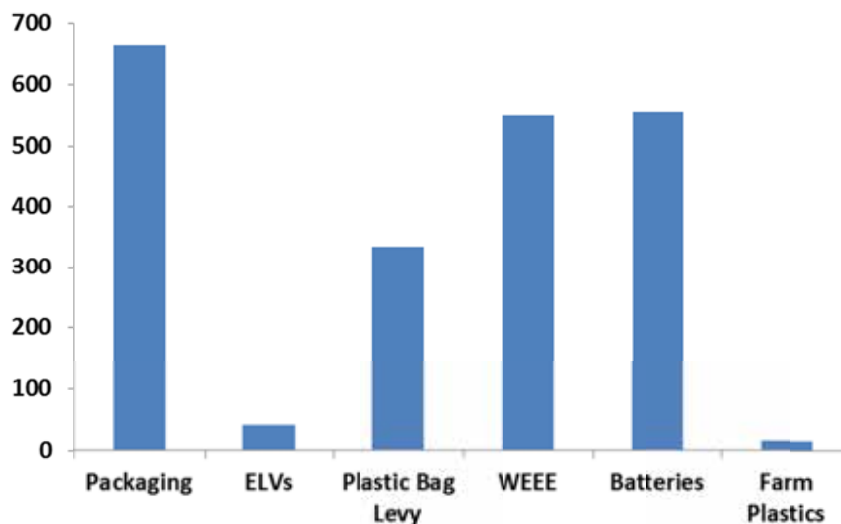


Figure 14-3 - PRI Inspections in the EMR, 2012⁵⁷

14.2.2 Enforcement

Enforcement includes both the issuing of notices (legal and non-legal) and prosecution actions. Enforcement is guided by the principles set out in the enforcement policy, which supports the annual RMCEI plans in each local authority. Correspondence in relation to non-compliance falls into two categories:

- Non-legal correspondence - warning letter, advisory letter; and
- Legal correspondence - formal legal notice issuing a direction under the WMA 1996. Legal correspondence can include a requirement to provide information to the local authority or a requirement to take specific action within a specified timeframe. Local authorities also issue legal notices under the relevant regulations i.e., packaging and landfill levy regulations.

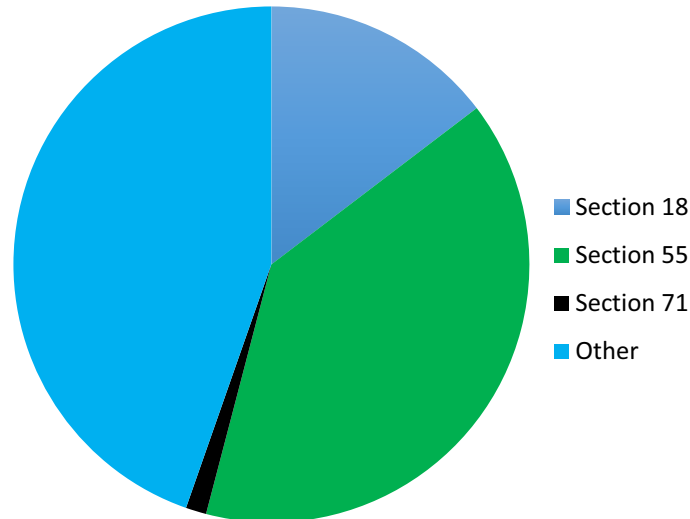


Figure 14-4 - Legal Notices Served in the EMR, 2012⁵⁷

Figure 14-4 highlights the number of formal legal notices served during 2012, totalling 847 and reflecting the considerable amount of administrative and legal work supporting on-site inspections.

Notices served under Section 18 of the Waste Management Act relate to requests for specific information to be submitted to the local authority, while notices under Section 55 are directions to undertake specific activities or actions. Section 71 notices specifically relate to abandoned vehicles. 'Other' notice account for 45% of total notices served in 2012 and relate to various regulations, i.e., packaging, landfill levy, farm plastics etc.

Local authorities within the region initiate legal prosecutions in cases where there has been unauthorised management or treatment of waste, failure to comply with notices issued or failure to comply with facility or collection permit conditions. The taking of legal proceedings is a slow process and dependent on Court availability and incurs significant administrative and legal time and costs to each authority. The number of legal actions taken in the region in 2012 is set out in **Figure 14-5**. There were 88 prosecutions were taken under Section 32 of the Act, accounting for 48% of all legal actions in the region in 2012 and relating to the unauthorised management or treatment of waste. 59 legal actions under Section 55 related to failure to comply with specific measures or directions, while 20 actions under Section 34 related to unauthorised collection of waste. 'Other' legal actions accounted for 10 cases which included offences under other Regulations.

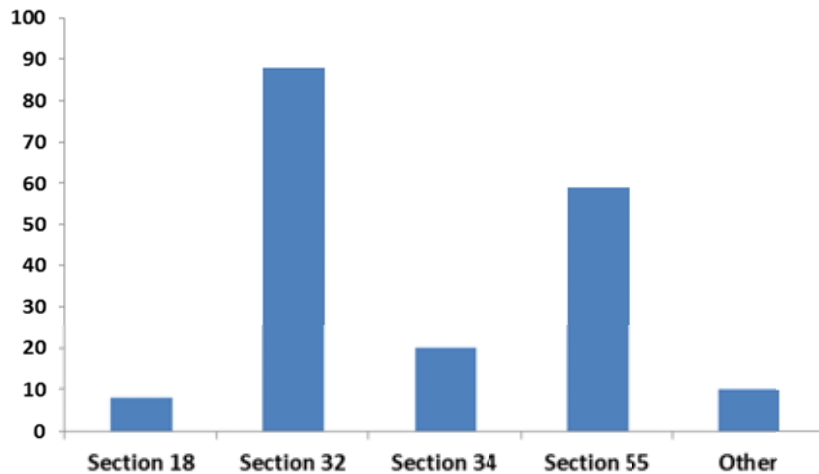


Figure 14-5 - Legal Actions taken in the EMR, 2012⁵⁷

Policy

The local authorities recognise that they have an enhanced waste enforcement role which will require them to build on the platform of knowledge, activities and systems currently in place. Over the plan period the local authorities will continue to plan and prioritise enforcement activities in the region. The intention is to improve the co-ordination of enforcement, through a sharing of experiences and to collaborate on the ground to deliver a more effective and consistent approach. Increased monitoring activities and enhanced waste enforcement will have a positive impact on the environment through increased awareness and compliance

Policy:

- F2. Enforce all waste regulations through increased monitoring activities, and enforcement actions for non-compliance with authorisations and regulatory obligations.

In relation to unauthorised waste activities the local authorities need to put in place consistent systems which are effective and accessible. The development of a consistent approach to the recording, management and issuing of corrective actions, as appropriate, to tackle unauthorised waste activities will be implemented over the plan period,. Specific programmes will be put in place in the region to tackle specific criminal activities involving wastes. Implementation of policy and measures to combat unauthorised waste activities in the region will ultimately have a long term benefit to the environment and society.

Policy:

- F3. Take measures to prevent and cease unauthorised waste activities by way of investigation, notifications, remediation requests or legal action as appropriate.

14.3 EPA

Details of the enforcement actions undertaken by the OEE are available on the EPA website. The most recent report published “*Focus on Environmental Enforcement in Ireland 2009-2012*” (EPA, 2014) details Ireland's enforcement of environmental law in the period 2009 to 2012 by the EPA and local authorities.

14.4 MULTIAGENCY COOPERATION

Ongoing enforcement efforts in relation to monitoring the unauthorised movement of waste across counties have included regional organisation of enforcement activities. The combined efforts of local authorities and other parties including An Garda Síochána, Revenue/Customs, and the Special Investigation Unit of the Department of Social Protection have resulted in a multiagency approach to waste enforcement. The main target of these joint inspections was ELV sites and also at ports targeting second hand vehicle exports and electrical and electronic equipment exports. Multi-agency checkpoints were organised within the region and information arising from these enforcement activities was investigated and further joint operations subsequently planned.

14.5 RECENT CHANGES

In July 2012 the DECLG published the policy document, *A Resource Opportunity*, which specified the measures through which Ireland would make the further progress necessary to become a recycling society. This policy addressed the issue of enforcement undertaken by local authorities and the EPA. A number of measures implemented to date include:

- Reduction of the waste planning regions from 10 to three in 2013;
- Establishment in 2012 of the National Waste Collection Permit Office (NWCPO) in Offaly County Council, streamlining and centralising the collection permitting system into one local authority and the management of annual environmental reports and data;
- Introduction of the European Union (Household Food Waste and Bio-waste) Regulations 2013;
- Review of the existing producer responsibility initiative (PRI) agreement in 2012 resulting in the establishment of two Departmental Working Groups on End of Life Vehicles and Waste Tyres (2014); and
- Publication in 2013 of the EPA's Guidance on assessing and costing environmental liabilities.

A number of further measures are due to be implemented shortly:

- Following the publication of the DECLG's consultation on the Regulation of Household Waste Collection, 2013, a proposed package of legislative measures will give effect to changes to the existing regulatory structure. These changes will include a requirement for householders to avail of a waste collection service or demonstrate how waste is being managed, mandatory pay by weight collections (per kilogramme) and the introduction of fixed penalty notices; and
- Following a national review of waste enforcement in 2013 the move towards regional enforcement structures to support local authorities, improved sharing of resources and knowledge, is a key proposal. It is anticipated that a smarter enforcement system will be better equipped to tackle serious environmental crime in the region.

The implementation of the above policies will have a significant impact on how enforcement is governed and applied in Ireland.

PART 3 IMPLEMENTATION

15 WASTE PROJECTIONS

Waste projections are critical tools in waste management planning for a number of reasons. They form the basis for decisions on the type of future waste management infrastructure which may be required, and provide an understanding of what has to be achieved when considering targets and how they are to be met. Forecasting highlights the importance of, and need for, greater waste minimisation. Finally, the ability to estimate future waste quantities, enables a variety of potential outcomes to be assessed depending on the estimated growth rates.

15.1 RECENT TRENDS IN WASTE GENERATION

Recent trends in waste generation show that Ireland is on schedule to meet many of its EU obligations across a broad range of waste legislation.

MSW generation in Ireland peaked during 2003-2007 with the economic boom and then fell in 2012. The decline is linked to a decrease in personal consumption as result of the economic recession in Ireland, despite an increase in population over the same period. Ireland's MSW recovery rate increased from 36.5% in 2007 to 56% in 2012.

Household waste collection rates have a major effect on municipal waste generation rates. In 2011, approximately 70% of occupied Irish households availed of a kerbside collection service, with lower rates in rural areas and higher rates in urban. Those households which did not sign up to a collection service most often choose not to, it was not because a service was unavailable to them. However such behaviour is not an indication of improper waste management, as some households choose to share bins or dispose of waste in authorised facilities e.g. civic amenity sites.

More households are being offered a third bin for food and organic waste and there has been a corresponding increase in the quantity of segregated household waste being collected.

The amount of household waste managed per person in Ireland has reduced from a high of 420kg per person in 2007 to 307kg per person in 2011. Much of the decrease can be attributed to a decline in personal consumption rates however it is also an effect of waste prevention programmes and campaigns carried out by local authorities aimed at changing waste generation behaviours.

The quantity of commercial waste managed nationally dropped 2% from 2011 to 2012. There was a small increase in the recovery rate and significant decrease (~10%) in commercial waste landfilled. The amount of packaging waste being managed per inhabitant has decreased from 240kgs in 2007 to 177kg in 2012. Nationally 7.5kg of WEEE was collected in 2012 per person, unchanged since 2011, but down from the 2008 high of 9.0kg. Collection rates meet the EU target of 4kg per inhabitant.

15.2 FACTORS INFLUENCING HISTORICAL WASTE GROWTH

In preparing these waste projections for the Eastern-Midlands Region, it is prudent to examine those generated in previous plans and identify suitable techniques or trends to apply to the new forecasts.

15.2.1 Household Waste

The forecasts contained in the Dublin, Midlands and North East Regional Waste Management Plans, calculated arisings for household waste streams based partly, or wholly, on population growth forecast scenarios developed by the relevant area regional planning guidelines. The plans for County Kildare and County Wicklow applied growth factors derived from the National Overview of Waste Management Plans.

The projections made in previous Regional Waste Management Plans are a reflection of the situation at the time they were being written. The North East Region had experienced high population growth in the years prior to this plan being written, a trend that is expected to continue while the Dublin Region reported significant growth in municipal waste generation, primarily due to commercial and industrial projects. Growth projections made in those plans for the coming years reflected these expected trends.

Table 15.1 shows the arisings reported in 2003 (the base year in the previous plans) beside projections for 2010. The table also shows the actual recorded arisings for 2010.

Table 15.1 - Household Waste Arisings and Projections 2003 to 2010

Household	2003 Arisings ⁵⁸	2010 Projected Arisings ⁵⁹	2010 reported arisings ⁶⁰	% Difference projected over reported
Midlands	113,550	190,000	154,689	+23%
Dublin	459,579	565,567	421,506	+34%
North East	161,350	204,945	185,188	+11%
Kildare	62,636	80,386 (2009)	99,940	-19%
Wicklow	44,456	52,572	41,491 (Collected & brought 2011)	(+27%)
5 Regions	886,027	-	902,814	-
National	1,596,501	-	1,686,387	-

The combined increase in household waste arisings between 2003 and 2010 for the five regions above is 7.3%, while the equivalent national arisings increased by 5.4% between 2003 and 2011.

There are clear differences between the 2010 figures and those forecast but no consistent pattern emerges from one set of projections to the next. The spread between over and under-projections reflects the variability in the methods used to generate the forecasts. Factors which could have influenced (apparent) waste growth in the period may include;

- A rapid contraction of the Irish economy that started in 2008 which depressed GNP and personal spending. Waste generation rates, which are coupled to these, fell accordingly;
- Discrepancies in the quality and reporting of data between 2003 and 2010;
- Demographic changes which occurred during the period; and
- The degree to which waste prevention measures inhibited waste production.

⁵⁸ Source: 2005-2010 waste management plans

⁵⁹ Source: 2005-2010 waste management plans

⁶⁰ Source: Evaluation reports on 2005-2010 waste management plans (Wicklow data from NWP 2011)

15.2.2 Commercial Waste

The previous Regional Waste Management Plans predicted arisings from commercial waste streams using a range of factors. County Kildare based its commercial projections upon factors published in the National Overview of Waste Management Plans and used a generation rate of one tonne per person for municipal type material. The other Regions linked their commercial projections to GDP (not GNP) forecasts published by the ESRI. The Dublin Region also applied a 'prevention factor' to reflect a projected decoupling of waste generation from GDP.

Data now available from the EPA shows that from 2003 to 2011, the amount of commercial waste managed nationally fell by 16%. Construction and demolition waste fell by over 10% per annum between 2004 and 2011, a 72% drop when compounded over the period.

Table 15.2 shows the quantities of commercial waste reported in the previous waste management plans. Also shown are projections made for 2010, along with actual reported figures for 2010 published in the relevant evaluation reports.

Table 15.2 - Commercial Waste Arisings and Projections 2003 - 2010

Commercial	2003 arisings ⁶¹	2010 Projections	2010 reported ⁶²	Projected change	Actual change
Midlands	63,996	115,000	87,782	+80%	+37%
Dublin	480,682	787,232	316,821	+64%	-34%
North East	98,234	114,236	109,674	+16%	+12%
Kildare	70,178	80,459	52,339	+15%	-25%
Wicklow	44,104 ⁶³	73,117	34,005	+66%	-23%
Regional	757,194	1,170,044	600,620	+55%	-21%
National	1,332,735	-	1,141,015	-	-14%

Commercial waste arisings decreased by 21% for the five regions between 2003 and 2010, while commercial waste arisings decreased nationally by 14% in the same period.

The projections for the North East most closely approximated the 2011 outcomes.

Some conclusions can be drawn from the commercial projections made.

- The 2003 commercial and industrial data, which formed the basis for the projections, was of poor quality, and a lot of waste entering facilities was not weighed. Estimates were applied rather than actual figures. By 2010, most or all of the commercial waste generated was weighed and recorded. This could explain the apparent increase in commercial and

⁶¹ 2005-2010 waste management plans. County Kildare and Wicklow projections are 2009.

⁶² Evaluation reports reported more commercial waste in the 5 regions than EPA reported nationwide. Data for 2010 was calculated using EPA data.

⁶³ WMP Evaluation Plan Data for Wicklow is unclear;

Table 8.4 says Commercial/Industrial 44,104 in 2004 and 48,995 in 2010.

Table 2.1 says Commercial 48,285 and Industrial was 20,000 in 2004

Page 22 of 46 suggests 28,774 minimum in 2009 and maximum of 97,489.

industrial arisings in some regions. Projections made in 2014 will benefit from the availability of better quality data; and

- The application in 2004 of a factor to reflect the impact of waste prevention measures seems to have been reasonable, although the value to be assigned will be an approximation rather than one determined from research and available data. The scale of this factor was overshadowed in the final results by macroeconomic changes.

15.2.3 Conclusions

It is essential when generating waste forecasts that the initial base data is of good quality. The waste data that was available in 2003/2004 was somewhat inaccurate due to use of estimated figures of the amount of waste managed and uncollected. The methodology for calculating household waste arisings has improved in recent years. Furthermore, the availability of actual data, not estimates, has increased in more recent years. This will improve the reliability of the projections made using this data.

Further, the previous plans relied upon the accuracy of the economic data used. This data did not foresee the significant economic growth that was followed by a rapid contraction which started in 2007. Finally, the methodologies used in the various 2004 regional projections differed from each other, unlike the 2014 plans, where a similar methodology is applied across the three Regions.

15.3 FACTORS INFLUENCING WASTE GROWTH

Robust projections are required for the regional Waste Plan, in order to guide policy actions, help achieve statutory targets and develop treatment capacity infrastructure. There are different approaches available to generate waste forecasts and outcomes can vary quite significantly depending on the method used. A review of national and international reports on the key drivers and approaches to be taken when producing waste forecasts has been undertaken to help guide the decisions made in choosing the methods used for generating the projected figures for this plan.

In Ireland, the Economic and Social Research Institute (ESRI) and the EPA have used population projections to forecast household waste growth and economic factors for commercial waste growth. However in recent years the latest data shows that the amount of household waste generated nationally has dropped in spite of an increase in population and stronger economic activity. Figure 15-1 "*shows that there was a substantial drop in municipal waste generation between 2007 and 2011, although the rate of decrease is not as sharp as 2009. This decrease while reflecting the decrease in personal consumption, has taken place despite increasing population over the same period.*"

The ESRI was commissioned by the EPA STRIVE research programme to design and build a Sustainable Development Model for Ireland (ISus) that forecasts national environmental emissions and resource use up to 2030, having regard to economic and social developments. The ISus model is driven by the ERSI's HERMES model, which projects economic production and consumption per sector. The model was used by the EPA to generate municipal waste forecasts. The data is reviewed each year and published in the annual national waste report. As the model is no longer funded it is unclear if it will continued to be used as a forecasting tool.

Figure 15-1 illustrates that the quantity of household waste managed nationally decreased quite significantly between 2007 and 2012. This decrease reflects the drop in personal consumption but runs contrary to population growth trends.

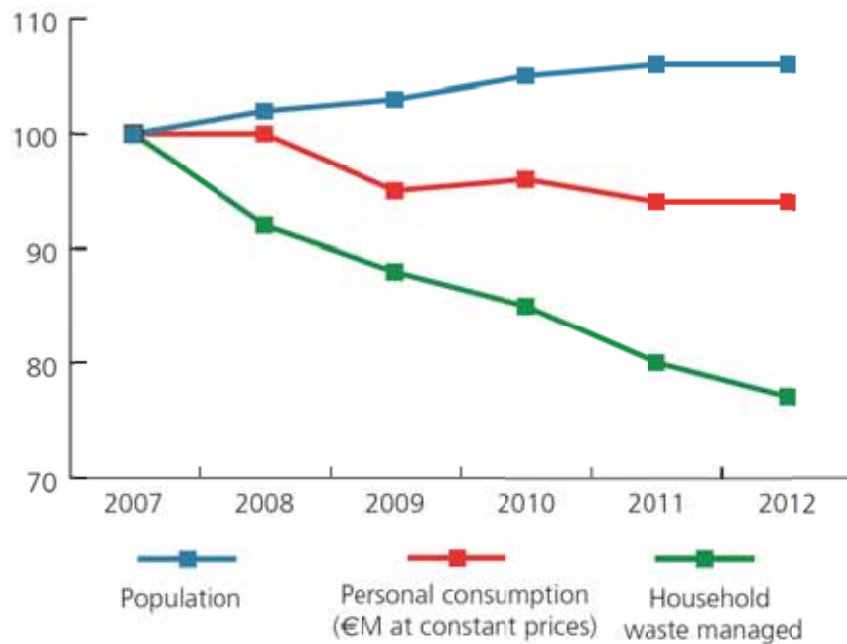


Figure 15-1 - Household Waste Managed, Population & Personal Consumption Indices

The European Commission Guidance Note entitled *Preparing a Waste Management Plan - A Methodological Guidance Note, 2012* states that the following parameters can influence waste generation (although the degree of their influence is not described):

- Population growth;
- Changes in the economic situation (growth/recession);
- Changes in the demand for, and nature of, consumer goods;
- Changes in manufacturing methods;
- New waste treatment methods; and
- The effects of policy changes (prevention, minimisation, re-use, recycling).

WRAP's report entitled *Decoupling of Waste and Economic Indicators*, published in 2012 provides an overview of the many drivers that can have positive or negative effects on household waste arisings and these are illustrated in **Figure 15-2**.

Regression analysis undertaken by WRAP in 2012, investigated the factors which affected the generation of household waste across the UK. The results suggest the drivers include:

- household size, with smaller households generating more waste per capita,
- increased household expenditure on snack and takeaways, which increase waste arisings and
- landfill tax, which has the effect of slightly reducing household waste arisings.

It is not possible to predict with absolute certainty how much waste will be generated in the future. However there is a need to develop (and review) any forecasts made which act as a basis for securing the necessary treatment capacity for the waste management system.

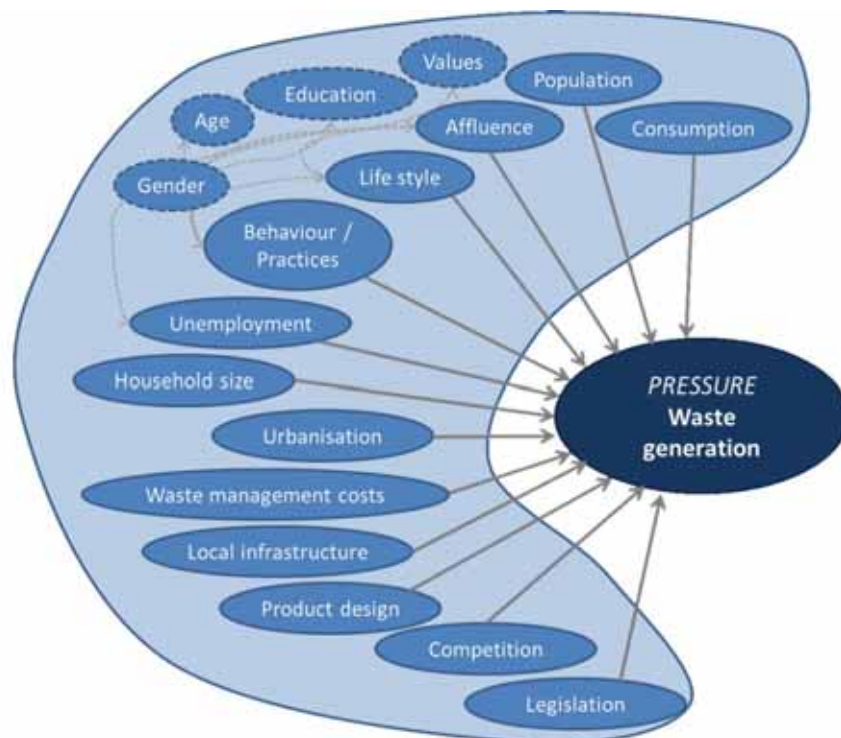


Figure 15-2 - Overview of Drivers of Change in Waste Arisings (WRAP, 2012)

It is essential that data quality is continually monitored and tracked over the period of the Plan and adjustments made where necessary. Flexibility should be built into waste management plans so as to deal with the possibility that projections may not be perfectly accurate (DEFRA 2005).

15.4 APPROACH TO PROJECTIONS

DEFRA⁶⁴ made the following observation on the development of forecasts, which is also relevant to the Irish waste system; *“Waste is unlikely to grow at a steady rate. The conventional approach to forecasting in this way reflects our limited understanding of exactly how the many underlying factors influence waste growth. It is not statistically robust to make forward projections for twenty years or so, on the basis of even ten years’ data.”*

The statement confirms the difficulty in preparing accurate forecasts due to the many influencing factors. Short-term predictions are likely to be more accurate than long-term ones. Assessing previous reported waste data and the relationship between key drivers over the evaluation period is an important first step and can provide valuable insights for informing new projections. The longer the time period for which data is available, the better, providing the data is reliable and of good quality.

An example of how household waste generation should be calculated is provided in the European Commission Guidance Note 2012. This suggests using the number of inhabitants multiplied by the

⁶⁴ DEFRA Information Sheet 8, Waste forecasting, 2005.

waste generated by inhabitant. A low and high value is proposed for both variables to generate a low and high range for the resulting waste generation figure.

The European Environment Agency in its report *Baseline Projections of Selected Waste Streams Development of a Methodology, 1999* notes that “Waste production is influenced both by how we efficiently use resources in production and the quantity of goods we produce and consume. The importance of quantity means that in general it is possible to demonstrate a link between Gross Domestic Product (GDP) and waste generation.” and that for municipal waste a strong link between economic activity and waste generation can be demonstrated. The report goes on to say “However, assuming a close correlation between the generated amounts of municipal waste/household waste and the overall national income (GDP) will not be the right approach. This is primarily due to the specific origin of the household waste, but also to the fact that fluctuations in national income will not necessarily affect the basic consumption (for example, a decrease in the growth of national income may well be neutral on the consumption that generates household waste, but have a negative impact on savings).”

A more reasonable methodology is given in line with the approach adopted by Coopers and Lybrand (1996) and National Institute of Public Health and the Environment (RIVM) in the Netherlands where the generation of municipal waste can be explained by the share of the national income spent on private consumption. The European Environment Agency in their study seek to identify the various items of consumption that most likely generate municipal waste/household waste, and assumes that the quantity of municipal waste/household waste changes proportionally to the consumption of these goods. The goods of particular importance are food and beverage items, clothing, furniture and household equipment. In the NWR 2009, the EPA stated that the drop in municipal waste generation in Ireland in 2009 mirrored the fall in GNP (Gross National Product) and a significant fall in personal consumption despite a population increase. Therefore it can be said that household waste generation reflects personal consumption patterns.

DEFRA in 2013 base their commercial/industrial waste projections for 2020 in line with economic growth but instead of GDP they use GVA (Gross Value Added) which measures the total economic outputs of a sector net of the economic inputs it uses. It is similar to GDP but can be used to measure growth in individual sectors rather than the economy as a whole.

CIWM in their report entitled *Commercial and Industrial Waste in the UK and Republic of Ireland, 2013* apply a methodology based on projected changes in the labour force up to 2035 for forecasting commercial and industrial waste in the Republic of Ireland. Baseline data of waste tonnage per employee have been calculated for the different sector divisions.

15.4.1 Waste Projections in Ireland

The June 2012 ESRI Report Environment Review summarises that MSW generation is projected to increase by roughly 0.9 million tonnes over the next 20 years, with more than half being generated by the services sector. An important driver for this growth is the assumption that the population will increase to 5 million within 15 years or so. The EPA predicted a similar outcome in their National Waste Report of 2011, forecasting that municipal waste generation will grow by 830,000 tonnes within the next 15 years. The expectation from the ESRI is that a growing population and expanding, recovering economy could lead to greater pressure on the environment from increased waste generation.

The ESRI states that *“projecting the destination of waste streams (e.g. landfill, recycle etc.) is considerably more difficult than projecting waste generation and subject to greater uncertainty.....”* For example, the scale of the export of SRF/RDF material from Ireland to waste-to-energy recovery facilities in Europe was unforeseen when making projections about the possible destinations for waste streams, and highlights the difficulty in predicting where waste will flow in a small accessible globalised economy like Ireland.

According to the ESRI, reliance on landfill is projected to decrease significantly below current levels with recovery and recycling activities expected to dominate. They anticipate incineration and other treatment technologies (including composting, refuse-derived fuel manufacture etc.) will play a key role in achieving a number of waste management plan policy targets. The ESRI also notes that their *“figures suggest that, while pre-collection activity (e.g. segregation waste for recycling) is important, increasingly greater capacity will be needed in post-collection treatment of the residual bin.”*

The ESRI projects the volume of biowaste will increase by an average of 28,000 tonnes per annum to 2030. *“In 2008, 36 per cent of biowaste originated from the food and beverage sector, less than one third from the residential sector and just above one-third from the services sector.”* The focus of Irish policy on 3-bin collection systems has largely been to increase the number of households who have a brown bin. However, the ESRI analysis indicates that it is how the brown bins are being used and how much BMW material is actually being diverted from the residual bin in households with a 3-bin service, is of equal importance.

The opinion of the ESRI is that having waste management plans that focus on environmental outcomes rather than treatment technologies is key for development and investment in the sector, especially in light of the current difficult trading environment.

15.4.2 Conclusions

The following concluding remarks have been drawn from the review of reports as outlined in the previous sections:

- There are many drivers that that can have positive or negative effects on household waste arisings;
- Short-term predictions are likely to be more accurate than long-term ones;
- Sensitivity analysis (high and low growth) around the best estimate figures should be incorporated in waste projections;
- For municipal waste a strong link between economic activity and waste generation can be demonstrated;
- Private consumption has been shown in studies to be a strong influencing driver for municipal waste growth;
- Reduction measures can be applied to the underlying growth rate to take account for prevention initiatives being undertaken; and
- By 2030 the ESRI estimate that municipal waste generation will be 33 per cent higher than current levels (2010). In the case of households they forecast waste generation will be 24 per cent higher than current levels.

15.5 MUNICIPAL WASTE PROJECTIONS

This section describes the methodology used in preparing waste projections for the Eastern-Midlands Region.

This chapter sets out projected arisings for household, commercial and municipal waste in the Eastern-Midlands Region. These projections were generated using the waste, economic and demographic data that was available at the time combined with reasonable assumptions on future developments.

15.5.1 Household Waste Projections

The projections for household waste arisings were calculated using two different methods - a population based scenario (which included a prevention factor) and a consumption based scenario. The population based forecast was made by multiplying the following two factors;

1. Eastern-Midlands regional population projections (high) each year to 2022; and
2. A factor linking household waste arisings generated per person from 2003-2012 to population.

The resulting projections show an initial jump in the data and this was adjusted and brought in line with current trends household waste per capita trends to reduce this artificial increase. An alternative scenario using population projects from the DECLG produced negligible differences and was not considered further.

The consumption forecast was made by multiplying the following two factors;

1. Recorded household waste arisings in 2012; and
2. Projected consumption each year to 2020.

Further variant calculations considered combinations of projected growth in the number of households, averaged historic waste arisings per household and projected consumption rates. These calculations were not considered to be sufficiently robust and were discounted. The projections developed are presented in Table 15.3.

Table 15.3 - Household Waste Arisings to 2021

	2012 ⁶⁵	2013	2015	2017	2019	2021
Consumption Scenario	715,283	693,052	705,483	741,153	786,278	827,667
Population Scenario		735,498	738,150	745,821	755,474	764,073

⁶⁵ Includes a nominal amount of uncollected waste of over 20,000 tonnes, considerably less than reported.

15.5.2 Commercial Waste Projections

Due to commercial waste data unavailable on a regional basis a basic method of estimating commercial waste for the region was applied. The national commercial waste figure reported by the EPA was apportioned to each region based on the reported level of collection by operators of this stream. The projection for commercial waste arisings was made by multiplying the following factors:

- Estimated national (recovery scenario) GNP to 2021; and
- Factor linking national commercial waste arisings (2003 - 2012) to GNP;

Similar to the household waste projections the initial jump in projections was adjusted in line with current trends for this stream. The methodology also considered, but eventually excluded from final projections, 5% increases or 5% decreases in regional population of employees reporting that they live in the region. An alternative projection scenario was considered using national "people at work" data and projected labour force figures. Following consultation with the CSO it was decided that this scenario was unreliable due to the different methods used to determine employment at labour force data. The projections developed are presented in **Table 15.4**.

Table 15.4 - Commercial Waste Arisings to 2021

	2012	2013	2015	2017	2019	2021
GNP Scenario	568,873	606,913	677,178	729,618	781,585	829,965

15.5.3 Municipal Waste Projections

The municipal waste projections for the region have been compiled using household and commercial waste forecasts and are presented in **Table 15.5**. This data does not include street cleaning or cleansing wastes which are typically reported as part of the municipal waste stream. Their quantities tend to be consistent from year to year. It is anticipated that by 2021 the region will generate between 1.6 and 1.65 million tonnes of municipal waste.

Table 15.5 - Municipal Waste Arisings to 2021

	2012	2013	2015	2017	2019	2021
High Range	1,284,156	1,299,965	1,382,661	1,470,772	1,567,862	1,657,632
Low Range		1,332,303	1,415,328	1,475,440	1,537,059	1,594,038

15.6 IMPACT OF PROJECTED WASTE GROWTH

While considerable effort has been made in developing the waste projection scenarios presented in this Plan, the numbers are only as reliable as the data used to develop them, and the projections are subject to the same errors as those which may be present in the source data. Things like GNP are difficult features to forecast accurately and the further into the future the projections are made, the more unreliable the data.

Furthermore, forecasts may be strongly influenced by unforeseen external factors. Human-mediated factors strongly affected the global economy in 2001 and 2007, while a tsunami and volcanic eruption had regional economic effects in 2004 and in 2010 respectively. Any external factors that impact on waste arisings in Ireland will need to be considered as part of the forecasts if they occur during the period of this Plan.

For these reasons, it is prudent to consider the projections in the context of the time at which they were prepared (mid-2014) and to expect that waste arisings may fall somewhere within the wide range of values shown. Of course there is also the possibility of significant external factors occurring over the period of the Plan that would affect arisings. The annual review and revision of projections conducted during the Plan period will indicate which scenario has proved to be the most accurate.

Considering these observations, it is expected that municipal (i.e. combined household and commercial) waste arisings in the Eastern-Midlands Region over the 2012-2021 period will be between 2-3% annually. The higher rate of increase in particular presents a challenge to the Eastern-Midlands Region to ensure that adequate collection and treatment capacity is developed to allow the region to achieve its targets. Furthermore, the need to treat more of this material in Ireland means that treatment capacity provision needs to increase at rates above those shown, making the targets even more challenging.

16 MARKET ANALYSIS AND INFRASTRUCTURE PLANNING

This chapter provides a comprehensive review of the treatment capacity market in the Eastern-Midlands Region (EMR) and considers national capacity levels for particular treatment methods. The conclusions made from the market analysis have been used to shape the policies which are for the most part designed to be clear development signals to operators in the waste market.

16.1 LOCAL AUTHORITY WASTE AUTHORISATIONS

Chapter 12 provided details on pre-treatment and recovery infrastructure in place in the Eastern-Midlands Region. In mid-2014, there are 246 facilities authorised by local authorities in the region which are permitted to accept and process at least⁶⁶ 4.2 million tonnes of waste.

16.1.1 Market Capacity & Utilisation in the region (by Group)

As outlined in Chapter 12, there are similarities between many of the classes of waste activities authorised by WFPS and CoRs and these have been grouped together to enable effective analysis of the treatment capacity market, including an examination of the use of existing treatment methods in the region. Table 16.1 presents these groups which cover the 25 classes of activity included in the Regulation.

It also includes the total authorised capacity by group, and the intake data reported in 2012 which is based on annual returns from each facility. The nature of certain authorisations led to difficulties in some cases when attempting to allocate a facility to one of the activity groups. Certain authorisations contain multiple classes of activity, each with a different capacity threshold. To resolve this, the available data for each facility was reviewed together with other background information, and based on this assessment the facility was assigned to the group considered to represent the main activity at the site.

This approach was taken to enable a thorough market analysis to be completed. The assumptions made at the baseline level were necessary but were practical in nature and ultimately did not impact significantly on the findings relating to treatment capacity in the region.

Figure 16-1 graphs the data from Table 16.1 - and includes the amount of waste accepted at facilities in 2012 to allow for an estimated rate of utilisation to be presented for each group of activity.

The authorised tonnages per group vary, reflecting the nature of the activities and quantity of waste which can be accepted. High-volume activities include processing of MSW and C&D wastes (Group 1) and land improvement activities (Group 4) while low-volume activities include the management of materials such as CFCs (Group-7) and temporary storage activities (Group-8).

The two largest groups account for some 88% of authorised capacity - Group-1 (mechanical pre-treatment for MSW and construction and demolition waste) activities account for some 1.8 million tonnes or 43% of authorisations and Group-4 (land improvement activities) account for some 1.4 million tonnes or 35% of authorisations.

⁶⁶ Not all local authorities specified an authorised capacity in tonnage terms for each facility.

Table 16.1 - Details of Authorised Facilities by Waste Treatment Activity

Group and description	WFP Classes ⁶⁷	COR Classes ⁶⁸	No. of facilities	Total authorised tonnage	Tonnes received 2012	Tonnes received 2012 (% of available capacity)
G1 - Storage/processing	1,7,10	1,7,10	79	1,816,344	635,863	35%
G2 - Metals/ELVs	4,12		36	574,804	307,346	53%
G2a - other waste vehicles - non-ELVs	2	3	26	170,586	61,130	36%
G3 - WEEE, Batteries	3,9	4	9	86,508	16,691	19%
G4 - Land improvement	5,6	5,6,9	56	1,499,441	126,150	8%
G5 - Biological	8	11,12	12	63,000	50,772	81%
G6 - Organic landspread		13	13	7,999	2,199	27%
G7 - Non-haz & CFC	11	14	8	23,686	5,221	22%
G8 - Temp. storage		2	7	3,350	1,010	30%
Total	12 classes	13 classes	246	4,245,717	1,206,381	28%

Group 1 activities represent the largest treatment capacity available in the region. This grouping has the largest number of facilities (79) and primarily includes mechanical pre-treatment for inert and municipal wastes. This group of facilities accepted some 635,863 tonnes of waste in 2012. The issuing of future authorisations must take account of the existing scale of oversupply as well as the needs of the market.

Group 2 includes metal and ELV activities and consists of 29 facilities, which accepted 307,346 tonnes of material in 2012, a utilisation rate of 53%. In this group, authorisations issued by the local authorities are, in some instances, not specified in tonnage terms e.g. ELV authorisations may be defined in terms of the maximum number of cars permitted to be stored on a site at any one time. For such authorisations an estimated capacity in tonnes has been used based on the latest intake data. This approach may result in an under-estimation of the available capacity.

Group 2a relates to vehicles that are not ELVs and although there are 37 authorisations in the region, only 6 of these facilities reported any intake data within Group 2a in 2012.

Group 3 describes the main activity at 8 facilities that are authorised to accept 86,508 tonnes of waste. Some 16,961 tonnes was accepted in 2012, a utilisation rate of 19%.

The authorisation for Group 4 (land improvement activities) is difficult to present as an annual available tonnage as authorisations for this group are often issued as a single quantity over the lifespan of the site (as opposed to an annual quota). The 1.5 million tonnes at 56 authorised

⁶⁷ Under Part 1 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended)

⁶⁸ Under Part 2 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended)

facilities is best described as the available market capacity in 2012. The data suggests that the land improvement tonnage is substantially under-utilised (8%) reflecting the downturn in that sector. Low levels of material recovery were being reported in the construction market during 2014 which may lead to higher demand in coming years for this type of outlet. However future planning should take account of the location of existing capacities and the scale of available capacity across the region.

Group 5 includes 7 facilities in the region, approved to accept some 63,000 tonnes of waste. The rate of utilisation in 2012 was recorded at 81%. The biological waste recovery sector appears to be buoyant in the region. A shortage of capacity in the biowaste management sector, in particular, would be a concern given the need to divert increasing quantities of biowaste from the residual waste stream.

Group 6 covers land spreading activities in the region. There are 9 facilities registered in the region, all operating under certificates of registration, with authorisation for 8,000 tonnes of material, of 27% of which was used in 2012.

Group- 7 is made up of 7 facilities in the region that store sanitary and municipal skip waste with 23,686 tonnes authorised and a utilisation rate of 22%.

There are 7 facilities in Group 8, all of which are authorised to accept small tonnages of waste under Certificates of Registration.

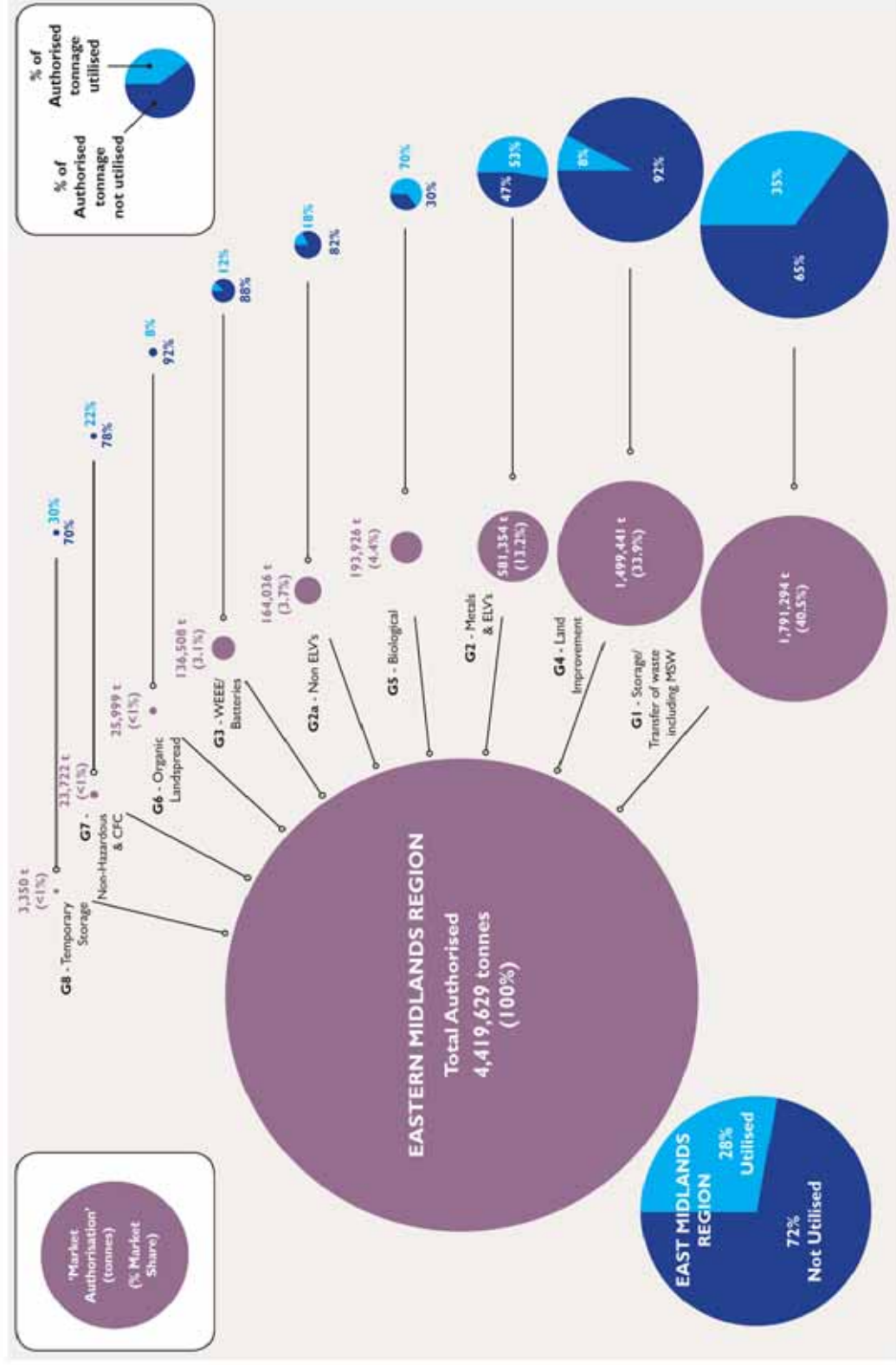


Figure 16-1 - Authorisation and Utilisation of Active Treatment Capacities (Grouped) in EMR

16.1.2 Market Capacity Analysis - Findings

The local authorities have carried out further analysis on the capacity and utilisation information to investigate the low rate of utilisation reported and identify any relevant trends. On paper the region appears to have an excess of authorised capacity for many treatment activities. The facilities recorded an intake of 1.2 million tonnes of waste in 2012, a regional capacity utilisation rate of 28%.

Table 16.2 shows the number of facilities which fall under various capacity usage bands for each grouping.

Table 16.2 - Number of Local authority authorised facilities in usage bands

Authorised Capacity Usage Band	G1	G2	G2a	G3	G4	G5	G6	G7	G8	
0%	20	3	6	0	28	1	5	0	5	68
>0-50%	33	15	11	4	21	2	1	0	1	88
50-100%	10	4	2	3	2	2	2	3	1	29
>100%	10	1	2	0	1	2	0	0	0	16
	73	23	21	7	52	7	8	3	7	201

Table 16.2 shows that there is potentially significant capacity present that is not available to the market. The proportion of authorised but unused/underused capacity may be due to a number of factors, such as:

- Temporary closure of treatment facilities, perhaps due to technical or economic issues;
- Low levels of economic activity in particular sectors of the wider economy impacting on related waste treatment facilities;
- New, authorised facility openings being delayed in response to poor market conditions;
- Local authorities authorising capacity beyond the management capability of the facility;
- Failure to report the authorised capacity for certain facilities, or no tonnage being reporting;
- Approvals being granted for facilities, which are not subsequently developed; and
- Under-reporting of waste accepted due to facilities not submitting an AER or not reporting their intake.

Analysing the intake data further, the following findings are noted:

- Some 34 facilities had no authorised tonnage specified so the rate of usage could not be calculated; and
- A significant number of facilities reported either a zero intake on their AER or failed to return an AER in 2012.. The data does not allow differentiation between these two scenarios. Therefore the utilisation rates presented for local authority facilities in this chapter are likely to be an underestimation, but they are based on the best available data. As it stands, the data shows that some 72% of the total authorised tonnage available “on paper” was not used in 2012.

The above findings help to partially explain the low rate of utilisation. Given that data for certain facilities is missing, the rate of utilisation is most likely being underestimated. The degree of underestimation however is not clear, and local authorities do not expect the missing data to significantly change the overall market findings.

16.2 EPA WASTE AUTHORISATIONS

In 1996 the Environmental Protection Agency (EPA) began licensing activities carried out by local authorities and private operators in the waste sector. These include significant waste disposal and recovery activities such as landfills, transfer stations, materials recovery facilities, mechanical treatment facilities, thermal recovery facilities and hazardous waste disposal facilities

The EPA also issues Certificates of Registration to local authorities for smaller scale waste activities listed in the Third Schedule Part II of the Waste Management (Facility Permit Registration) Regulations, S.I 821 of 2007 as amended and are primarily bring facilities (CASs and bring banks). These activities have not been included in the capacity analysis as the waste accepted at these sites is handled by other waste facilities along the management chain.

16.2.1 Overview of Waste Licensed Facilities in the region

The EPA has supplied data to the local authorities relating to licenced waste activities in the region. There are 107 facilities in the region which hold a waste licence although not all of these facilities are active at the time of writing. The status of operations at these facilities as categorised by the EPA and further reviewed by the local authorities is shown in Table 16.3.

In total, these licensed facilities have a gross authorised capacity tonnage (licensed or sought⁶⁹) of 18.6 million tonnes⁷⁰. A facility can be licensed for multiple waste treatment activities, with distinct treatment methods often being controlled by separate capacity thresholds. This has been taken into account when analysing the capacity data.

Table 16.3 - Status and tonnage of all current waste licence activities and applications (2012)

Activity Status	On-Going	Pending		Unlikely		Totals
	Active	Not Commenced	Application Stage	Inactive	Closed	
Number of facilities	46	8	15	11	27	107
Authorised tonnage	6,277,437	1,722,521	3,926,159	2,467,111	4,221,987	18,615,215
% of the total	34%	30%		36%		100%

The data in the table shows the scale of licensed capacity in the region but indicates that only an estimated 34% is active. Over 6.6 million tonnes of licensed capacity is categorised as inactive or as closed. Many old landfill sites, or landfills which have reached their capacity and are now closed, or other treatment facilities which have been inactive for a prolonged period fall into these categories. These facilities are unlikely to be active in the near future and have not been further considered as part of the market analysis.

⁶⁹ Where capacity has been sought in a waste licence application, or additional capacity sought under a waste licence review application.

⁷⁰ For the facilities in the region that have applied for amendment to a current waste licence, the incremental tonnage is counted as 'pending'.

The “Pending” category includes those facilities which have received authorisations but have not yet commenced activities, or those at application stage when the register was compiled in 2012 and 2013. These facilities were examined as a single capacity amount and for the most part are expected to come on stream for example the Dublin Waste to Energy Facility, Drehid MBT facility and revisions to existing facilities already operating⁷¹.

The active facilities in the region have a combined licensed capacity of 6.27 million tonnes. Waste licences granted by the EPA typically specify the principal class of waste activity that is to be undertaken at the facility in question. These activities are set out in the Waste Management Act 1996, with disposal activities (D-codes) in the Third Schedule and recovery activities (R-codes) in the Fourth Schedule. Both the Third and Fourth Schedules also contain pre-treatment activities which prepare a waste for a disposal or recovery activity (e.g. sorting or segregation). The principal classes of activity at the 46 active waste license facilities in the region are outlined in Figure 1-4. On paper, pre-treatment facilities make up the highest portion of active facilities (50%) in the region. Market information indicates that many other active facilities are primarily engaged in pre-treatment activities, as opposed to actual recovery. This was also identified by the EPA in a recent report on capacity and highlights the disparity that can exist between consented treatments and actual treatments once the facility becomes operational. In light of this, the portion of pre-treatment facilities in the region could be as high as 77%.

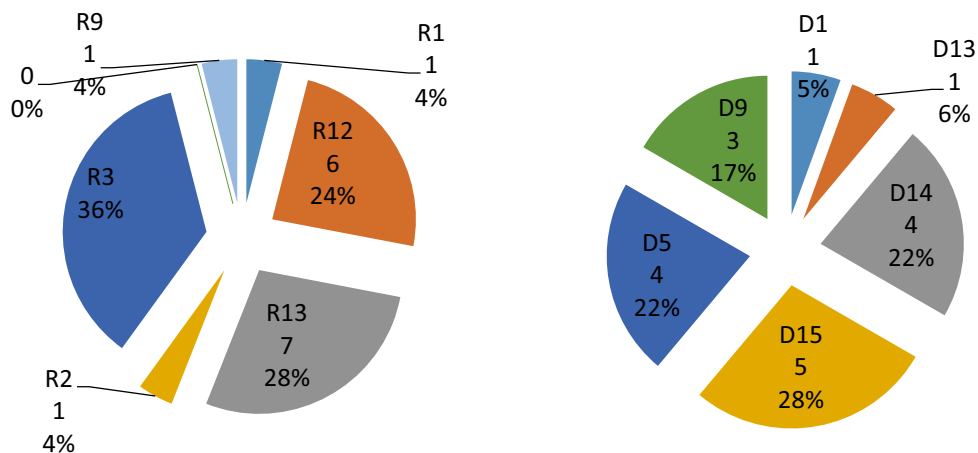


Figure 16-2 - R/D codes, number of facilities and % of total, all Active Waste Licenses

Data on licensed facilities has been provided by the EPA and the local authorities have reviewed the capacities authorised, coming on stream and current quantities of waste being accepted at these sites.

⁷¹ We note that a number of these facilities have become active since the data was compiled by the EPA.

Table 16.4 presents the capacity data for active and pending licensed facilities in the region. It also includes an indication of which tier on the hierarchy the facilities belong to. This classification has been determined by reviewing the facilities and local knowledge of these facilities, as opposed to relying solely on the consented recovery or disposal codes of the license which can be misleading.

Table 16.4 - Summary of Active and Pending Facilities and Treatment Capacities

Treatment Code	No of facilities		Authorised total tonnage		Authorised MSW tonnage		Treatment By Hierarchy
	Active	Pending	Active	Pending	Active	Pending	
R1 ⁷²	1	2	200,000	685,000	200,000	565,000	Other Recovery
R2	1	0	5,000	19,750	0	0	Recycling / Pre-Treatment
R3	8	4	496,000	665,511	223,200	495,000	Pre-Treatment / Recycling
R5	4	8	1,230,000	2,587,400	98,000	150,000	Pre-Treatment / Other Recovery
R9	1	1	110,000	37,000	0	0	Recycling
R10	0	1	0	150,000	0	0	Other Recovery
R12	6	1	1,110,000	15,000	647,700	0	Pre-Treatment
R13	7	2	886,000	149,000	17,500	77,990	Pre-Treatment
D1	1	0	137,200	0	60,000	0	Disposal / Pre-Treatment
D5 ⁷³	4	2	760,000	1,100,000	603,750	348,000	Disposal / Other Recovery
D9	3	1	65,257	180,000	0	0	Disposal / Pre-Treatment
D13	1	1	80,000	60,000	80,000	3,000	Pre-Treatment
D14	4	0	679,980	0	623,540	0	Pre-Treatment
D15	5	0	518,000	0	219,460	0	Pre-Treatment
Totals	46	23	6,277,437	5,648,661	2,773,150	1,638,990	
		69	11,926,098		4,412,140		

The capacity information provides a comprehensive overview of the treatment market in the region showing active capacity and future capacity. 87% of the treatment capacity relates to pre-treatment, disposal and biological treatment activities and some of the key findings are outlined below:

- Capacities covered by “active” and “pending” pre-treatment codes make up over 4.6 million tonnes in the region, 39% of the total active and pending capacity. When compared to the total active capacity, pre-treatment activities make up 32% of the market.
- “Active” and “pending” landfill capacities account for over 1.8 million tonnes or 16% of the total market capacity. The “pending” capacity is the largest element and includes two facilities which have not yet come online one of which is unlikely to be operated as originally intended over the lifetime of this plan. The landfill situation has changed significantly since 2012, when 7 facilities were actively accepting MSW. At the time of writing 2 landfills remain active in the region and it is the capacity of these facilities which is shown above.
- Treatments defined by code R5 are primarily soil recovery sites although the list of facilities currently authorised with this code includes 2 mechanical waste-processing facilities. In

⁷² Note that the R1 row does not include R1 activity of up to 285,000 tonnes authorised at Irish Cement and Lagan Cement. These facilities are operating under IPC licensing and are considered in Section 16.4.5.

⁷³ This row lists only D5 landfills operational during 2014, to reflect closures since 2012.

reality these are pre-treatment sites and account for 260,000 tonnes of the active capacity in the region. All of the “pending” capacity relates to soil recovery sites.

- Biological treatment capacity in the region (part of R3) is small when compared to other treatments and represents only 4% of the active capacity. No pending capacity is listed.
- A review of the “active” non-composting facilities allocated code R3 indicates these facilities are primarily undertaking pre-treatment operations. The bulk of “pending” facilities are similar operations which will result in a further 665,511 tonnes of pre-treatment capacity coming on stream if activated.

The analysis shows that in some instances the codes consented to by the EPA at the application stage differ from the activities which occur ‘on the ground’ when a site becomes operational. Closer examination of the numbers reveals that there are more “active” and “pending” pre-treatment activities in the market than are actually allocated to pre-treatment codes. It is estimated that the “active” pre-treatment capacity in the region is over 3.7 million tonnes (60% of the active market) with an additional 889,000 tonnes “pending”.

For the “active” facilities, data was available for both waste materials transported out of each facility and wastes recovered at the facilities. Analysing the rate of utilisation at the active facilities provides further insight into the type of treatments which are prevalent in the region.

Table 16-5 - Intake at Active Waste licenced Facilities

Code & outline	Number facilities	Total authorised intake	Authorised MSW intake	Waste sent offsite/ 2012	MSW Sent offsite/ 2012	Recovered onsite
R1 - Use as a fuel ⁷⁴	1	200,000	200,000	54,483	25	193,836
R2 - Solvent Reclamation	1	5,000	0	496	22	0
R3c - Biological Sites - composting, biogas	4	226,000	226,000	14,796	12,910	64,035
R3 - Organic substance - recycling paper plastic	4	270,000	43,000	266,547	242,171	0
R5 - Inorganic Substances Recycling Reclamation	4	1,230,000	98,000	200,908	156,164	0
R9 - Used oil refining	1	110,000	0	13,763	457	0
R12* - Waste Exchange	6	1,110,000	647,700	514,176	258,034	0
R13*- Storage	7	886,000	17,500	134,036	18,279	0
D1 - Deposit on, in or under land.	2	137,200	60,000	3	3	0
D5 - Specially engineered landfill.	3	760,000	578,750			
D9 - Permanent storage.	3	65,257	0	18,962	487	0
D13*- Blending / mixing	1	80,000	80,000	59,136	59,136	0
D14*- Repackaging	4	679,980	623,540	381,126	257,838	0
D15*- Storage	5	518,000	219,460	305,027	199,902	107
	46	6,277,437	2,793,950	1,963,459	1,205,428	257,978

⁷⁴ Note that the R1 row does not include R1 activity of up to 285,000 tonnes authorised at Irish Cement and Lagan Cement. These facilities are operating under IPC licensing and are considered in Section 16.4.5.

*= Pre-treatment Codes

The quantity of waste being processed at pre-treatment sites (R12, R13, D13 - D15) in 2012 was almost 1.4 million tonnes. This represents almost 74% of the waste handled and treated in that year at active processing sites (the intake at disposal sites is considered separately). The EPA NWR 2012 shows that 11 sites were active in the region of which 3 remain in operation (as of September 2014). In 2012 514,544 tonnes of MSW was disposed of at the 3 remaining disposal sites in the region.

Recovery activity in the region during 2012 was dominated by the active waste-to-energy facility in the region and 6 active biological treatment sites, which recovered over 250,000 tonnes of waste.

16.3 MARKET ANALYSIS CONCLUSIONS

An extensive review and analysis of local authority and EPA authorisations of waste facilities in the region has been undertaken. The nature of the authorisations issued by the regulatory bodies differ in scale, complexity, and their evaluation of potential risk to the environment. This difference extends to the approach undertaken by each authority in consenting to waste activities and capacities. The Regulations in place which describe the type of activities that require authorisation adds a further layer of complexity to the situation.

The architecture of the current regulatory and authorisation system makes it difficult to combine the local authority and EPA treatment capacities to develop a seamless analysis of the market. Each authorisation area of the market has been examined on its own merits with the analysis structured to allow an overview of the overall market to be formulated. This section draws conclusions from the findings of each analysis and aims to provide clear signals regarding the planning and development of future waste treatment facilities. The following points set out the critical conclusions drawn from the analysis of the local authority and EPA authorisations:

- The Eastern-Midlands Region has over 10.5 million tonnes of active treatment capacity with the latest EPA data showing a further 5.7 million tonnes of pending capacity. The active capacity is available for treatment of all waste streams and waste being accepted at these facilities is not necessarily generated within the region. Nevertheless, the treatment capacity in the region is significant in its own right and when considered with treatment capacity in the other Regions indicates the supply of particular waste treatments is not adequate for some streams while other treatments types are plentiful and have over capacity.
- The geography of the region and the supply of balanced waste treatment capacity requires improved co-ordination between local authorities and the EPA to ensure the region is adequately serviced for all treatment methods and that an imbalance of activities be avoided where possible. The selection of appropriate sites for a proposed activity is important so that the potential impacts on environmental receptors are examined and controlled.
- Authorised treatment capacity and the rate of utilisation is not necessarily a true reflection of the vitality of the market. Treatment operations may be viable albeit at low levels of utilisation (when compared to the authorisation capacity);
- The scale of capacity authorisations relative to the rate of utilisations recorded needs to be addressed and brought in line with actual operations on the ground particularly for local authority authorisations. The total authorised tonnage allocated to each facility approved

by a local authority is determined by either the legislative maximum for the relevant class of activity or by the tonnage sought by the developer. Many of the authorised capacity tonnages appear to have been allocated according to the maximum tonnage available for that class as defined in the regulations. This approach needs to be reconsidered as the rates of utilisation indicate many facilities are not handling the authorised amount. This misrepresents the market treatment capacity required and sets a precedent which may restrict the development of future facilities in a market which appears to be over-supplied;

- All authorisations should have an overall authorised tonnage capacity specified. A breakdown can also be provided for those facilities are allocated 2 or more classes of activity. It would be preferable if in future the authorised capacity was more closely aligned to the planned or built operational capacity. The phasing of capacity increases, which are conditional on specific site developments, is an approach used by the EPA and will be considered by local authorities in the future as appropriate; and
- The complexity of the authorisation system is making analysis of the treatment market complicated and difficult. This is compounded by the lack of connection to the waste hierarchy which provides a clear order to waste treatments and is a principal policy tool. It would be useful for the appropriate tier of the waste hierarchy to be included in future consents by local authorities and the EPA.

Policy

The analysis undertaken as part of the plan has revealed inconsistencies in the manner in which local authorities in the region are issuing Waste Facility Permits and Certificates of Registration. This includes the treatment capacity being authorised for proposed activities. During the plan period the local authorities will work together to bring greater consistency to the issuing of authorisations and standardise the authorisation documents. The approach will mirror that which is in place for the issuing of collection permits and formulating permit conditions. A greater level of consistency will ensure that all operators in the market are treated equally and facilitate more effective enforcement of the sector which will have a positive long term impact on the environment and society.

Policy:

F4. Improve the consistency of local authority waste authorisations and conditions issued to waste collectors and facility operators.

16.4 POLICIES

Taking on board the findings of the market analysis and conclusions, the following policy recommendations have been made in relation to the future development of waste infrastructure in the region. They are targeted at the lead authorities, local authorities and operators in the waste market and are designed in accordance with the tiers of the waste hierarchy.

The local authorities in the region will ensure that any project and associated works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening (AAS) to ensure there are no likely significant effects on the integrity (defined by the structure and

function) of any Natura 2000 site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied.

Where a project is likely to have a significant effect on a Natura 2000 site or there is uncertainty with regard to effects, it shall be subject to AAS. The project will proceed only after it has been determined that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Article 6(3) and 6(4) of the EU Habitats Directive.

16.4.1 Pre-Treatment Infrastructure

The European Commission have provided guidelines⁷⁵ and explanatory descriptions on key definitions and articles in the WFD. A pre-treatment activity is defined as “the processing of waste which still results in a waste which subsequently undergoes other waste recovery or disposal treatment”. Pre-treatment activities include operations like “dismantling, sorting, crushing, compacting, palletising, drying, shredding, conditioning, repackaging, separating, blending or mixing if the material or substance resulting from such operations is still waste”. These activities do not sit on any particular rung of the waste hierarchy and instead can be regarded as “precursors” to specific types of treatment.

Pre-treatment activities are not restricted to particular waste streams and the operations listed cover activities in the region which handle and pre-treat many different types of wastes:

- Municipal wastes (household and non-household);
- Commercial waste (non-municipal);
- Packaging wastes;
- Construction and demolition wastes;
- Skip wastes, bulky waste metals;
- Industrial wastes;
- End-of-life vehicles;
- Waste electrical and electronic wastes;
- Waste batteries; and
- Hazardous wastes;

Pre-treatment activities are prevalent in the region and account for over 5.4 million tonnes of the 10.6 million tonnes of capacity. Pre-treatment authorisations represent 51% of the active treatment capacity with rates of utilisation at existing facilities indicating there is an adequate supply (or potential supply) remaining at existing sites.

The local authorities, mindful of the quantity of authorised pre-treatment capacity in the region, recognise the need for better co-ordination between the lead authority, local authorities in the region and the EPA. Setting aside the need for pre-treatment activities to prepare waste for further treatment, in Ireland or abroad, there is a need to take stock of existing capacities. Decisions on future facilities need to be made in full knowledge of the existing market and will focus on the quality of pre-treatment activities being proposed. Consideration of pre-treatment capacity at existing sites

⁷⁵ European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste

prior to authorisation of future pre-treatment activities may have a positive effect on the environment in terms of reducing the development of new greenfield sites.

The underlying strategic approach of the plan aims to improve the quality of waste along the entire treatment supply chain. Pre-treatment capacities are typically the first destination for wastes and are vital in extracting and generating high quality outputs for the next treatment step in stable and sustainable markets.

Policies:

- E1. There is a significant quantity of unused pre-treatment capacity in the region and future authorisations by the local authorities, the EPA and An Bord Pleanála must take account of the scale of existing treatments in the market prior to making a decision on additional capacity.
- E2. Future authorisation of pre-treatment activities by local authorities over the plan period will be contingent on the operator demonstrating that the treatment is necessary and the proposed activities add real value and quality to the output materials generated at the site.

16.4.2 Public Civic Amenities and Bring Centres

The network of local authority civic amenity facilities and bring banks are a valuable part of the collection infrastructure in the region. In 2012 over 98,000 tonnes of waste was collected using this infrastructure.

The local authorities recognise the importance of this infrastructure and will focus on maintaining the existing network over the plan period. Bring banks can be particularly difficult to retain due to issues such as noise, illegal-dumping and vandalism. To address this issue and help locate bring banks to serve the growing population in the region local authorities intend to prepare and include specific conditions requiring the provision of such facilities with planning permissions for relevant developments. Developers of new residential and commercial developments may have conditions included in their planning permission that require them to install bring facilities as part of the development infrastructure.

Civic amenity facilities are important pieces of infrastructure for the collection of household hazardous waste. In the NHWMP the EPA have identified the potential for these facilities to accept hazardous waste from small businesses and local authorities will consider whether this is feasible. The collection of hazardous farm waste at local marts has been piloted recently by the EPA, together with other stakeholders, including local authorities. The local authorities will continue to support these collection events during the plan period.

Policies:

- E3. The local authorities in the region will maintain and develop their existing networks of bring infrastructure (e.g. civic amenity facilities, bring banks) to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.
- E4. The local authorities may include as a condition of planning that developers of commercial and large-scale residential developments provide bring bank facilities to serve occupants and residents.
- E5. Local authorities will explore the possibility of accepting hazardous waste at existing civic amenity facilities from small businesses, which is similar in nature to household hazardous wastes currently received. A charge may be introduced for such a service.
- E6. The local authorities will require waste developers seeking to develop a Class 10 waste treatment activity, as defined by the Third Schedule of the Waste Management (Facility and Permit) Regulations 2007 (as amended), to provide bring facilities for the acceptance of non-hazardous and hazardous wastes from members of the public and businesses.
- E7. The local authorities in the region will continue to work with the EPA and other key stakeholders to support the collection of hazardous farm waste from designated bring centres e.g. marts.

16.4.3 Disposal

There has been a significant shift away from landfill in the region (and nationally) with the number of active facilities accepting municipal waste falling to 2 (Ballynagran and Drehid) (September 2014). The Plan is clear in its intention to follow European and National policy and continues the move away from landfill for all waste streams. The local authorities in the region support this intention and are proposing to revise collection permit conditions in consultation with the NWCPO to eliminate the direct disposal of waste to landfills (see policy action A.1.1).

The local authorities anticipate there will be an on-going need for some landfill capacity during the plan period for residual wastes. There is also a need to maintain a contingency supply, in response to potential situations which pose a risk to the health and well-being of citizens, livestock and the environment.

There is also a need to address the treatment of hazardous wastes which cannot be recycled or recovered. The EPA has identified the need for up to 277,000 tonnes of disposal capacity for hazardous waste materials over the period 2014 - 2019. This is a national capacity need and the EPA recognises the value of developing existing landfill sites, including those which are currently closed, for the disposal of certain hazardous wastes i.e. asbestos. A number of local authority owned landfills in the region closed during the period of the last plan in advance of their lifetime capacity being reached. Significant investment has been made in developing these sites and substantial infrastructure is in place at each site to provide access, landscaping and management of environmental emissions. In addition many of the sites have connections to the electricity grid which are valuable assets.

The local authorities in the region are keen to explore the potential to develop alternative activities at the sites which optimise land use and provide a revenue supply to the authority to help with on-going costs for managing local authority waste facilities.

Policies:

- E8. The waste plan supports the development of disposal capacity for the treatment of hazardous and non-recoverable wastes at existing landfill facilities in the region subject to the appropriate statutory approvals being approved in line with the appropriate siting criteria.
- E9. The local authorities anticipate disposal capacity for non-hazardous processed residual wastes will be required over the plan period but there is no need for additional disposal facilities to be brought on stream during the plan period.
- E10. The waste plan recognises the need for on-going disposal capacity to be available in response to events which pose a health risk to citizens, livestock and the environment and the lead authorities of each region will monitor available contingent capacity annually.
- E11. The local authorities will consider the future land use of permanently or temporarily closed existing landfill sites with the potential to develop alternative activities (subject to amendments to existing approvals being put in place). Any development proposals shall be subject to Appropriate Assessment Screening in accordance with the requirements of the EU Habitats Directive to ensure the protection and preservation of the Natura 2000 Network.
- Potential activities include:
- Waste treatment activities including pre-treatment, thermal recovery, biological treatment, reprocessing or preparing for reuse
 - On-site temporary storage of waste and materials;
 - Co-location of utility services such as wind farms or other energy generating activities;
 - Development of public and recreational amenities;
 - Co-locating recycling / reuse waste enterprises on site; and
 - Resource mining
 - Contingency capacity for crisis events
- E12. The waste plan supports the repatriation of residual waste illegally disposed in Northern Ireland to licensed disposal facilities appointed to a framework set up on behalf of the State by the National Trans Frontier Shipment Office.

Finally, in accordance with a 2008 intergovernmental agreement, the repatriation of waste, which originated in Ireland but which was illegally disposed of in Northern Ireland in the early 2000s, is now underway. A co-operative agreement provides a template for dealing with this historical issue, which was endorsed by Ministers from both jurisdictions and by the EU Commission. Under the agreement, the costs of disposing of the waste will be met by the Irish Government together with 80% of the costs of removing the waste from Northern Ireland.

Its duration is 4 years, and 8 landfills are included which are located within the 3Regional waste areas. In October 2014, only 4 landfills on the Framework remain open, 3 are located in the Eastern-Midlands Region with the fourth landfill site in the Connacht-Ulster Region. There are 7 sites remaining in Northern Ireland with an estimated 120,000 tonnes of mixed municipal waste to be repatriated for disposal over the next few years.

Due to security issues, on site segregation of waste is not possible - other than the removal of tyres, metals, batteries. All waste repatriated must go for disposal. The work is progressing at a rate of 2-3 sites per year and is wholly dependent on funding from DECLG. Work is due to commence at some of the larger sites and is expected to take longer than previous operations. If a replacement framework is required, NTFSO as the Competent Authority will be responsible for its establishment. The waste plan supports the repatriation of this waste to landfills in the region

It is recommended that prior to policy E11 being implemented a feasibility study is undertaken of the permanently or temporarily closed landfills in the region to determine what activities may or may not be appropriate for consideration at each site based on site and surrounding sensitivities. It is acknowledged that the Policy Recommendation specifically refers to consideration of the Natura 2000 network and this is considered positive. The feasibility study should also consider environmental sensitivities under the wider environmental scope of SEA.

For policy E12, it is recommended the NTFSO liaise with the relevant authorities in Northern Ireland to ensure there is a management plan in place to prevent the spread of invasive alien species associated with the repatriation of waste. The requirement for Appropriate Assessment screening would also apply to repatriation projects.

16.4.4 Other Recovery - Backfilling

Backfilling activities (of inert waste), which meet the recovery definition and are in compliance with Articles 4 and 13 of the WFD, sit on the other recovery tier of the waste hierarchy. Local authorities in the region authorise such activities through the award of Waste Permits and Certificates of Registration. Similarly the EPA authorise significant backfilling of inert waste at large sites for remediation purposes such as old quarries.

Backfilling activities provide for significant treatment capacity in the region at present. Local authority authorised sites have a total capacity of 1.46 million tonnes, with EPA authorised capacity at over 980,000 tonnes in mid-2014. Local authority sites generally have a shorter lifespan than EPA sites and operations can often cease at these sites within the life of the permit i.e. 5 years. EPA authorisations cover more substantial operations with a longer lifetime capacity. At the time of compiling the data register for this Plan the available market for backfilling was over 2.4 million tonnes. Utilisation in 2012 at backfilling sites was low at 10% of active local authority capacity and 30% of active EPA sites. This significant underutilisation reflects the low level of activity in the construction sector with the supply of capacity far exceeding current demand. This is expected to improve over the plan period as economic recovery continues to build nationally. In the face of increased authorisation demand there is a need for better co-ordination between local authorities in the region to ensure backfilling facilities are planned and developed at suitable sites and do not present a risk to existing biodiversity and habitats. It is recommended the lead authority liaises with relevant stakeholders (including the EPA and NPWS) to ensure appropriate measures are in place for control of the spread of invasive alien species at backfilling sites in the region

Policies:

- E13. There is a significant quantity of unused active and pending capacity for backfilling in the region and future authorisations by the local authorities, the EPA and An Bord Pleanála must take account of the existing treatment market prior to making a decision on additional capacity.
- E14. The local authorities will co-ordinate the future authorisation of backfilling sites in the region to ensure balanced development serves local and regional needs with a preference for large remediation sites ahead of smaller scale sites with shorter lifespans. All proposed sites for backfilling activities must comply with the siting criteria set out in the plan.

16.4.5 Other Recovery - Thermal Recovery

Thermal recovery activities⁷⁶, where the principal use of the waste is as a fuel to generate energy, are part of the other recovery tier of the waste hierarchy. The authorisation of these activities is the remit the EPA. These facilities typically accept waste from all parts of Ireland and operate on a national market basis.

The Eastern-Midlands Region contains active and pending thermal recovery activities and at present is the only region in the country to have this type of treatment available. Thermal capacity is under construction at a cement kiln in the CUR (Q3-2014). **Table 16.6** provides a summary of the thermal recovery capacity, both active and pending, in the region. There are 5 facilities authorised to accept 435,000 tonnes of Municipal Solid Waste. The intake levels at active facilities are high, with the existing waste-to-energy facility operating at capacity. The tonnage accepted at the cement kilns is growing.

The cement kilns accept Solid Recovered Fuel (SRF) and Refuse Derived Fuel (RDF) type wastes, which are generated from municipal and construction sources, as well other wastes such as meat and bone meal, chipped tyres and high calorific fuels. These alternative fuels replace the use of fossil fuels in the cement production process. The extent of this replacement depends on the quality of the SRF (moisture and chlorine content); the cement kilns are working with producers of SRF in the waste industry to agree specifications for product quality to facilitate increased rates of fossil fuel replacement. As outlined in **Table 16.6** approximately 140,000 tonnes of SRF was used in 2013, and it is estimated that this will rise to 150,000 tonnes in 2015. It is anticipated that this could rise even further with additional capacity under construction. Only those facilities which have planning permission and a licence from the EPA have been considered in this table as the timeframe involved in obtaining consent for these types of facilities is considerable.

The existing capacity is viewed by the local authorities as addressing national needs with respect to the recovery of residual municipal waste and other waste streams (as described). Ireland's policy is to become self-sufficient in relation to the recovery of municipal waste and progress is being made in this area. The State is exporting a significant quantity of residual waste which is poor use of a valuable resource from a self-sufficiency perspective. It is expected that active capacity will increase substantially over the lifetime of this plan.

⁷⁶ Such as incineration (waste-to-energy), co-incineration (cement kilns), pyrolysis, gasification and others.

Table 16.6 - Active and Pending Capacity for the Thermal Recovery of MSW

Thermal Recovery Activity (Number of facilities)	Active (Tonnes)	Pending (Tonnes)	Total (Tonnes)	Intake (2013)
Waste-to-Energy (2)	220,000 ⁷⁷ (1)	600,000 ⁷⁸ (1)	820,000	206,000
Cement Kilns (3)	215,000 (2)	127,875 (1)	342,875	140,000 ⁷⁹
Total (5)	435,000	727,875	1,162,875	346,000

The need for future treatment capacity requires careful consideration and must take into account predicted waste growth, growing recycling rates, future targets, the continued move away from landfill and the conversion of pending capacity into active treatment. The development of future thermal recovery facilities will be viewed as national facilities addressing the needs of the State and will not be defined by regional markets alone. A coordinated and consultative approach is required for such authorisation between the regions and national authorities i.e. the EPA and An Bord Pleanála.

A national thermal recovery capacity need of 300,000 tonnes is proposed (refer to policy E15) in the draft plan over and above the active and pending capacity totals in Table 16-6. This need has been determined by analysing future projections to 2020 and to 2030 and making realistic assumptions some of which are described. By 2020 municipal waste generated in Ireland is forecast to grow to between 3.0 and 3.2 million tonnes. The lower forecast was selected for the purpose of this determination as it takes account of the proposed prevention target as set out in the plan. A growth factor of 2.5% has been applied for the period 2020 to 2030 with an arisings figure of 3.9 million tonnes estimated by the final year (2030). It has been assumed that Ireland will achieve its 50% municipal recycling rate target by 2020, from the current national recycling rate of 40% , with linear incremental growth over the plan period. Recycling increases at the same rate are projected to 2030 with a recycling rate in excess of 60% ultimately being reached. It is assumed that landfill is being phased out over the period with the level of activity at sites related to the utilisation at the thermal recovery facilities and other factors such as the landfill levy price. There is contingency built into the projections with lower level quantities of uncollected waste used in the projections than reported in the plan. In summary the capacity need is considered balanced and in keeping with overall strategic approach of the plan.

In the recent National Hazardous Waste Management Plan, the EPA confirmed that there remains a need to develop hazardous waste thermal recovery treatment facilities in Ireland. The latest data shows almost 60,000 tonnes of hazardous waste was sent for incineration⁸⁰ abroad. The EPA has authorised the treatment of up to 50,000 tonnes of hazardous waste in the Southern Region but this facility is yet to become active and has no planning approval. The current license for this facility expires in November 2015.

⁷⁷ The active capacity refers to the Indaver Waste-to-Energy facility

⁷⁸ The pending capacity refers to an authorised but unbuilt capacity. Only capacity with planning permission and EPA licences has been included.

⁷⁹ This figure relates to SRF which is exclusively from municipal sources.

⁸⁰ 39,612 tonnes was sent for incineration without energy recovery (D10) and 20,464 tonnes was sent for incineration with energy recovery (R1)

Energy recovery is critical for operators developing thermal waste facilities to ensure the sustainability and viability of their operations. There needs to be greater recognition in energy policy of the contribution waste facilities are making and will continue to make, to Ireland's renewable energy sector and its achievement of mandatory targets.

Policies:

- E15. The waste plan supports the development of up to 300,000 tonnes of additional thermal recovery capacity for the treatment of non-hazardous wastes nationally to ensure there is adequate active and competitive treatment in the market and the State's self-sufficiency requirements for the recovery of municipal wastes are met. This capacity is a national treatment need and is not specific to the EMR. All proposed sites for thermal recovery must comply with the siting criteria set out in the plan.
- E16. The waste plan supports the development of up to 50,000 tonnes of additional thermal recovery capacity for the treatment of hazardous wastes nationally to ensure there is adequate active and competitive treatment in the market to facilitate self-sufficiency needs where it is technically, economically and environmentally feasible. This capacity is a national treatment need and is not specific to the EMR. All proposed sites for thermal recovery must comply with the siting criteria set out in the plan.

16.4.6 Recycling - Biological Treatment

Under the WFD, the recycling of waste is defined as "any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes " and "includes the reprocessing of organic material". Biological treatment is clearly identified as a recycling activity as this is where it is placed on the waste hierarchy.

The capacity for biological treatment both in the region and nationally has grown during the period of the last plan. Nationally, there is 246,000 tonnes of treatment capacity authorised by Department of Agriculture, Food and the Marine to treat food organics. In the region there is 58,000 tonnes of treatment capacity authorised to treat animal by-products between local authority and EPA sites.

The national quantity of municipal brown bin material being treated in 2012 was over 94,000 tonnes and it is expected that this will continue to grow over the plan period with a heightened focus on increasing the separate collection of food waste. Over 37,371 tonnes of garden waste were treated nationally in 2012, primarily by composting. Biowaste materials tend to move shorter distances for treatment by comparison to residual waste which may be hauled across the country to treatment outlets. It is expected that most biowaste material generated will be treated within the region and the capacity need has been examined on the basis of serving regional needs. This approach will support the development of treatment facilities of varying sizes.

The need for additional biowaste capacity in the region has been determined by examining the current levels of biological capacity in the region, specifically the capacity which is consented by the

DAFF to accept animal by-products, and the expected increases in biowaste and organic waste which is expected to come into the market over the plan period. The increased penetration of segregated food waste collections from household and commercial customers is expected to increase the quantities collected of this stream. The rate of capture of the material is difficult to predict at this stage and will become clearer with the availability of new waste characterisation data expected in 2015. It is expected that food waste generated in each region will not be transported long distances but will rather be primarily treated in each region. The nature of the material, which is wet and odorous, tends to limit the distances such loads are transported. The treatment capacity proposed is to ensure there is sufficient capacity approved, in particular facilities which have animal-by-products approval, and there is a balance in the distribution of capacity in the region.

Biological treatment facilities for the primary treatment of agricultural waste are also required in the region and the waste plan supports the development of such facilities. Managing waste from a growing agricultural sector is a challenge which the agricultural and food sectors need to address.

The ability to capture energy from biological treatment facilities will certainly support the sustainability and viability of a facility. Technologies which are configured to treat biowaste, agricultural waste and other organic wastes are preferable. Anaerobic digestion has long been identified as a suitable solution for treating this type of feedstock but the market has not developed as expected. While there is potential for investment and growth, the existing price configuration in the energy market, in particular the price return for energy generated from biomass facilities, is not adequately incentivised compared to the development of such facilities in Northern Ireland. There needs to be greater recognition from energy policy of the contribution made by waste facilities in the renewable energy sector and Ireland's achievement of mandatory targets.

Policies:

- E17. The waste plan supports the development of up to 75,000 tonnes of additional biological treatment capacity for the treatment of bio-wastes (food waste and green wastes) primarily from the region to ensure there is adequate active and competitive treatment in the market. The development of such treatment facilities needs to comply with the relevant siting criteria in the plan.
- E18. The waste plan supports the development of biological treatment capacity in the region, in particular anaerobic digestion, to primarily treat suitable agri-wastes and other organic wastes. The development of such treatment facilities needs to comply with the relevant siting criteria in the plan.

16.4.7 Recycling - Material Reprocessing

The reprocessing of waste materials into products, materials or substances whether for the "original or other purposes" falls within the definition of recycling. Ireland's reprocessing industry for secondary waste materials is limited, with the majority of municipal recyclable wastes being exported. Similarly significant quantities of hazardous waste are exported for reprocessing outside of the State. In many cases the quantity of feedstock available in Ireland is not sufficient to make the development of indigenous recycling/recovery facilities economically viable.

There has been progress on the reprocessing of plastic wastes with a recent report⁸¹ estimating indigenous treatment capacity of 245,000 tonnes. Usage of this capacity was estimated to be at 30% in 2011. It is expected that usage will increase as export markets for lower quality plastic wastes are shrinking.

Over the lifetime of the plan the local authorities in the region will support the development of indigenous secondary waste market reprocessing and implement measures designed to improve the quality of plastic waste collected and processed for the market.

Policy:

E19. The waste plan supports the development of indigenous reprocessing and recycling capacity for the treatment of non-hazardous and hazardous wastes where technically, economically and environmentally practicable. The relevant siting criteria for the planning and development of such activities needs to be applied.

16.4.8 Preparing for Reuse Activities

Preparing for reuse activities are defined under the WFD as “*checking, cleaning or repairing recovery operations by which products or component or products that have become waste are prepare so that the can be re-used with any other pre-processing*”. Preparing for reuse is a higher-order recovery solution recognised as providing more benefits than recycling or other recovery treatments.

It is important to clarify the distinction between reuse, which is part of the prevention tier, and preparing for reuse activities. In the case of the former activity the material in question has not been discarded and as such has not become a waste. Reuse is not classed as a waste activity so any enterprise reusing material is not regulated under waste legislation. If the material is a by-product of a production process (Article 5 of the WFD) the operator must seek clarification from the EPA so that it is not a waste.

By developing preparing for reuse activities the local authorities will improve how waste materials are managed and such enterprises will be supported by the waste plan. The local authorities recognise that many of these operations are small scale with a large number of start-ups commencing as sole traders. To encourage these activities, the local authorities will review the regulation and authorisation processes with the intention of adopting procedures which better reflect the scale of these businesses. To encourage these activities, the local authorities will engage with the Department in reviewing the regulation and authorisation processes with the intention of adopting procedures which better reflect the scale of these activities.

⁸¹ The Irish Recycled Plastic Waste Arisings Study – Update 2011

Policy:

E20. The waste plan supports the development of repair and preparing for reuse enterprises in the region as part of the transition to a more resource focused management approach and will provide technical, regulatory and financial guidance to operators active on this tier of the hierarchy.

16.4.9 Facility Authorisations by Local Authorities

The market assessment and review of local authority permits and Certificates of Registration undertaken for the waste plan has brought into focus inconsistencies in the approach taken to authorising facilities by the different authorities across the region. The local authorities are committed to standardising the approach to facility authorisations across the region (refer to policy action F.4.2).

In addition to the standardisation of templates, local authorities will review the allocation of treatment capacity quantities with the intention of better aligning authorised and operational capacities. They will also examine the option of introducing a phased approach to authorisations to facilitate capacity increases to be granted on the basis of actual need and site progressive development works. Local authorities will implement a co-ordinated and considered approach to the future planning of treatment capacities in the region through increased communication (between authorising bodies) and on-going updates on regional capacity data.

Policy:

E21. The local authorities will review the approach to authorising waste treatment facilities requiring a waste facility permit or certificate of registration. The focus will be on improving the relationship between the authorised and operational capacity at facilities with the intention of addressing the over-authorisation of facilities in the treatment market so as to better reflect facility throughput.

16.5 COLLECTION INFRASTRUCTURE

Existing household waste collection infrastructure has been described in chapter 9.0 of the plan "Management of Household Waste". The total quantity of household waste managed in 2012 in the region was 694,441 tonnes. The overall percentage of households signed up to a kerbside collection service was 81% in 2012, an increase on previous years but still significantly less than the average of the top three performing counties in the region which stands at 81%. The quantity of household waste collected and managed by a kerbside service across the region was 560,786 tonnes or 80% of the total.

Of those households using the kerbside service in the region, 49% receive a residual and mixed dry recyclable collection (2-bin system) while nearly 46% receive a residual, mixed dry recyclable and organic waste collection (3-bin system).

The quality of waste collected depends on the method by which the waste is collected. Segregation at source combined with kerbside collection is recognised as the best method to ensure the presentation of high quality material. The waste quality ultimately has a significant influence on the reuse, recycling or recovery potential of the waste. In the absence of source segregated kerbside collection systems, authorised Civic Amenity facilities or bring centres provide the next best method of household waste collection.

Policy:

E22. The plan supports the primacy of kerbside source segregated collection of household waste as the best method to ensure the quality of waste presented. In the absence of source segregated kerbside collection services the plan supports the use of authorised civic amenity facilities and bring centres.

With regard to the operation of seasonal or intermittent waste facilities at ports, marinas, caravan parks, holiday villages or similar situations, waste segregation should be facilitated by the operators of such facilities.

Policy:

E23. In the absence of kerbside source segregated collection services and where the proximity of civic amenity facilities and bring centres is prohibitive the plan supports localised collection solutions such as community drop off points or pay to use systems subject to compliance with the household waste collection regulations.

International Catering Waste (ICW) is food waste from international transport vehicles such as cruise ships, airlines, private or commercial yachts or boats, armed forces ships or submarines and ferries. Any operator engaged in the generation, handling, transport, processing, storing, or disposing of ICW must be authorised by the Department of Agriculture Food and the Marine.

Policy:

E24. The plan supports the appropriate management of international catering waste ICW under the Animal By-product Regulations (EC) No. 1069/2009.

The rates of industrial production and goods consumption have been increasing for 40 years giving rise to the twin problems of rising volumes of waste and the obligation to adopt quality driven management practices. To limit the environmental consequences associated with greater waste production it was deemed necessary to transfer the financial responsibility for waste management to the producer (manufacturer or importer) in the application of the “Polluter Pays Principle”. This gave rise to the concept of extended producer responsibility where manufacturers and importers of products bear a significant degree of responsibility for the environmental impacts of their products throughout its life cycle. There are a number of Producer Responsibility Initiatives (PRI's) in place in Ireland to manage packaging waste and Waste Electrical and Electronic Equipment (WEEE) with specific arrangements in place for End of Life Vehicles, Tyres and Batteries.

The Review of the PRI model in Ireland proposes a range of recommendations in relation to existing PRI's and the development of new schemes for specific waste streams.

Policy:

E25. The plan supports the improvement of existing PRIs and the development of new PRIs for specific waste streams including human and farm medicines, paints, newspapers and magazines.

16.6 SITING CRITERIA

This section sets out overarching siting criteria for locating waste management facilities. The criteria are provided to assist project developers but should not be taken as a strict interpretation of national and European legislation, policy, case law or guidance covering this area. It is recommended that operators consult with the regional waste office and planning authorities prior to submitting a planning application to discuss the approach to siting waste management facilities.

The local authorities recognise the siting of waste management facilities can be a complicated process and is a critically important step in the planning and development of any site. As a minimum the siting criteria set out in this section must be followed. The proper siting of facilities will ensure the impact on communities, the environment and important habitats can be minimised, managed and mitigated.

Policy:

G3. Ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes.

Pursuant to the ECJ (European Court of Justice) ruling on joined cases C-53/02 and C-217/02, in the absence of a geographical map highlighting areas for the location of future waste disposal sites, this

plan sets out general location criteria for the siting of waste facilities. These criteria are consistent with the objectives pursued by the WFD (Waste Framework Directive 2008/98/EC), namely:

- The protection of public health and the environment;
- The establishment of an adequate network of appropriate installations;
- Disposal installations (taking into account the Best Available Technology (BAT) without involving excessive costs); and
- An adequate transport network so that waste can be disposed in one of the nearest installations.

In general the location of waste facilities needs to consider the following:

- Avoid siting waste infrastructure or related infrastructure in areas protected for landscape and visual amenity, geology, heritage and or cultural value.
- Avoid siting waste infrastructure or related infrastructure in Natura 2000 sites including Special Protection Areas (SACs) and Special Protection Areas (SPAs); Avoid siting waste infrastructure or related infrastructure in proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna and Annex I habitats
- Undertake Appropriate Assessment Screening for all waste related activities requiring development consent e.g. new infrastructure, waste authorisation applications or reviews (CoR, WFP, and Licences);
- Where a project is likely to have a significant effect on a Natura 2000 site or there is uncertainty with regard to effects, undertake full Appropriate Assessment;
- To prevent the spread of Invasive Alien Species (IAS), undertake an IAS survey of any prospective sites. If found preventative measures include ensuring that good site hygiene practices are employed for the movement of materials into, out of and around the site and ensuring that imported soil is free of seeds and rhizomes of key invasive plant species;
- In order to protect habitats which, by virtue of their linear and continuous structure (e.g. rivers and their banks) or their contribution as stepping stones (e.g. ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species, avoid the loss or disruption to such features;
- Ensure that no development, including clearance and storage of materials, takes place within a minimum distance of 10-15m measured from each bank of any river, stream or watercourse as specified in the CDP area;
- Ensure a Sustainable Drainage System (SuDS) is applied to any development and that site specific solutions to surface water drainage systems are developed, which meet the requirements of the Water Framework Directive and associated River Basin Management Plans;
- Avoid development of waste management infrastructure in flood risk areas. Reference should be made to the *Planning System and Flood Risk Management for Planning Authorities* (DoEHG/OPW 2009) and the National Flood Hazard Mapping (OPW) while referring to the relevant Flood Risk Management Plan (FRMP); The current CFRAM process will also be taken to in account.
- To ensure riparian buffer zones are created between all watercourses and any development for a minimum of 15m, to mitigate against flood risk. The extent of these buffer zones shall be determined in consultation with a qualified ecologist and following a Flood Risk Assessment. Any hard landscaping proposals shall be located outside of these buffer zones; Consultation is recommended to take place with Inland fisheries Ireland and National Parks and Wildlife services.

- The geological and hydrogeological conditions in the area and avoid geologically unsuitable areas including karst where practicable, and areas susceptible to subsidence or landslides. Due consideration should be given to the primary water source of the area and the degree of surface water/groundwater interaction including tidal influences; and
- Impact from a transport perspective to be assessed including road access, network, safety and traffic patterns to and from the proposed facility in accordance with road design guidelines and/or relevant LA guidelines in relation to roads.
- While there is many existing closed or not yet opened landfills these could be used for alternatives waste activities as they are considered brownfield sites also suitably zoned other brownfield sites could be used for alternative waste activities.
- Sites that offer the opportunities to integrate differing aspects of waste processing will be preferred choices. This will ensure maximum efficiency of waste processing.

The local authorities in the region recognise the importance of providing facility specific guidelines and intend to develop and review such guidelines over the course of the plan, see policy action G.3.1.

17 ROLES AND RESPONSIBILITIES

This chapter sets out the roles and responsibilities of each of the stakeholders in the delivery of the Plan. Figure 17-1 illustrates the national organisational arrangements for the coordination of the implementation of the three Regional Waste Management Plans (RWMP).



Figure 17-1 - National Co-ordinating Structures

17.1 WASTE MANAGEMENT PLANNING NATIONAL COORDINATING COMMITTEE

The Waste Management Planning National Coordination Committee (WMPNCC) co-ordinated the preparation of the three RWMPs namely Southern, Connacht Ulster, and Eastern-Midlands. The coordinating committee consists of the DECLG, EPA, NWCPO, NTFSO and members from each of the three waste regions. Following the publication of the three RWMPs, the role of the WMPNCC will be to coordinate their implementation.

17.2 STAKEHOLDERS

There are many stakeholders involved in the effective implementation of the Plan. **Figure 17-2** illustrates the key stakeholders who have a significant role and associated responsibility for the delivery of policies and actions contained in the Plan.

17.2.1 Lead Authority / Regional Waste Management Office

Arising from the reconfiguration of the waste regions and following a process facilitated by the City and County Managers Association (CCMA), Dublin City Council (DCC) was selected as the lead authority for the Eastern-Midlands Region.



As lead authority for the region, DCC's responsibilities include the preparation of the RWMP, the coordination of the implementation of the plan and monitoring the implementation of the new plan through the preparation of Annual Reports.

To prepare and coordinate the implementation of the RWMP, DCC, as the Lead Authority for the region established a Regional Waste Management Office. The office is staffed by a Regional

Coordinator, a Regional Resource Efficiency Officer, a Technical Officer, and a Regional Prevention Officer.

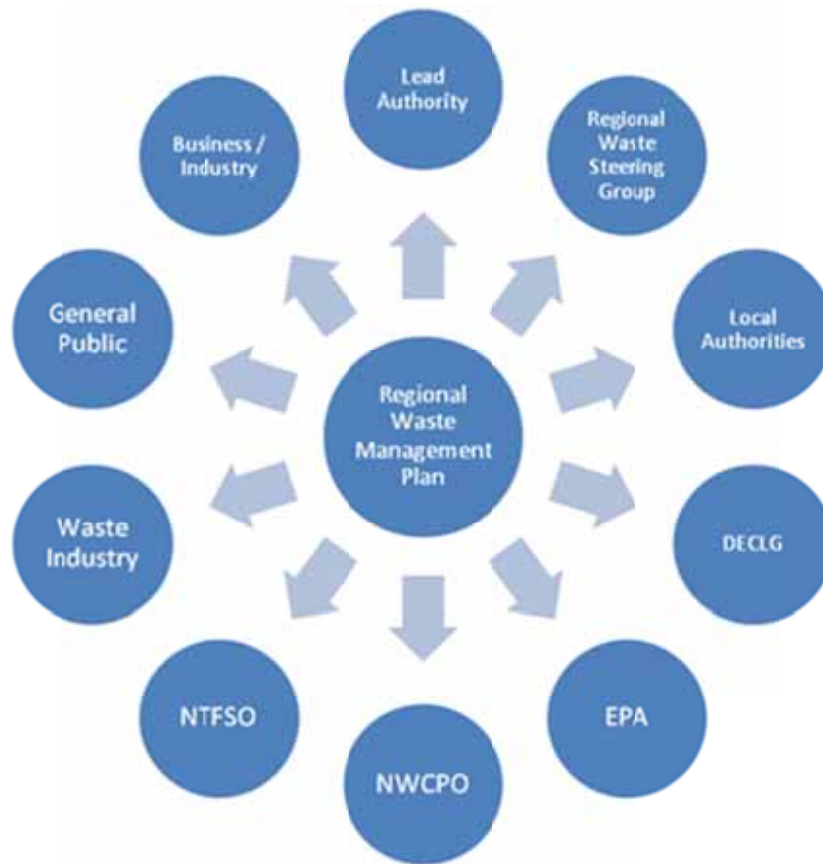


Figure 17-2 - Key Stakeholders for Plan Delivery

It is anticipated that the regional Waste Management Office will be a knowledge resource for all stakeholders with the capacity to promote higher order waste actions in the areas of prevention, reuse, resource efficiency and recycling.

The role of the lead authority/Regional Waste Management Office includes:

- To facilitate and service the regional Waste Steering Group in the implementation of the objectives set out in the Plan. To develop a prioritised programme of objectives, targets and key performance indicators to ensure the aims of the plan are delivered;
- To assist, facilitate and co-ordinate the implementation of objectives policies actions and targets of the Plan;
- To prepare Annual Reports as required for the region reporting on performance under each of the policy headings contained in the Plan;
- To maintain and establish task groups on specific issues when required; and
- To prepare applications for grant assistance for regional projects.

Policy

New management structures will be funded and established by the local authorities in the region to ensure the implementation of the waste plan. The nominated lead authority will act on behalf of the region, including representing the region on high level groups and committees related to the waste plan. It is important that good channels of communication are maintained between the

regions, Government, State agencies, and other national bodies on all waste matters over the duration of the Plan.

Policy:

D1. The Lead Authority on behalf of the region will participate in the national waste co-ordination group and other national groups relevant to the implementation of the waste management plan.

The local authorities recognise the recent national review of the producer responsibility operators in Ireland and the extensive findings of that study. The potential to establish new schemes (mandatory or voluntary) was identified in the study and over the course of the plan some of these schemes may be set up. The local authorities, through the lead authority, will be keen to participate in the establishment of any new schemes.

Policy:

H3. Co-operate and input into the setting up of new national producer responsibility schemes (statutory or voluntary) for waste streams to ensure the role of local authorities is clear and can be practically achieved.

17.2.2 Governance of the Eastern-Midlands Waste Region

Following the designation of the lead authority for the region, a Regional Waste Steering Group was established consisting of one member from each of the twelve local authorities and representatives for the lead authority. The purpose of the regional Waste Steering Group is to make the strategic decisions necessary to achieve the objectives set out in the Plan, and their role includes the following:

- To support the lead authority in the implementation of the objectives set out in the Plan;
- To monitor and review the performance of each individual local authority in the region under each of the policy headings contained in the Plan;
- To review and if appropriate approve, allocate and monitor the requisite budget for the lead authority / regional waste management office annually;
- To ensure that Annual Reports are delivered on time;
- To establish task groups as required to support the delivery of plan objectives; and
- To communicate with elected members.

Policy

The new structures for the implementation of the waste plan will include establishing and maintaining a regional waste management office over the course of the Plan. The new structures will include working groups to tackle those areas of implementation which are being led by the local

authorities. The new set up will seek to facilitate better knowledge exchange between the local authorities and capacity building on particular issues.

Policy:

D2. The Lead authority and local authorities will work together on the structures required to implement the waste plan, capacity building, training and knowledge share on delivering waste management activities.

17.2.3 Local Authorities

The role of local authorities has changed significantly over the years with a small minority of local authorities still engaged in the collection of household waste nationally, but none engaged in collection within this Region. Local authorities still have an obligation however, under Section 33 of the Waste Management Act 1996, to collect or to arrange for the collection of household waste within their functional areas. Local authorities continue to provide waste management infrastructure such as bring centres and civic amenity sites.

The role of local authorities has evolved and the principal areas of activity are now regulatory, educational, and enforcement related. The role of local authorities includes the following:

Waste Planning

- Participation in the regional Waste Steering Group for the preparation and implementation of the Plan;
- Planning and development of waste infrastructure either directly or indirectly as required by the Plan;
- To ensure through the Planning process that appropriate waste systems are incorporated into all developments and that wastes arising from such developments are appropriately managed; and
- Application of the relevant environmental and planning legislation to waste projects which may have a significant impact on Natura 2000 sites in order to protect the environment/human health from the adverse impact of waste generated;

Waste Prevention

- Participation in the Local Authority Prevention Network (LAPN);
- Support business and in particular SMEs in the prevention of waste through specific projects;
- Prevent food waste by working with the STOP FOOD WASTE campaign;
- Work with events and festivals to prevent waste through greenyourfestival.ie;
- Support communities through tidy towns waste prevention initiatives by providing guidance and awareness regarding best practice for prevention and minimisation;
- Support and encourage behavioural change throughout the community to promote resource efficiency;
- Implement green procurement;

- Segregate waste in-house and promote resource efficiency with all staff; and
- Act as resource efficiency exemplar in the business community.

Waste Regulation and Enforcement

The role of the local authority regarding enforcement and regulation is fully described Section 14.1.5.

Waste Infrastructure

- Facilitate the provision of waste management infrastructure as required by the Plan;
- Promote sustainable waste management infrastructure/technology in keeping with the waste hierarchy and self-sufficiency principle; and
- Encourage and support the provision of waste infrastructure using partnership and social economy models.

17.3 DEPARTMENT OF ENVIRONMENT COMMUNITY & LOCAL GOVERNMENT

The role of the Department of the Environment Community and Local Government (DECLG) is to provide the policy and legislative framework within which the objectives, policies, actions and targets of the plan can be set. The most recent Government policy with regard to waste is set out in “*A Resource Opportunity- Waste Management Policy in Ireland*” published in July 2012. The role of the DECLG also includes:

- Participation in the WMPNCC;
- Monitor, review and modify legislation as required over the period of the Plan;
- Monitor existing compliance schemes and facilitate the development of new schemes as required;
- Advise and guide lead and local authorities with regard to the implementation of the Plan;
- Support regional structures for the implementation of the Plan;
- Support national, regional and local waste enforcement arrangements as agreed by the CCMA and the regions; and
- Support the operation of local waste infrastructure as operated by individual local authorities.

17.4 ENVIRONMENTAL PROTECTION AGENCY

The EPA has a wide range of statutory duties and powers under the Environmental Protection Act, 1992 as amended. Responsibilities of the EPA in relation to waste management include:

- Formulation of National Waste Prevention Plan (NWPP) and operation of LAPN;
- Formulation of the National Hazardous Waste Management Plan;
- Publication of the National Waste Report;
- Licensing of large waste management facilities;
- Enforcement of waste licences;
- Promotion of environmental best practice and circular economy developments ;
- Auditing and reporting on the performance of local authorities in respect of their waste management responsibilities; and

- Assistance to local authorities in respect of enforcement.

17.5 NATIONAL WASTE COLLECTION PERMIT OFFICE

The National Waste Collection Permit Office (NWCPO) was established on the 1st February 2012. The role of the NWCPO is to accept and process all new waste collection permit applications, and review all existing waste collection permits for the Waste Management Regions in the Republic of Ireland. The Office also carries out additions and amendments to existing waste collection permits. Responsibilities of the NWCPO in relation to waste management include:

- Working with the Eastern-Midlands Region and local authorities to standardise waste collection permit conditions; and
- Working with local authorities to develop standard mandatory conditions and local discretionary conditions.

17.6 NATIONAL TRANS-FRONTIER SHIPMENT OFFICE

The National Transfrontier Shipment Office (NTFSO) is the national competent authority for administering and enforcing the Waste Management (Shipment of Waste) Regulations 2007 (SI No 419 of 2007) and Regulation EC 1013/2006 of the European Parliament. The Regulations empower the NTFSO to supervise and monitor the shipment of waste and prevent illegal shipments for the protection of the environment and human health. Responsibilities of the NTFSO in relation to waste management include:

- To ensure all waste exports and imports are carried out in accordance with the Regulations;
- To maintain all necessary documentation; and
- To liaise with the regional Waste Management Office and local authorities in relation to any issues arising from the export or import of waste.

17.7 WASTE INDUSTRY

The waste market in Ireland is atypical when compared to other EU Member States particularly in relation to household waste collection which has become a service performed almost exclusively by the private sector. Waste management infrastructure is largely owned and operated by the private sector with many facility owners also involved in the waste collection.

The document *“A Resource Opportunity - Waste Management Policy in Ireland”* has concluded that the current system of competition in the market will be preserved but that the regulatory regime will be strengthened significantly. The waste industry will therefore have a very significant role to play in the achievement of the objectives, policies, actions and targets contained in the Plan. The role of the waste industry includes the following:

- Co-operate with the designated lead authorities and local authorities to implement the objectives, policies, actions and targets contained in the Plan;
- Provide sustainable waste management infrastructure/technology in keeping with the waste hierarchy and the principle of self-sufficiency;
- Comply with permit conditions as prescribed by the NWCPO;
- Comply with permit / licence conditions as prescribed by local authorities / EPA; and
- Comply with Transfrontier Shipment rules.

17.8 GENERAL PUBLIC/COMMUNITIES

Each member of the public, as a waste producer has a duty to handle waste responsibly and to ensure that any waste produced does not cause environmental damage. Additional roles and responsibilities of the general public include:

- Aim to reduce the amount of waste being generated in the home through waste prevention for example buying products with less packaging, reducing food waste;
- Participate in kerbside waste collection schemes where available;
- Segregate recyclable waste for collection or take it to recycling centres or bring banks;
- Segregate organic waste for composting or for collection where the service is provided;
- Avoid burying or burning waste;
- Ensure that waste is presented for collection in the manner required by the collector and in accordance with any relevant bye-laws; and
- Ensure that all waste collectors used have a valid Waste Collection Permit.

17.9 BUSINESS AND INDUSTRY

The business and industrial sectors contribute significantly to the overall amount of waste produced in Ireland. As waste producers these sectors must take responsibility for the segregation, handling and ultimate treatment of waste produced on their premises and, in accordance with particular producer responsibility regulations, for waste generated as a result of certain products and materials placed on the market. The role and responsibilities of business and industry includes:

- Implementing best waste management practices in the workplace with the emphasis on waste prevention and resource efficiency;
- Segregation of waste produced into appropriate waste streams;
- Adhere to and comply with all Producer Responsibility Initiatives and associated compliance schemes;
- Promote waste awareness and resource efficiency best practices among employees;
- Implement green procurement policies;
- Implement where appropriate Environmental Management Systems; and
- Ensure that all waste collectors have valid Waste Collection Permits.

Policy

The local authorities in the region recognise the important contribution stakeholders in the waste and resource sector have to make towards the successful implementation of the waste plan. The local authorities aim to establish a mutually co-operative approach with all relevant parties to deliver the policies and actions in the Plan.

Policy:

- D3. Foster links and activities with relevant stakeholders including businesses and Industry Groups, NGO's and other relevant networks (including cross-bordering networks) to extend the reach of the plan.

18 FINANCES AND INVESTMENT

This chapter describes the current projected finances of the local authorities in the region relating to waste management activities.

18.1 APPROACH AND METHODOLOGY

The approach adopted in carrying out this financial analysis is similar to that defined for Cost Benefit Appraisals by the Departments of Finance (DoF) and Public Expenditure and Reform (DPER). In summary, this requires the setting out of the incomes, expenditures and investments required under the Plan; the derivation of the costs and benefits thereof; and comparison with at least one counterfactual to determine if the plan is more beneficial than alternative approaches. The counterfactuals may include a “do nothing” option; a “do the minimum” option or an alternative approach to achieving the objectives of the Plan. The preferred option is the one showing the greater amount of net benefits.

In reality, “doing nothing” is rarely a practical option. In the case of waste management activities being carried out by local authorities, it would not be practical to ask the various councils across Ireland to cease all waste management activities immediately. In addition, “no change” is not an option, as existing operations and activities will not remain as they are at present. For example, a landfill site may be filled within a year or two, and then a decision may be made as to whether a new cell will be developed or the site closed. Closure normally requires capping to be carried out and this is followed by a period of aftercare that can extend to as much as 50 years.

For this financial appraisal, it was decided that the counterfactual would be defined as “what the current plans and likely future activities of the relevant councils are; assuming that no new plan is put in place.” This approach should allow interested parties to see the full extent of the changes required by the Plan; to assess the incremental expenditures and/or incomes resulting from the plan and evaluate these in the light of the additional benefits and costs, if any, that will be generated.

The first stage in the analysis was to develop the counterfactual scenario while the key elements of the new plans were being drawn up. To do this, and to use the most up-to-date information, we used the Adopted Budget 2014 as published by the various councils as the basis for the counterfactual. The budget documents published by local authorities give both an estimated outturn for 2013 and the budget for 2014. As the budgets are reported in a standard format, it would be expected that there would be a consistency across the councils. However, this is not entirely the case as will be discussed later in this section.

To determine income, we relied on the material provided for the Environmental Services Division in table B of the Statutory Tables included in the local authorities’ annual budgets. For expenditure, we relied on Table F of the Statutory Tables. While Table F does show income, it shows the source of the income and not the activity from which the income is generated; hence our preference for the data as presented in Table B, which shows income by activity.

Combining the expenditures and incomes of all the relevant councils; and making the appropriate adjustments for inter-authority transfers, allowed us to generate a Regional estimate of net expenditure and income. The focus of the analysis is on the “current” budget; not the “capital” budget. This is because it is widespread practice that capital expenditure is ultimately provided for

in the current budget. In general, loans are drawn down by councils to fund substantial capital expenditure, such as on a new landfill cell. In subsequent years, the current account will include an expenditure item that represents the repayments of that loan in any particular year. Thus, capital expenditure is effectively shown in the current account. Other items that could be described as capital expenditure, though they are generally relatively small amounts, such as Provision of Litter Bins, are also shown in the current account.

While budgets are prepared to a statutory format; councils still have some discretion as to where they account for certain forms of transactions. It was decided therefore that certain transactions would be identified and reported separately. These transactions are:

- Finance charges, loans repayments, bad debt write-offs, etc. This aimed to separate financial expenditures from operational ones;
- Regulatory Offices, such as the Trans Frontier Shipment (TFS) Office and the National Waste Collection Permit Office (NWCPO), which have a national remit; which are provided by one council and which are funded by user charges; and
- Private sector landfill levy receipts and expenditures. Where a private sector landfill is in operation, the relevant local authority collects the landfill levy due from the operator and passes it on the Department of the Environment, Community and Local Government (DECLG). This is a “contra” item (though the councils receive a small fee for processing the payments). In practice, some councils show this expenditure and income under Landfill Operations while others account for it under Monitoring of Waste Regulations.

There is however, one aspect of local authority accounting that cannot be accommodated in this approach and that is that many councils categorise activities that could be defined as “waste management” under alternative headings. For example, some councils budget for certain street cleaning expenditure as Roads Upkeep expenditure under the Roads Division budgets; while some include Street Cleaning in local authority housing estates under Estate Management activities, which are under the Housing Division. It is not possible to identify all such categorisations without a detailed review of all potentially relevant transactions. However, our enquiries suggest that any understatement of waste management expenditure that might occur is limited.

In any event, the purpose of the counterfactual is to provide a basis for evaluating the incremental costs and benefits of the proposed plan and as long as the common underlying assumptions in both the plan and the counterfactual are the same, then the comparison between the plan and the counterfactual will remain valid.

18.2 COUNTERFACTUAL SCENARIO

Total expenditure on waste related activities by the twelve councils in the Eastern-Midlands Region is budgeted to be €160.68 million in 2014, a reduction of the order of €10 million on the expected 2013 outturn. In the event of no new activities being implemented, expenditure is expected to remain broadly at this level annually in real terms (i.e. not allowing for inflation) as shown in Table 18.1. There are however, some changes to the profile of the expenditure.

18.2.1 Landfill Operation and Aftercare

A key trend in the Eastern-Midlands Region since 2000 has been the closure of much of the local authority landfill capacity in the region. These included but are not limited to Sillioth Hill, Kildare (2001); Dunsink,

Table 18.1 - Counterfactual Scenario Financial Projections

	2013 Outturn	2014 Budget	2015 Proj.	2016 Proj.	2017 Proj.	2018 Proj.	2019 Proj.	2020 Proj.	2021 Proj.
Landfill Operation and Aftercare	30.97	26.78	22.99	23.03	23.06	23.11	23.15	23.20	23.26
Recovery and Recycling	14.07	13.54	13.54	13.54	13.54	13.54	13.54	13.54	13.54
Waste to Energy	3.36	1.80	1.40	1.40	1.40	1.40	1.40	3.30	3.30
Waste Collection	8.29	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.45
Litter Management	11.59	11.69	11.71	11.74	11.77	11.82	11.86	11.91	11.97
Street Cleaning	61.97	60.71	60.91	61.12	61.37	61.64	61.93	62.27	62.64
Waste Regulation	13.78	12.49	13.37	13.27	13.18	13.12	13.06	13.02	12.98
Waste Management Plan	4.25	4.20	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Financial Costs	8.65	7.89	7.84	7.34	7.33	7.31	4.50	4.48	4.46
Central National Offices	2.06	2.13	2.13	2.13	2.13	2.13	2.13	2.13	2.13
Landfill Levy	11.08	14.00	15.80	15.80	15.80	15.80	15.80	15.80	15.80
Total Expenditure	170.78	160.68	156.60	156.27	156.49	156.76	154.28	153.25	153.68
Direct Income	45.44	41.82	42.38	42.38	42.38	42.38	40.28	40.28	40.28
Funding from other sources	125.33	118.86	114.22	113.89	114.11	114.38	114.00	112.97	113.40

Note: The headings used in table 18.1 are those of the Statutory Tables with three additional headings for Finance Costs; Central National Offices and Collection of the Landfill Levy from private sector operators.

Fingal (2003); Arthurstown, South Dublin (2010); Rampere, Wicklow (2012) and Whiteriver, Louth (2013).

Landfill sites in Offaly and Laois (e.g. Kyletalesha) receive waste at present, but are acting as transfer stations with the waste collected transported elsewhere for disposal. The current active landfill facilities in the region include two private facilities for non-hazardous waste. These are located in Wicklow (Ballynagran), and Kildare (Drehid). There are also 3 facilities open for the acceptance of inert wastes in Dublin (Naul), Meath (Gormanstown) and Offaly (Clonbullogue).

The financial profile of a landfill closure is typically as follows:

- When a landfill is closed, there is an immediate loss of the revenue generated from the gate fees;
- Operations associated with the deposit of waste cease. However, certain activities continue such as gas monitoring; pipe work; leachate collection, transport and treatment; security; insurance; EPA licencing; testing and sampling work;
- Expenditure is incurred for capping and closure of the landfill. The scale of this expenditure can vary, depending on a range of factors unique to individual landfill sites. Capping and closure may take more than a year to complete and there is often further work of this nature as subsidence occurs;
- Operations expenditure should reduce in time as, for example, leachate and gas emissions reduce;
- There will be some revenue generation if the emitted gases are used to power an electrical generator. However, as gas emissions reduce this revenue stream will also reduce;
- On-going monitoring and aftercare will continue for many years, potentially as many as 50.

In the counterfactual for the Eastern-Midlands Region, the reduction in landfill operations and aftercare expenditure from €30.97 million in 2013 to €22.99 million in 2015 shown in table 1 is largely due to the completion of capping and closure works in Arthurstown. The balance is due to capping and closure works completion at other sites that have closed in recent years. From 2015 onwards, it is anticipated that ongoing operations and aftercare costs will remain at the order of €23 million per annum for the region.

Central overhead costs account for about 12% of landfill operations and aftercare expenditure. As most landfill sites have now closed, the level of income is much lower than was earned in past years. Income from electricity generation in the region is less than €0.25 million per annum. This will fall off in future years as gas output diminishes.

Other than these revenue sources, the budgets for landfill income in 2014 include items such as inter-authority transfers and pension deductions from staff working on the landfill sites and in direct administration functions.

18.2.2 Recovery and Recycling

In the absence of a new regional waste plan, expenditure in this area of activity is expected to remain at current levels in future years. There are no plans in mid-2014 to augment the existing infrastructure of civic amenity centres; bring sites or bottle banks.

Occasional and seasonal expenditures, such as Christmas tree recycling, collection of waste tyres/pallets during Halloween and various promotional events are generally included under this expenditure heading. Many of these activities are not revenue generating; but form part of awareness and promotional expenditure. Overhead cost allocations, which include some educational and awareness expenditure, account for some 16% of the expenditure under this heading.

The apparent reduction in expenditure on recovery and recycling from 2013 to 2014 is not due to any diminution in the scale of activities, but reflects some property transactions and finance costs. Most of the reduction is due to one council, which purchased a site on which a centre was located. The site had previously been leased and the reduction in expenditure reflects the elimination of the leasing costs. The balanced of the reduction is due to lower loan charges.

In respect of income generation, gate fees and DECLG (Department of the Environment, Community and Local Government) grants provide some 52% of the operating costs of the recycling infrastructure. There is some income from pension deductions; but in the main, direct income in recovery and recycling operations do not cover all the related costs.

18.2.3 Thermal Recovery (Waste-to-Energy)

Expenditure under thermal recovery treatment is primarily expenditure on the proposed Dublin Waste-to-Energy facility and reflects mainly financial costs associated with the project.

For the purpose of the counterfactual scenario, it has been assumed that expenditure in respect of this project will fall from €1.80 million in 2014 to €1.40 million during the construction and early operations phase and will then cease. The financial outcomes during the initial periods are not possible to predict, either in terms of amounts or timing. The projected receipts from facility are therefore included under the "Funding from Other Sources" heading shown in Table 18-1. However, as with "other sources" such as Commercial Rates and Local Property Tax; it is not possible to predict what the level of income will be from each of these sources on an individual basis.

18.2.4 Waste Collection

None of the councils in the Eastern-Midlands Region provide any significant waste collection services at this time. Of the €5.45 million expenditure budgeted in 2014; some €3.58 million, or 66%, is central management and other overhead costs that have not been redistributed across the other activities.

Costs accounted for include Dublin MRF costs; brown bin (organic) collection awareness programmes; participation in pilot projects and, in particular, bad debt provisions associated with former waste collection operations. Some waste collection infrastructure debt payments are also included here.

In effect, much of these costs are overhead and legacy costs associated with household and, to some extent, commercial waste collection operations that have now ceased.

For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will remain at current levels in future years. It may be anticipated that expenditure will

reduce if debt recovery improves, but at present, the assumption of no change in expenditure is considered the more conservative.

Income of under €1.0 million is attributed to waste collection and is derived mainly from leasing of waste collection facilities; collection of debt and End-of-Life Vehicle and packaging registration charges.

18.2.5 Litter Management

Litter management comprises the Litter Warden Service; litter initiatives; awareness programmes and central overhead cost attribution.

The Litter Warden Service accounts for €4.24 million of the total expenditure on litter management of €11.69 million; litter initiatives and awareness programmes expenditure is €2.81 million; while service support costs are €4.64 million. Of the total expenditure of €11.69 million, 65% is accounted for by the four Dublin councils. Litter Management activities include:

- Enforcement of Litter Pollution Acts & Bye-Laws by the Litter Warden Service.
- Litter Pollution and Litter Quantification Surveys carried out as part of National Litter Pollution Monitoring System.
- Litter awareness campaigns, including dog litter and graffiti, sometimes carried out in partnership with DECLG and/or Bord Fáilte.
- Competitions such as City Neighbourhoods and Pride of Place.
- Graffiti and chewing gum removed from public areas as well as paper and packaging waste.
- Preparation of new Bye-laws, such as for the storage, presentation and collection of waste.

For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will increase marginally. Income under this heading is, in the main, confined to litter fines and pension deductions.

18.2.6 Street Cleaning

Street cleaning is the largest single budgetary heading in the Eastern-Midlands Region, accounting for expenditure of €60.71 million; or 38% of the entire Eastern-Midlands Region 2014 budget. Of this amount, €56.15 million, or 92%, is accounted for by the four Dublin councils. Street cleaning activities include:

- Street and road sweeping; both by specialist vehicles and in some cases by street cleaning personnel;
- Cleaning of illegal dumping;
- Maintenance of urban centres, villages and housing estates;
- Clean ups, on a repayable basis, after sporting and other events;
- Emptying of litter bins and disposal of waste;
- Repair/replacement of damaged litter bins;
- Monitoring and recording effectiveness of the street cleaning activities; and
- Overhead costs such as depots, machinery yards, etc.

- Street washing

Street cleaning services are provided on a 24-hour basis in Dublin City centre and in many areas, the service is provided on a 15 hour per day basis.

For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will increase marginally. Budgeted street cleaning income in the region is €0.86 million for 2014. This comprises pension deductions and some contributions from clean ups that are carried out on a repayable basis.

18.2.7 Waste Regulation, Monitoring and Enforcement

Waste regulation and monitoring activities cover the permitting of waste operators, waste recovery facilities and other waste facilities such as transfer stations; the monitoring and control of waste movements and producer responsibility obligations, such as Packaging, WEEE, Batteries and Accumulators and End of Life Vehicles; together with the operation of the National TFS (Trans Frontier Shipment) and Waste Collection Permit Offices. However, the operation of these national offices has been categorised separately in this analysis.

The Waste Enforcement Units within the councils seek to ensure compliance with Waste Management Regulations. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will remain broadly at current levels. Income is generated by waste facility permit application and review fees and enforcement visits.

18.2.8 Waste Management Plan

This covers the preparation and subsequent implementation of the regional waste management plan. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will fall in 2015 as the current plan is completed, and will then remain at the same level in future years. Income is generally from inter-authority contributions.

18.2.9 Financial Costs

Identified financial expenditures, being primarily loan repayments, are budgeted at €7.89 million for 2014. These financial expenditures do not, for example, include bad debt write-offs associated with waste collection services; expenditure on the waste-to-energy facility and other finance costs cited in the previous descriptions.

The financial costs here are primarily loan repayments related to investment in landfill infrastructure, including capping and closing costs and purchase of land. These expenditures are expected to fall marginally in future years.

18.2.10 Central National Offices

There are two central national offices in the Eastern-Midlands Region; the TFS (Trans Frontier Shipment) and the National Waste Collection Permit Office (NWCPO). These are normally accounted

for under the Waste Regulation and Monitoring activities, but are separated in this analysis as they are in effect contra items - i.e. they are expected to recover their full costs through user charges.

18.2.11 Landfill Levy

Where a private operator carries out the business of receiving waste in a licensed landfill; the relevant local authority is responsible for monitoring waste volumes received at the site and for collecting the national landfill levy (€75 per tonne in November 2014). The moneys collected are forwarded to the DECLG as part of the Environment Fund and the local authority retains a small amount to recover administration costs.

18.2.12 Counterfactual Scenario - Summary

In summary, it is not envisaged that there will be any substantive change in local authority waste management activities in the foreseeable future, with one exception. It is expected that expenditure on landfill operations and aftercare will fall progressively as closure and capping activities cease and as some operations - such as leachate generation - will decrease over time. Consequently, expenditure on landfill operations and aftercare should fall in the near term. Elsewhere, expenditure is projected to remain at current levels. Given the relative stability of income generating sources, no change in income is projected.

The regional funding requirement is shown in **Table 18.2**. In the counterfactual scenario, it is envisaged that expenditure will fall to the order of €153 million per annum. Income from user charges, specific grants⁸², pension deductions etc., will increase marginally to just over €40 million.

The funding requirement over the counterfactual period is projected to be under current levels, i.e. in the order of €114 million. This funding is provided from each council's general income, such as commercial rates and the Local Property Tax.

Table 18.2 - Funding Requirement Summary

	2014	2020	2021
	Budget €million	Projected €million	Projected €million
Total Expenditure	160.68	153.25	153.68
Income from User Charges, Specific Grants, etc.	41.82	40.28	40.28
Funding required from other sources	118.86	112.97	113.40

18.3 COUNTERFACTUAL ANALYSIS

The counterfactual scenario shows the expenditure profile of the local authorities in the Eastern-Midlands Region to be as in Table 18-3. As noted previously, the largest single item of expenditure is Street Cleaning, which accounts for €60.71 million in 2014. This is 38% of the total expenditure for

⁸² Note: In this discussion, "specific grants" refer to grants that are provided for, and must be used for, specific purposes. Other Government grants are general purposes grants.

the region. If combined with Litter Management, the combined expenditure comes to €72.4 million or 45% of the region's expenditure. This is a substantial commitment, to which there is no potential for cost recovery through user charges. Essentially, street cleaning is an activity that must be funded by general income such as commercial rates or the Local Property Tax (previously general income came from the Local Government fund). Income generation from litter fines is negligible.

Table 18.3 - Expenditure Profile by Activity - Current and Projected

	2014 Budget € mn		2020 Proj. € mn	
Landfill Operation and Aftercare	26.78	17%	23.20	15%
Recovery and Recycling	13.54	8%	13.54	9%
Waste to Energy	1.80	1%	0.00	0%
Waste Collection	5.45	3%	5.45	4%
Litter Management	11.69	7%	11.91	8%
Street Cleaning	60.71	38%	62.27	41%
Waste Regulation	12.49	8%	13.02	8%
Waste Management Plan	4.20	3%	1.45	1%
Financial Costs	7.89	5%	4.48	3%
Central National Offices	2.13	1%	2.13	1%
Landfill Levy	14.00	9%	15.80	10%
Total	160.68	100%	153.25	100%

After street cleaning, the next highest activity in terms of expenditure is landfill operations and aftercare, which account for some €26.8 million in 2014, or 17% of total expenditure. This activity is very much a legacy of local authority involvement in waste collection and disposal. As there are limited gate fees in the region, and as other income such as electricity generation is quite modest, councils are dependent on retained reserves or charges on general income to fund current operations and aftercare activities.

In the counterfactual scenario, it is not envisaged that the proportion of expenditure accounted for by these three activities (street cleaning, litter management and landfill and aftercare) will diminish to any significant extent. In November 2014, they account for 61.7% of expenditure. It is projected that by 2021, they will account for 63.5%; which is modest increase.

In Figure 18-1 the expenditure items as shown in the statutory tables have been grouped into categories so as to seek to determine the underlying nature of the expenditure more accurately. These groupings are as follows:

- Landfill, waste collection and finance charges. This is in effect the former waste collection and disposal activities. Finance is included in this group as the major portion of the finance costs being borne by the local authorities in the Eastern-Midlands Region relates to waste disposal infrastructure. As there is very limited revenue generating activity in this group, this can be described as the legacy costs of local authority withdrawal from these services.
- Recovery, recycling and waste-to-energy. The proposed waste-to-energy plant sits on the other recovery tier of the waste hierarchy, hence its inclusion in this group;
- Litter and Street Cleaning, given the close relationship between these two activities;

- Regulation and Monitoring, together with the Contra items. Contra items include the national centralised offices such as the TFS Office as well as the collection of the landfill levy from private sector operators.

The allocation of expenditure across these activities is shown in Figure 18-1. It can be seen that street cleaning, litter, waste collection and landfill activities account for 70% of total expenditure in 2014. This proportion is expected to remain at this level over the duration of this plan. Activities that are at a higher level in the waste hierarchy, such as recovery, recycling and regulation, account for 30% of local authority expenditure.



Figure 18-1 - Expenditure, Income and Funding Requirement by Group Activity (2014)

The key finding from this analysis of current expenditure in the Eastern-Midlands Region is that 70% of the expenditure is on “lower order” waste management activities such as landfill aftercare; street cleaning and litter management. Expenditure on “higher order” activities in the waste hierarchy, such as waste prevention; recovery and recycling is much lower. While local authorities were key players in the early stages of the development of the existing waste management infrastructure in Ireland, the current expenditure profile in effect reflects the legacy of past local authority activities and given the length of time required for landfill aftercare; it is likely to remain like this.

18.4 COUNTERFACTUAL FUNDING REQUIREMENT

It was noted previously that the requirement for funding from general sources, such as commercial rates and the Local Property Tax, for 2014 in the Eastern-Midlands Region is €118.86 million. It was also noted that this is the funding that has to be provided after certain income, such as user charges; pension deductions and specific grants have been included.

From Figure 18-1, it is clearly evident that no group is financed fully from “principal” sources, i.e. user charges and/or specific grants. The smallest gap in money terms is in recovery, recycling and

WTE, where the funding gap is just over €8 million. Closing this gap may be problematic, as increasing user charges (for example at CAS) may deter consumers from following good environmental practice. Furthermore, as landfill volumes have been falling, and plastic bag usage decreasing, income to the Environment Fund has been falling and hence grants have been pared back. It is difficult to see how this gap can be closed other than by some form of levy or charges that can be put in place in such a manner as not to change good consumer practice.

In money terms also, the funding requirement for Waste Regulation and Monitoring Regulation appears small relative to other gaps. However, given that this group includes the Contra items, the shortfall of just over €10 million is due to the regulatory and monitoring activities. The potential to raise additional revenues should be reviewed as part of the plan.

The funding required for landfill; waste collection; street cleaning and litter activities is just in excess of €100 million at present. Two main options should be reviewed here; these are the scope to reduce costs through operational efficiencies and the potential to reduce the services provided through awareness programmes and improved citizen behaviour. Although these measures take time to be effective.

18.5 PLAN SCENARIO

The counterfactual scenario - i.e. assuming that there is no new regional waste plan - does not envisage any substantive change in local authority waste management activities, though it is expected that expenditure on landfill operations and aftercare will fall over time, because certain factors driving expenditure - such as leachate generation - tend to reduce over time.

18.5.1 Potential Cessation of Existing Activities

While developing the plan as presented in this document, consideration was given to what potential exists to curtail or cease some current activities in the interests of operating and cost efficiency. In other words, the range of existing activities was considered to see if any opportunities for savings from these activities could be identified. These discussions are summarised as follows:

- **Landfill operation and aftercare:** Expenditure under this activity heading is not discretionary. There is a range of statutory obligations under which aftercare is required, as well as environmental, social and other considerations;
- **Recovery and Recycling activities** are in the first instance “higher order” waste management activities (and include prevention activities), and as such any curtailment or reduction in these activities would require strong justification. The existence of bring banks; bring centres and civic amenity centres in convenient locations are important pieces of waste infrastructure which facilitate the collection of a broad range of materials. These collection systems contribute towards the management of waste streams and Ireland achieving its EU mandated recovery and recycling targets; particularly in those waste streams such as WEEE, where household or business collections are not feasible. Similarly, education in recycling and recovery is a substantial factor in promoting good environmental practice and hence any reduction in these activities would be likely to have negative environmental impacts.
- **Street cleaning and litter management** are key activities of all local authorities, especially urban authorities. Essentially, this is not an activity that can be reduced or eliminated. The effects on business, tourism and industrial development would be significant and would

have a far greater economic cost than the financial savings from a cessation of these activities. There may be some opportunities for operational cost savings in particular instances, but no provision is made as these would have to be reviewed and the practical aspects of their implementation would need to be considered. Were change to be sought, it is essential that the effectiveness of current operations is not reduced, and if possible, it should be enhanced.

- **Waste Regulation and Enforcement** is a necessary function of local authorities. The costs of non-compliance with waste legislation can be substantial from a social, environmental, economic and financial perspective. These costs can range from the work needed to remedy pollution and other consequences up to substantial fines being levied by the European court of Justice for non-compliance with EU legislation. There is no identifiable potential to reduce activity in this area.
- **Other areas of expenditure** are relatively small and while it is possible to consider reductions in some cases; such as for example, the assistance paid to low income households in respect of household waste collection services, the savings would be modest in the context of overall local authority expenditure in the region. Decisions such as that illustrated are policy decisions for the relevant local authorities.

In summary, there is no identifiable substantive opportunity to reduce current local authority expenditure in the region without creating potentially serious economic, social, environmental and financial risk.

18.6 FINANCIAL IMPLICATIONS FOR LOCAL AUTHORITIES

In developing the plan detailed in this document, the region has prepared a range of policies and actions that should be implemented. These are detailed in chapter 19. For the purpose of this financial appraisal, the relevant actions are shown in **Table 18.4**.

For the local authorities in the Eastern-Midlands Region, the financial implications of the suite of proposed actions can be classified as being of two types; namely staff/resources and non-staff resources.

- **Staff** - A key factor is that the staff implications of the proposed actions are limited in the case of the Eastern-Midlands Region to the establishment of a Regional Waste Management Office. For the Eastern-Midlands Region, an office comprising a Regional Co-Ordinator, a Regional Resource Efficiency Officer, a Regional Prevention Officer, a Technical Officer and administrative support, we suggest that the additional funding required, including administrative and facility overhead costs will be of the scale of €490,000 per annum. This will be an additional cost to the region, assuming that staff resources are not transferred or re-deployed from existing activities.
- **Environmental Awareness Services** - As outlined in the actions, these activities will focus on specific areas and aspects of waste management such as targeting areas where collection rates are low and targeting specific sources of waste, such as hazardous waste from marts. No additional staff resources are required here and additional expenditure of €750,000 in the Eastern-Midlands Region is provided.

Table 18.4 - Policy Actions with Financial Implications

Action	Summary Description	Activity Heading	Potential Funding Source(s)	Main Responsibility	Staffing Required (Over & above existing staff)	Additional Finances
C 1.2	Review the operation of the CA Sites to facilitate the segregation of materials for reuse.	Recycling Activities	Permit Fees; Facility Fees; PRI Schemes	Lead Authority - Regional Office	None	Funding required to re-arrange sites
D 2.1	Establish Regional Waste Management Office (RWMO) and the requisite structures	Waste Management Plan	Environmental Fund	Lead Authority - Regional Office	Can be partially fulfilled by re-deployment	Funding required
D 2.2	Establish Regional Co-Ordinator, Resource Efficiency Officer, Prevention Officer, Technical Officer and Administrative support	Waste Management Plan	Environmental Fund	Lead Authority - Regional Office	Can be partially fulfilled by re-deployment	Funding required
F 1.1	Monitor Household compliance with segregation of waste	Waste Regulation Monitoring	Permit Fees	Local Authorities	None	Funding required
F 1.2	Monitoring apartment complexes to improve compliance with the segregation of waste	Waste Regulation Monitoring	Permit Fees	Local Authorities	None	Funding required
G 2.3	Prepare applications high risk landfill sites	Landfill Aftercare Costs	DECLG	Local Authorities	None	Funding required
G 2.4	Remediate high risk sites (subject to funding being available)	Landfill Aftercare Costs	DECLG	Local Authorities	None	Funding required
G 4.1	Identify areas of low household waste collection coverage and determine the cause	Environmental Awareness Services	Environmental Fund	Lead Authority - Regional Office	None	Funding required to cover the survey
G 4.2	Design and implement a programme to regulate areas of low household waste collection coverage	Environmental Awareness Services	Environmental Fund	Local Authorities	None	Funding required for implementation
G 4.3	Engage with waste collectors to serve areas of low collection coverage	Environmental Awareness Services	Environmental Fund	Lead Authority - Regional Office	None	Some funding implications for LAs
H 2.1	Investigate viability of pilot scheme for farm chemicals reuse	Recycling Activities	Range of Fees; LEOs; PRI Schemes	Lead Authority - Regional Office	None	Yes
H 2.2	Examine the expanding of reuse schemes for bulky or hazardous waste	Recycling Activities	Range of Fees; LEOs; PRI Schemes	Lead Authority - Regional Office	None	Yes
E3	Develop the existing networks for bringing infrastructure to facilitate Hazardous and Non-Hazardous wastes			Local Authorities	None	Yes
E5	Explore the possibility of accepting hazardous waste at existing CA facilities			Local Authorities	None	Yes
E7	Work with the EPA and others to support collection of hazardous farm waste			Local Authorities	None	Yes
E11	Consider the potential to develop activities at closed landfill sites			Local Authorities	None	Yes

- **Recycling Activities** - The actions in respect of recycling are focused on improving recovery of waste for potential re-use; as well as collection of hazardous waste and the establishment of pilot schemes aimed at areas such as farm chemical re-use. We provide an expenditure of €1.0 million per annum for future years and propose that these activities be funded by a range of income sources, including assistance from PRO Compliance Schemes; user charges for collection at the recycling centres and revenues from sales of recyclable materials. The detailed breakdown of these revenue opportunities cannot be determined until the relevant pilot schemes have been carried out. Should the schemes demonstrate that the environmental and financial objectives are not achievable, then the cost and income projections may need revision.
- **Waste Regulation Monitoring** - The action plans in respect of waste regulation are focused on the compliance of households (houses and multi-story dwellings) with regulatory requirements. Resource needs will be modest; additional staff are not required, hence we provide €200,000 per annum and propose that these costs be funded by increased permit fees. Improved source segregation should provide improved quality and quantity of recyclable wastes, which will in turn improve the revenues earned by waste collectors from the sale of recyclables to processors. This measure should enhance our overall recycling performance as well as improving financial returns.
- **Remediation of High Risk Landfill Sites** - This is an activity that has a high priority; though at this stage the annual level of expenditure cannot be predicted or provided for with any degree of certainty. Landfill expenditure in the Eastern-Midlands Region is currently of the order of €27 million per annum and is projected in the counterfactual case to fall to circa €23 million by 2021. The ultimate level of additional expenditure in respect of remediation of closed high risk sites will depend on the findings of the initial site surveys and the scale to which revenue raising activities such as resource mining can be carried out. There are 11 sites of this nature in the Eastern-Midlands Region and the potential cost is between €23.52 million and €41.15 million. This is based on experience elsewhere in Ireland. In this waste strategy, we provide for expenditure of €4 million per annum from 2017 to 2021. This expenditure will be met to a substantial extent by DECLG/EPA funding together with any revenues that may be earned from resource mining and suchlike.

A summary of the expenditures and incomes provided for are as shown in **Table 18.5**. The incremental funding needs for local authorities arising from these Action Plans in the Eastern-Midlands Region is estimated at €1.45 million per annum initially, rising to €1.55 million.

Table 18.5 - Summary of Additional Expenditure Needs

	Expenditure per annum €	Income per annum €
Regional WMO	490,000	0
Environmental Awareness Services	750,000	0
Recycling Activities	1,000,000	1,000,000
Waste Regulation Monitoring	200,000	200,000
Remediation of High Risk Landfill Sites from 2017	4,000,000	3,600,000
Total	6,440,000	4,800,000

Policy

The review of local authority finances shows a considerable gap in funding requirement to maintain the current level of expenditure. A significant portion of existing expenditure is on lower tier activities which is reducing the available income for the implementation of higher activities related to prevention, reuse and recycling. The local authorities in the region are committed to reviewing the current level of expenditure across the tiers of the hierarchy to ensure adequate funding is being diverted to activities which deliver the highest environmental outcome.

Policy:

- G1. Ensure the highest environmental and human health benefits are achieved by prioritising the implementation of the upper tiers of the waste hierarchy and ensuring these actions are funded appropriately .

The local authorities in the region recognise the current funding requirement for waste activities in the region and the need to explore other potential funding sources. Over the course of the plan the local authorities will consider applying for funding, from both national and European authorities, for the financing of activities related to the implementation of the waste plans. Projects carried out under such funding will enhance waste resource management on a regional and national level which will bring associated environmental benefits.

Policy:

- D4. Work with key stakeholders, including government and industry operators, on the funding of local authority waste activities in the region and co-ordinate applications for relevant national and European funding.

18.7 INVESTMENT IMPLICATIONS

For the local authorities in the Eastern-Midlands Region, no capital investment⁸³ requirements are foreseen. For the Eastern-Midlands Region specifically, regional investment that is anticipated includes additional biological treatment capacity to cater for municipal biowaste and additional biological treatment capacity to cater for agricultural waste. In addition, private sector investment in additional reprocessing, recycling and re-use infrastructure is anticipated.

Additional private sector investment is anticipated in the development of other recovery facilities to treat residual municipal wastes and residual hazardous wastes. The latter need being identified by the EPA in the National Hazardous Waste Management Plan. The capacity need expressed in the plan for these types of treatment is on a national basis.

⁸³ Landfill capping and closure is shown on the local authority current accounts; and not the capital accounts; so this expected expenditure is taken into account in the counterfactual scenarios

As shown in **Table 18.6** the investment in treatment infrastructure which will operate on a national basis is estimated at €260 million, while the investment for regional facilities is estimated at €62.5 million. These investments are to provide additional waste management capacity - nationally and regionally - and are those specified in this regional waste strategy. It is anticipated that other investment in respect of pre-treatment, preparing for reuse, and reprocessing (of secondary wastes) is very likely to take place over the plan period.

Investment in reuse and preparing for reuse activities will be small by comparison to other waste mechanical and thermal treatment operations. These activities generally can operate out of small commercial spaces and are often quite resource intensive operations relative to the tonnage of material handled. The job creation aspect is a clear benefit of these types of operations as well as the value which is typically added to the materials handled. Many of these activities take materials, which may or may not be waste, and through simple steps generate a material or product which can be recirculated into the economy and given a new life.

Investment in indigenous reprocessing of secondary waste materials is supported by the waste plan but quantifying the scale of investment is not possible. Developing these facilities depends on the availability and quality of the secondary waste material in question. Reprocessors depend on a consistent quality and feedstock of material which along with the availability of a robust technology will be important factors prior to making any investment. The market development programme, RX3, has produced a number of reports⁸⁴ looking at different waste materials (paper, plastics, organics, bulky wastes) and the potential to grow markets in Ireland.

With respect to pre-treatment type operations there will almost certainly be investment on the part of the private operators that is driven by the need to replace obsolete plant or to install new processing lines. It is not possible to quantify the value of these investments in the context of the preparation of this plan. However, the investment being considered is generally of two types; firstly, investment in the replacement of existing infrastructure; and second, investment in new technologies. This private investment is driven primarily by existing treatment capacity, market share and competitive reasons and not add, or at least substantially, to regional capacity.

Table 18.6 - Anticipated Investment - Private Sector

Infrastructure Element	Capacity (Tonnes)	Estimated Cost (€)
National Treatment		
Thermal Recovery	300,000	200 million
Hazardous Waste Thermal Treatment	50,000	60 million
Total Investment		260 million
Regional Treatment		
Biological Treatment - biowaste	75,000	22.5 million
Biological Treatment - agri-waste		40 million
Reuse; Reprocessing; Pre-Treatment	-	Not Quantified
Total Investment		55 million

⁸⁴ Refer to www.rx3.ie to access the various reports

18.8 SUMMARY OF FINANCIAL IMPLICATIONS

The counterfactual scenario; i.e. assuming no changes in current activities or plans; showed the following projected financial scenario for the Eastern-Midlands Region:

Table 18.7 - Counterfactual Scenario - Funding Requirement

	2014	2015	2016	2017	2018	2019	2020	2021
	Budget € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn
Total Expenditure	160.68	156.60	156.27	156.49	156.76	154.28	153.25	153.68
Income from User Charges, Specific Grants etc.	41.82	42.38	42.38	42.38	42.38	40.28	40.28	40.28
Funding required from other sources	118.86	114.22	113.89	114.11	114.38	114.00	112.97	113.40

It can be seen that the funding required from sources other than user charges or specific grants over the period of the plan is, in real terms (i.e. no provision for inflation) of the order of €4 million to €6 million than the funding requirement shown in the 2014 budgets.

In summary, it is envisaged that the financial implications of the draft regional plan for the Eastern-Midlands Region are that:

- Local authorities in the region will incur additional current expenditure of the order of €2.44 million in 2015 and 2016, rising to €6.44 in 2017 and remaining at that level thereafter. However, this estimate is dependent to a very substantial extent on the extent to which additional works on high risk landfill site investigations and remedial works take place. This activity is funded to a significant extent by the DECLG and any variation will not have a significant impact on overall funding needs;
- The local authorities will generate additional income of €1.2 million in 2015 and 2016, rising to €4.8 million in 2017 onwards;
- The additional funding required to be provided by local authorities from their own resources are estimated at €1.24 million for 2015 and 2016, rising to €1.64 million from 2017 onwards;
- No additional local authority investment in the Eastern-Midlands Region is anticipated as a consequence of this draft plan;
- Expected private sector investment over the plan period is estimated at €260 million on national facilities and €55 million on regional facilities; with an unknown amount to be spent on replacement plant and new technology.

Table 18.8 shows the funding requirement for the Eastern-Midlands Region as under the proposed draft regional waste plan.

Table 18.8 - Funding Requirement - Regional Waste Plan Scenario

	2014	2015	2016	2017	2018	2019	2020	2021
	Budget € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn
Total Expenditure	160.68	159.04	158.71	162.93	163.20	160.72	159.69	160.12

	2014	2015	2016	2017	2018	2019	2020	2021
	Budget € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn	Proj. € mn
Income from User Charges, Specific Grants etc.	41.82	43.58	43.58	47.18	47.18	45.08	45.08	45.08
Funding required from other sources	118.86	115.46	115.13	115.75	116.02	115.64	114.61	115.04

While the funding required over the period of this plan is higher than that shown in the counterfactual scenario it is lower than the funding requirement shown in the 2014 budgets. In effect, the draft regional waste plan proposes that the expected savings derived from shifts in future activities should be retained for environmental activities and be re-allocated to the actions and policies proposed in the Action Plans. The adoption of this plan should have no additional funding requirements over the current (i.e. 2014) budget position and should provide additional environmental, economic and social benefits.

18.9 BENEFITS

It is difficult to estimate the range of social, economic and environmental benefits arising from the proposed regional waste plan. In the first instance, while the net costs to the local authorities in the Eastern-Midlands Region may be small - and in effect mean the foregoing in the short term of potential future savings in activities such as landfill aftercare - there are costs to the State as a whole; particularly the remediation of high risk landfill sites, for which we can make just a provision at present. The total cost to the State over the period 2015 to 2021 is €30.64 million of which €20 million, or 64% is accounted for by the remediation of high risk landfill sites. Below is a summary of the benefits resulting from the implementation of the waste plan:

- Job Creation** - No new direct job creation is expected on the part of the local authorities in the Eastern-Midlands Region, except for the staffing of the regional Waste Office. Incremental expenditure over the counterfactual scenario during the period of the plan on the part of State organisations (incl. DECLG; EPA) is estimated at €30.64 million. The job creation potential of landfill remediation is unknown, but if it was at the same rate as, say, construction, then it would create some 40 new jobs each year. If the job creation of the balance of the expenditure is considered, the plan may create of the order of close to 50 jobs per annum. This waste plan does not make any claim on the job creation potential of the private sector investment cited previously; though it should be noted much of the proposed actions will be carried out by existing staff. Many activities will be staffed through the re-deployment of staff and thus there is a strong element of unquantified job maintenance in this waste plan.
- Waste Regulation** - While Ireland has achieved very high levels of waste recovery and recycling; there is scope for further improvement in certain areas. For example, the EPA National Waste Report 2012 shows that while recovery of paper, board and glass are of the order of 90%; the corresponding figures for more valuable materials like plastics and aluminium, more valuable materials are 78% and 55% respectively. If the increased emphasis on improved source segregation were to lead to a 4 percentage point increase in the recovery of these materials; i.e. from 78% to 82% for plastics and from 55% to 59% for aluminium, then the value of the materials recovered would increase by €1.3 million nationally. While these increased revenues would accrue to waste collectors, from the

perspective of the State as a whole, it can be seen that modest improvements in recycling volumes benefits, arising from improved source segregation, would justify the costs of the strategy. Source segregation would be a far more effective means - both in terms of technology and costs - of reducing the quantities of recyclable materials being consigned to landfill.

- **Recycling and Re-use** - It is more difficult to provide a quantitative estimate for the benefits of developing the re-use of particular waste items, such as WEEE. In 2012, 40,818 tonnes of WEEE were collected in Ireland (EPA NWR 2012). In Britain, a survey of WEEE deposited at various collection points by WRAP (Waste resources Action Programme) found that 24% of the material is immediately resalable or resalable after viable repair or refurbishment. Applying this ratio to WEEE collected in Ireland would give a resalable volume of just under 10,000 tonnes. If the value of re-use WEEE were similar to that of the UK, this would have a net value of the order of €15 million per annum nationally - after purchasing and repair costs had been accounted for. There are many variables between the UK and Ireland, but this example shows that the economic benefits of WEEE re-use alone could be substantial, relative to the additional costs involved. There is further confirmation of these benefits in the recent national study on bulky waste which reported that the 30,000 bulky items delivered to CAS have a potential reuse value of €60 million.

Certain activities such as historic landfill remediation are required so that Ireland is in compliance with various EU Directives and legislation, and the economic benefits are the avoidance of financial penalties that could be levied on the State in the event of on-going non-compliance. There are other areas where there is no basis that we are aware of that can be used to even illustrate the economic benefits, such as re-use of farm chemicals. This can only be determined by the pilot projects proposed. However, the examples shown do illustrate in our view, that the potential economic benefits of the actions proposed in this waste plan (as part of the transition to a circular economy) outweigh the costs. In addition, there are unmeasurable environmental and social benefits in terms of quality of life; promotion of Ireland as a tourist and investment destination that are derived from many factors, including leading edge waste management strategies.

18.10 CONCLUSIONS

It is not possible to predict accurately the level of expenditure and income in future years as a major portion of that estimate is dependent on the availability of funding from central government; and the financial capacity of the State - while improving - does not allow funding assumptions to be made with confidence.

The overall thrust of the plan is to redefine waste activities in the context of existing budgetary limitations and staffing. The plan does not require additional funding over the current budget provisions. The impact can be substantial and justifies the fundamental approach. The investment potential in waste management infrastructure is substantial. The proposed strategy has a strong element of improving consumer behaviour; which should provide a stronger market base on which such investment can take place, which will in turn, provide additional economic benefits.

19 POLICY ACTIONS AND TARGETS

The strategic vision for the region to 2021 is captured in section 5.2 which describes the strategic principles of the Plan. The local authorities have set out the strategic objectives of the plan which represent their statement of intent and embody the strategic approach covering eight policy areas (labelled A - H). The strategic objectives have been further expanded into policies which have been included and described at appropriate points throughout the Plan.

The EMR has 3 main overarching performance targets and these are detailed in section 5.4.2 and are summarised as follows:-

- 1% Reduction per annum in the quantity of household waste generated per capita over the period of the plan;
- Preparing for reuse and recycling target of 50% of municipal waste by 2020; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

These performance targets will be measured over the plan period along with the other actions and targets. In this chapter the policies of the plan are further expanded into implementable actions with associated timelines and measures of success. The delivery of these policies and actions will assist in the achievement of the overall performance targets of the Plan.

In the course of the development of the policies and actions the local authorities have considered many factors. The findings of the evaluation reports, which examined the success of implementing previous plan policies, have been analysed and the recommendations made therein assisted the local authorities in the preparation of the policies and actions in this plan.

The formulation of the plan policies and actions has also taken account of European and national waste legislative requirements, targets and policy objectives. Local, regional and national waste issues outside of the legislative framework and the current status of waste management in the EMR have also been addressed in the plan policies and actions assigned where possible.

Finally environmental impacts have been considered throughout the evolution of the plan from the evaluation reports to the preparation of the strategic objectives, policies and actions.

19.1 STRUCTURE OF POLICY ACTIONS

Each of the strategic objectives described in section 5.3 of the plan has been referenced from A to H and each of the linked policies described throughout the plan have also been referenced e.g. A1, A2, B1 etc. In turn the actions developed to implement the plan policies are linked and referenced accordingly e.g. A.1.2, A.1.2, B.2.1, B2.2 etc. The numbering sequence for area A is shown below:-

- A : Strategic Objective
- A.1 to A.4 : Policy
- A.1.1, A.2.1, A.2.2, A.3.1 & A.4.1: Policy Actions.

All strategic policy objectives follow the structure described with the exception of the infrastructure policies i.e. objective E. This policy is recognisably different to the other areas with policies directed primarily towards waste market operators whereas the regional lead authorities and local authorities (with the region) are the primary lead in the other policy areas.

Each policy action has an associated target, an expected timeline, an indicator where relevant and identifies the body/bodies responsible for the implementation of the action. Figure 19.1 describes how the policy actions are set out:-

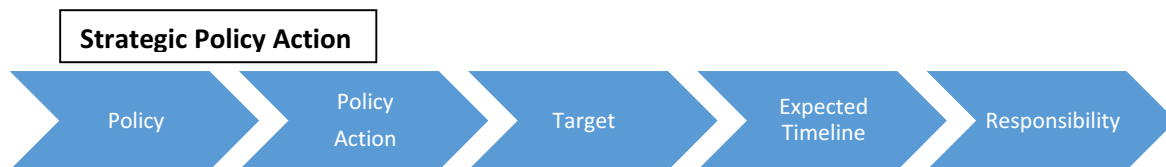


Figure 19-1 Policy Actions & Targets Flow Diagram

In the following sections the strategic objectives, policies and actions to be implemented are set out in full starting with Strategic Objective A and finishing with H and are tabulated in the format described.

19.2 POLICY & LEGISLATION ACTIONS

Strategic Objective

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

A.1 Policy Take measures to ensure the best overall outcome by applying the waste hierarchy to the management of waste streams.

A.1.1 Policy action	Move waste further up the hierarchy by eliminating the direct disposal of unprocessed residual municipal waste to landfill.
Targets	Consult with the EPA & recommend new collection permit conditions for issue to NWCPO
Expected Timeline	July 2016
Indicator	% residual municipal waste (unprocessed) delivered directly to landfill
Responsibility	Lead Authority , EPA & NWCPO
SEA Mitigation Proposed	Negative impacts associated with Policy A.1 and Policy Action A1.1 relate to possible impacts associated with siting of infrastructure. While it is acknowledge that the draft plan includes siting criteria to reduce the negative effects of implementation of the RWMP, it is recommended that consideration be given to developing <i>Siting Guidelines</i> in due course to guide development of infrastructure in a sustainable manner which protects the environment and human health

A.2 Policy 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.

A.2.1 Policy action	Review the application fee structures related to regulatory activities for local authority facility authorisations
Targets	Complete review and issue suggested changes to the DECLG
Expected Timeline	Q4 2016
Indicator	N/A
Responsibility	Lead Authority , DECLG, and Local Authorities
SEA Mitigation Proposed	Any review of fees and charges should take into account how they might indirectly encourage unsustainable waste management activities.
A.2.2 Policy action	Review and implement (if appropriate) charging structures in place for wastes accepted at local authority civic amenity and other local authority waste facilities
Targets	Complete review and implement appropriate charges
Expected Timeline	Q3 Annually
Indicator	N/A
Responsibility	Local Authority , local authorities

A.3 Policy Contribute to the improvement of management performance across all waste streams through the implementation of policy actions and monitor progress towards national targets.

A.3.1 Policy action	Prepare an annual report reporting on the progress of policy actions and the implementation of mandatory and waste plan performance targets (refer to Chapter 5)
Targets	Prepare Annual Report
Expected Timeline	Annually
Indicator	All statistical Indicators & progress on policy actions
Responsibility	Lead Authority , EPA, NWCPO, PROs and Local Authorities
SEA Mitigation Proposed	The use of Key Performance Indicators should be considered in the annual reporting

A.4 Policy 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.

A.4.1 Policy action	Monitor and report on planned, authorised and utilised capacity on a regional and national basis (building on the work done for the waste plan)
Targets	Establish and maintain capacity database
Expected Timeline	Ongoing
Indicator	Not applicable
Responsibility	Lead Authority , local authority, NWCPO ,EPA and DECLG

19.3 PREVENTION ACTIONS

Strategic Objective

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

B.1 Policy Local authorities in the region will ensure the resources required to implement waste prevention activities are available through the lifetime of the plan.

B.1.1 Policy action	Appoint, where the role does not exist, or retain the role of the local authority Environmental Awareness Officers on a whole time equivalent basis to work on activities related to the implementation of the waste plan on a local and regional basis.
Targets	Retain EAO staff and clarify role as needed
Expected Timeline	On-going
Indicator	No of EAO staff
Responsibility	Local Authority , Lead Authority
B.1.2 Policy action	Establish the post of a Regional Prevention Officer as part of the staffing structure of the regional waste office.
Targets	Appoint Regional Prevention Officer
Expected Timeline	Mid 2015
Indicator	n/a
Responsibility	Lead Authority
B.1.3 Policy action	Ensure an on-going financial allocation is made in the local authority annual budgets to cover expenditure on waste prevention related activities over and above staff costs.
Targets	A minimum of €0.15c/inhabitant to be spent on local prevention projects
Expected Timeline	Q1 each year
Indicator	Total prevention/reuse budget per annum
Responsibility	Local Authorities

B.2 Policy Promote behavioural change and extend waste prevention activities through information campaigns, targeted training and local capacity building, working with households, communities, schools, business, and other public institutions.

B.2.1 Policy action	Collaborate regionally on prevention initiatives and programmes targeting priority areas to raise awareness of the benefits of prevention and deliver campaigns with more impact and better value for money.
Targets	Implement at least one regional campaign per annum
Expected Timeline	Q4 each year
Indicator	No of regional campaigns per year
Responsibility	Lead Authority Local Authorities
B.2.2 Policy action	Ensure existing documentation on sectoral waste prevention actions and programmes is catalogued, available and disseminated in region. New material on prevention will be produced to fill any sectoral needs or gaps identified.
Targets	Review library of prevention documentation annually and explore sectoral gaps
Expected Timeline	Q4 each year
Indicator	Number of documents in the library database
Responsibility	Lead Authority
B.2.3 Policy action	Maintain the implementation of effective local prevention, awareness and education campaigns targeting household, communities, schools and businesses (such as green schools, home composting programmes, green business initiatives reuse cafes etc)
Targets	Aim to reduce participants/target audience expenditure on waste by 5%
Expected Timeline	On-going
Indicator	No of local events, workshops and campaigns
Responsibility	Local authorities
B.2.4 Policy action	Maintain, develop and integrate waste prevention measures and systems into all local authority offices and operations to best practise standards.
Targets	Reduce the quantity of waste generated at local authority head office by 10% over the baseline year (2014) during the plan period
Expected Timeline	2020
Indicator	% reduction over baseline year
Responsibility	Lead Authority Local Authorities

B.3 Policy Build and maintain a strong partnership with the National Waste Prevention Programme

B.3.1 Policy action	Establish regional and local structures and networks through the regional office to ensure effective, consistent and practical co-ordination and implementation of NWPP initiatives
Targets	Set up a workable regional framework for implementing NWPP initiatives
Expected Timeline	Q4 2015

Indicator	N/A
Responsibility	Lead Authority
B.3.2 Policy action	Work with the committee and management team of the NWPP to contribute to the development of the programme's initiatives and to report on the effectiveness of implementation and funding at regional and local levels.
Targets	
Expected Timeline	On-going
Indicator	No of meetings attended per annum
Responsibility	Lead Authority EPA

B.4 Policy Harmonise prevention activities in the region to link with the national hazardous management plan, producer responsibility operations and other related programmes (such as litter, sludge, water etc).

B.4.1 Policy action	Promote the prevention of hazardous wastes to households, communities and small businesses building on effective initiatives and disseminating best practise throughout the region
Targets	Implement one campaign per annum on hazardous waste prevention
Expected Timeline	Q4 each year
Indicator	No of campaigns on hazardous waste prevention
Responsibility	Local authorities Lead Authority
B.4.2 Policy action	Work with manufacturers, designers, compliance schemes, and national authorities on the development of waste prevention measures for products and services.
Targets	Meet annually with key stakeholders to discuss solutions to prevent waste
Expected Timeline	Annually
Indicator	n/a
Responsibility	Lead authority EPA, Irish Water, DECLG, Local Authorities
B.4.3 Policy action	Collaborate with other national authorities and agencies delivering communication and information campaigns to include messaging on waste prevention and recycling
Targets	Communicate with relevant authorities annually to discuss upcoming campaigns and potential for collaboration
Expected Timeline	Annually
Indicator	No of householders to receive communication on waste issues
Responsibility	Lead authority Irish Water, SEAI, local authorities, other state agencies and government departments
SEA Mitigation proposed	Policy B.4.3 would benefit from messaging around the impact of waste on society and ecosystem services to raise awareness across the region of why waste prevention and proper management is vital to environment and human health.

19.4 RESOURCE EFFICIENCY AND CIRCULAR ECONOMY

Strategic Objective

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

C.1 Policy Establish reuse, repair, and preparing for reuse activities and networks to recirculate and extend the lifespan of items.

C.1.1 Policy action	Engage with and facilitate enterprises in the development of repair and preparing for reuse activities
Targets	To engage with the sector to explore and develop possibilities
Expected Timeline	On-going
Indicator	Number of reuse activities
Responsibility	Lead Authority Local Authorities
C.1.2 Policy action	Review the operation of CA sites to facilitate the segregation of materials for reuse at local authority controlled civic amenity sites (WEEE will be considered subject to discussion and agreement with the compliance schemes).
Targets	Review completed & implement recommendations
Expected Timeline	Q4 2016
Indicator	No of Reviews
Responsibility	Lead Authority Local Authorities
C.1.3 Policy action	Engage with the Community Reuse Network Ireland (CRNI) and other similar networks to develop a network of reuse / upcycling activities and promotional events.
Targets	To promote reuse and upcycling in communities.
Expected Timeline	Annually
Indicator	Number of activities / events
Responsibility	Lead Authority, Local Authorities

C.2 Policy Optimise the value of recycled and residual waste resources in the system to turn these materials into reliable sources of secondary raw materials for reprocessing and recovery.

C.2.1 Policy action	Introduce bylaws, consistent across the region, to maximise the quantity and quality of recyclable waste collected.
Targets	Prepare byelaws for adoption.
Expected Timeline	Q4 2018
Indicator	No of Waste Presentation and Segregation Bylaws adopted
Responsibility	Lead Authority , Local Authorities, Elected Members
C.2.2 Policy action	Produce a Code of Practice for Local Authority authorised facilities to maximise the quantity and quality of material produced.
Targets	To produce the Code of Practice
Expected Timeline	Q4 2017
Indicator	Code of Practice completed
Responsibility	Lead Authority , Local Authorities, EPA
SEA Mitigation proposed	The Code of Practice referenced in C2.2 should include reference to site management for the protection of human health and the environment with particular focus on pathways to groundwater and surface water from storage of segregated materials

C.3 Policy Identify and promote the growth of secondary material markets and enterprises in the region through regional and local supports.

C.3.1 Policy action	Liaise and support with Economic Development Departments of local authorities in the identification of enterprises and potential clusters of enterprises for the development of secondary material markets
Targets	Meet with Economic Development Departments and promote awareness regarding rethinking raw materials for new and established enterprises
Expected Timeline	On-going
Indicator	To be confirmed following discussion with Economic Development Department
Responsibility	Lead Authority , Local Authority

C.4 Policy 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.

C.4.1 Policy action	Prepare resource efficiency criteria for local authority waste related contracts.
Targets	Review existing contractors & develop new criteria for resource efficiency
Expected Timeline	Q4 2016
Indicator	Number of contracts containing resource efficiency criteria as a % of total contracts issued
Responsibility	Lead Authority , Local Authorities
C.4.2 Policy action	Implement a systematic engagement with local / regional local authority procurement officers to ensure the inclusion of Resource Efficiency Criteria in Contracts.

Targets	To meet with local /regional procurement officers at least every six months.
Expected Timeline	Every six months
Indicator	Number of meetings with procurement officers
Responsibility	Lead Authority , Local Authorities

19.5 COORDINATION ACTIONS

Strategic Objective

Coordinate the activities of the Regions and to work with relevant stakeholder to ensure the effective implementation of objectives

D.1 Policy The Lead Authority on behalf of the region will participate in the national waste co-ordination group and other national groups relevant to the implementation of the waste management plan

D.1.1 Policy action	Participate in relevant national groups to formulate waste policy and practice
Targets	Attend all relevant meetings
Expected Timeline	Annually over duration of the Plan
Indicator	No of Meetings attended
Responsibility	Lead Authority , local authorities

D.2 Policy The Lead authority and local authorities will work together on the structures required to implement the waste plan, capacity building, training and knowledge share on delivering waste management activities.

D.2.1 Policy action	Establish and maintain funded Regional Waste Management Office and the requisite structures(including admin, technical & communication) to implement national and regional policy
Targets	Ensure a funded regional office is maintained over the life of the plan
Expected Timeline	Mid 2015
Indicator	Operational Office in place
Responsibility	Lead Authority , DECLG, Local Authorities
D.2.2 Policy action	Establish or maintain a Regional Co-Ordinator, Regional Resource Efficiency Officer, Regional Prevention Officer, Technical Officer and administrative support.
Targets	Ensure roles are in place
Expected Timeline	Mid 2015
Indicator	Number of staff.

Responsibility	Lead Authority, Local Authorities
D.2.3 Policy action	Identify training needs and coordinate future shared training to develop knowledge and expertise at Regional & Local Level
Targets	Meet the training needs of the Region
Expected Timeline	End 2016
Indicator	Number of training events
Responsibility	Lead Authority, Local Authorities

D.3 Policy Foster links and activities with relevant stakeholders including businesses and Industry Groups, NGO's and other relevant networks (including cross-bordering networks) to extend the reach of the plan.

D.3.1 Policy action	Establish partnerships to build knowledge capacity and to promote higher order waste activities (prevention, reuse, resource efficiency and recycling).
Targets	Ongoing
Expected Timeline	Over lifetime of Plan
Indicator	Number of partnerships and networks established, research projects undertaken
Responsibility	Lead Authority, Local Authorities, EPA, DECLG & all relevant network partners

D.4 Policy Work with key stakeholders, including government and industry operators, on the funding of local authority waste activities in the region and co-ordinate applications for relevant national and European funding.

D.4.1 Policy Action	Review European and National calls for funding in waste, resource and research areas to identify opportunities and partners in the Region and make appropriate applications
Targets	Monitor and apply for funding calls
Expected Timeline	On-going
Indicator	No of funding applications
Responsibility	Lead Authority, local authorities & relevant stakeholders

19.6 ENFORCEMENT AND REGULATION ACTIONS

Strategic Objective

This strategic objective and associated policy actions will be the responsibility of the lead authority for waste enforcement in the region

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

F1 Policy Enhance the enforcement of regulations related to household waste to ensure householders, including apartment residents, and owners are managing waste in accordance with legislation and waste collectors are in compliance with regulatory requirements and collection permit conditions.

F.1.1 Policy action	Allocate resources to the systematic monitoring of household compliance with the segregation of waste with a particular focus on prioritising the reduction of contamination.
Targets	To increase the level of monitoring and inspection at household levels.
Expected Timeline	Annually (Resource allocation and target monitoring numbers to be set out in annual RMCEI)
Indicator	No of inspections at household level as per RMCEI.
Responsibility	Local Authorities , Lead Authority for waste enforcement
F.1.2 Policy action	Allocate resources to the systematic monitoring of apartment complexes to improve compliance with the segregation of waste prioritising the reduction of contamination.
Targets	To engage with all relevant stakeholders including management companies, collectors and the residents and target 5% of the number of apartments/flats in purpose built complexes in city/highly populated areas and 10% in all other areas per Local Authority per year
Expected Timeline	On-going
Indicator	No of apartment blocks targeted
Responsibility	Local Authorities , Lead Authority for waste enforcement
F.1.3 Policy action	Allocate resources to the national systematic monitoring of waste collectors including on-site audits of waste collection data and random roadside checks for compliance with permit conditions.
Targets	To conduct at least one strategic review meeting with each major household waste collector a region annually and to complete at least one waste collection permit audit per county annually.
Expected Timeline	Annually
Indicator	No of visits
Responsibility	Local Authorities , Lead Authority for waste enforcement and NWCPO

F.2 Policy Enforce all waste regulations through increased monitoring activities, and enforcement actions for non-compliance with authorisations and regulatory obligations

F.2.1 Policy action	Prepare a Regional RMCEI Plan to prioritise enforcement actions and activities across the region taking account of the national enforcement priorities laid down by the EPA & DECLG
Targets	To improve enforcement through greater regional coordination, information sharing, and prioritisation of enforcement activities

Expected Timeline	Annually.
Indicator	Regional RMCEI Plan
Responsibility	Lead Authority for waste enforcement , local authorities
SEA Mitigation Proposed	Results on monitoring should be documented annually in the RMCEI plan and the use of KPIs should be considered in reporting of the monitoring results. The RMCEI should contain specific criteria to address the management of waste which in turn should inform the inspections.
F.2.2 Policy action	Maintain high level of site inspections of all existing waste authorisations and ensure reflected in the RMCEI
Targets	Prioritise the inspections in accordance with the risk
Expected Timeline	As per RMCEI plan annual review
Indicator	No of Inspections -As per RMCEI
Responsibility	Local Authorities

F.3 Policy Take measures to prevent and cease unauthorised waste activities by way of investigation, notifications, remediation requests or legal action as appropriate.

F.3.1 Policy action	Identify and maintain the role of Environmental Complaints Coordinator to manage an unauthorised waste activity database based on complaints received and monitoring undertaken.
Targets	Establish and maintain Database of unauthorised waste activities consistent across the region
Expected Timeline	Annually
Indicator	Maintain an up to date database
Responsibility	Local Authorities
F.3.2 Policy action	Carry out investigations and issue notifications, as required, as dictated by the Unauthorised Waste Activity database and as directed by the EPA.
Targets	Increased investigation and prevention of unauthorised waste activities
Expected Timeline	Annually
Indicator	% of unauthorised waste complaints investigated
Responsibility	Local Authorities
F.3.3 Policy action	Prepare Action Plan (subject to screening) to deal with the prevention and management of fuel laundering waste and waste arisings from other criminal activities. Co-ordination required between the Regions.
Target	Fuel Laundering Waste Action Plan
Expected Timeline	Q4 2015

Indicator	Prepare and agree the plan
Responsibility	Lead Authority for waste enforcement , Local Authorities
SEA Mitigation Proposed	The proposed Action Plan to address waste arising from criminal activity should be prepared in consultation with various stakeholders including the NPWS, GSI, Gardaí etc. Responsibilities for implementing the Action Plan and monitoring requirements to assess its implementation will be critical to its success

F.4 Policy Improve the consistency of local authority waste authorisations and conditions issued to waste collectors and facility operators

F.4.1 Policy action	Work with NWCPO to standardise Waste Collection Permit conditions with standard mandatory conditions and local discretionary conditions
Targets	To meet with NWCPO when required
Expected Timeline	On-going
Indicator	N/A
Responsibility	NWCPO , Lead Authority for waste enforcement and Local Authorities
F.4.2 Policy action	Move to standardise conditions for Waste Facility Permit/COR conditions with standard mandatory conditions and local discretionary conditions
Targets	To improve consistency of enforcement, reporting, assigning EWCs, and capacity authorisations of facility permit /CORs conditions and to provide a level playing field for facility operators
Expected Timeline	Q1 2017
Indicator	Issue Standard Class Specific templates
Responsibility	Lead Authority for waste enforcement , Local Authorities, EPA and the DECLG
SEA Mitigation Proposed	Standard mandatory conditions and local discretionary conditions should consider inclusion of screening in relation to both EIA and AA processes

19.7 PROTECTION ACTIONS

Strategic Objectives

Apply the relevant environmental and planning legislation to waste activities to protect and reduce impacts on the environment in particular Natura 2000 sites and human health from the adverse impact of waste generated

G.1 Policy Ensure the highest environmental and human health benefits are achieved by prioritising the implementation of the upper tiers of the waste hierarchy and ensuring these actions are funded appropriately

G.1.1 Policy action	Review local authority expenditure on lower waste order activities to determine if there is scope to deliver a more cost effective service and balance expenditure across the hierarchy.
Targets	Carry out an initial review with a view to Increasing expenditure on prevention, reuse and recycling.
Expected Timeline	Q3 2015 (initial review), Q3 2016 (complete review)
Indicator	% change in budget for prevention, reuse and recycling activities
Responsibility	Lead authority , Local authority

G.2 Policy Rollout the plan for remediating historic closed landfills prioritising actions to those sites which are the highest risk to the environment and human health

G.2.1 Policy action	Each region is to rank the class A high risk historic unregulated landfill sites (1977 – 1996) and pre-historic unregulated landfill sites (pre-1977).
Targets	To rank 100% of Class A sites
Expected Timeline	Q4 2015
Indicator	% sites ranked
Responsibility	Lead Authority
G.2.2 Policy action	Each Region is to develop and agree a road map prioritising for investigation and remediation the ranked landfills (taking into account the scale of risk and impacts on the environment)
Targets	Prepare roadmap
Expected Timeline	Q4 2016
Indicator	Roadmap in place
Responsibility	Lead Authority , Local authorities, DECLG, EPA
G.2.3 Policy action	Prepare authorisation applications to the EPA for landfill sites identified in accordance with the roadmap during the lifetime of the Plan (subject to Department funding being available)
Targets	Prepare and apply for authorisation to the EPA
Expected Timeline	Q1 2021
Indicator	Number of authorisations granted
Responsibility	Local authorities Lead authorities, DECLG, Landowners, EPA
G.2.4 Policy action	Remediate high risk sites in accordance with the plan agreed in the EPA authorisation and in accordance with the requirements of the EU Habitats Directive & Water Framework Directive (subject to Department funding being available)
Targets	Remediation all authorised sites
Expected Timeline	Q1 2021
Indicator	Number of authorised sites remediated
Responsibility	Local authorities Lead authorities, DECLG, Landowners, EPA
SEA Mitigation Proposed	AA Screening should be undertaken for all Tier 1, 2 and 3 Risk Assessments. The Lead Authority shall liaise with relevant stakeholders (including the EPA and NPWS) to ensure an appropriate measures are in place for control of the spread of IAS in relation to remediating historic closed landfills.

G.3 Policy Ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes

G.3.1 Policy action	Prepare siting guidelines for waste facilities and review general siting criteria as set down in the waste plan
Targets	Determine if the general siting criteria are appropriate and put siting guidelines in place
Expected Timeline	Siting guidelines to be prepared in 2015 & all documents reviewed every 2 years
Indicator	n/a
Responsibility	Lead authority , local authorities, DECLG, An Bord Pleanála, EPA
SEA Mitigation Proposed	The application of siting criteria will offset the potential shorter term temporary construction impacts associate with infrastructure. It is recommended that consideration be given to developing <i>Siting Guidelines</i> in due course to guide development of infrastructure in a sustainable manner which protects the environment and human health

G.4 Policy Implement a co-ordinated approach to address unmanaged waste and the potential impact to the environment and human health

G.4.1 Policy action	Identify areas of low collection coverage and survey householders who are currently not availing of a household waste collection service to determine the cause.
Targets	Report on surveys of low coverage areas and the causes in cooperation with the authorised household waste collectors
Expected Timeline	End 2015
Indicator	No of surveys issued
Responsibility	Lead Authorities , Local authorities and waste collectors
G.4.2 Policy action	Design and implement a programme to regulate, enforce and communicate in areas with low collection coverage
Targets	Implement programme of communication and carry out follow-up enforcement inspections
Expected Timeline	On-going
Indicator	Number of households with a kerbside collection service (Z1) Quantity of unmanaged waste (D)
Responsibility	Local authorities Lead authority
G.4.3 Policy action	Engage with authorised waste collectors to design solutions, such as public drop off areas to serve communities/areas of low collection coverage and implement the solutions
Targets	Complete review and implement
Expected Timeline	Q4 2017
Indicator	Number of households with a kerbside collection service (Z1), Quantity of unmanaged waste (D)

	Tonnage of waste collected from public drop off points
Responsibility	Lead authority , Local authorities, private waste collectors

19.8 OTHER WASTE STREAMS ACTIONS

Strategic Objective

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

H.1 Policy Work with the relevant stakeholders and take measures to ensure systems and facilities are in place for the safe and sustainable management of sludges (sewage, waterworks, agricultural, industrial, and septic tank) generated in the region having due regard to environmental legislation and prevailing national guidance documents, particularly in relation to the EU Habitats and Birds Directive.

H.1.1 Policy action	To engage with Irish Water in relation to national planning and management of WWTP sludge and WTP Sludge.
Targets	Lead Authorities to meet with Irish Water once per annum regarding their plan objectives and the associated treatment options for sludge waste.
Expected Timeline	Q4 Annually
Indicator	No of Meetings held with Irish Water
Responsibility	Lead Authority Irish Water and Local Authorities
H.1.2 Policy action	To engage with the water pollution teams of the local authorities to ensure that environmental legislation and national guidelines are being implemented, including the inspection plan for the management of Domestic Wastewater Treatment Systems, and to review the management options for the disposal of septic tank sludge.
Targets	To meet with Local Authorities to review inspections and outcomes once per annum
Expected Timeline	Annually
Indicator	Quantity of Septic tank Collected per annum
Responsibility	Local Authorities , EPA and Lead Authority
H.1.3 Policy action	To engage with the NWCPO regarding specific conditions for private waste collectors collecting septic tank waste
Targets	To meet with NWCPO regarding specific conditions for septic tank collectors
Expected Timeline	Annually
Indicator	Conditions in place
Responsibility	Local Authorities & NWCPO

H.2 Policy Investigate the opportunity to establish and expand management schemes for particular waste streams including (but not limited to) paints, medicines, mattresses, other bulky wastes, agricultural and horticultural chemicals and waste oils (where technically, environmentally, and economically practicable).

H.2.1 Policy action	To investigate the viability of running a pilot scheme for the management of farm medicines
Targets	To consult with the relevant industry and examine the practicalities of developing a management scheme for medicines and waste oils Rollout a scheme in 1-3 local authorities where high volumes of the waste stream are available and expand if successful and practical.
Expected Timeline	Q4 2016 (investigate) Q4 2017 (roll-out)
Indicator	Quantity of farm medicines collected through the scheme
Responsibility	Lead Authority , Local Authorities
H.2.2 Policy action	Examine the possibility of expanding existing reuse schemes in place throughout the region for bulky or hazardous waste streams (such as mattresses and paints)
Targets	Grown existing reuse schemes for specific wastes in the region
Expected Timeline	Q4 2017
Indicator	Quantity of stream reused/recycled
Responsibility	Lead Authority & Local Authorities
SEA Mitigation Proposed	Guidelines will be developed by the Regional Prevention Officer and applied to all such schemes to ensure protection of human health and the environment. In addition, waste prevention should act as the overarching aim of any Pilot Scheme introduced.
H.2.3 Policy action	To transfer knowledge and skills on the successful schemes to all LAs in all Regions
Targets	To organise a minimum of 1 networking event per Region per to educate Lead Authorities and Local Authorities on the successful management of a new scheme
Expected Timeline	Annually
Indicator	No of attendees at the event
Responsibility	Lead Authority & Local Authorities

H.3 Policy Co-operate and input into the setting up of new national producer responsibility schemes (statutory or voluntary) for waste streams to ensure the role of local authorities is clear and can be practically achieved.

H.3.1 Policy action	Participate in working groups for setting up of new national producer responsibility schemes.
Targets	Ensure at least one representative on behalf of the three regional lead authorities participates in each working group established by the DECLG
Expected Timeline	On-going
Indicator	Not applicable
Responsibility	Lead Authority , DECLG and EPA

H.3.1 Policy action	To ensure better segregation of hazardous waste and non-hazardous wastes at the point of collection from households and small businesses.
Targets	Ensure that all local authority waste management websites provide up to date information on locations for the collection of hazardous wastes for both households and small businesses
Expected Timeline	Q4 2015
Indicator	No of websites with the info included Qty of household hazardous wastes collected at CAs/Recycling Centres
Responsibility	Local Authorities Lead Authority

20 MONITORING AND REPORTING

The Plan reflects national policy and will monitor how such policy will be implemented over the course of the plan. Monitoring and reporting of the Plan implementation is a continuous process that requires regular review and refinement. This will ensure that the implementation programme continues to be relevant, as well as assessing progress towards meeting targets. This section outlines the proposed monitoring and reporting system which will form the foundations of implementation. In order to ensure effective implementation, all waste data must be quantified, used consistently and reported in order to assess progress towards meeting EU targets.

20.1 ANNUAL REPORT

There will be an annual review of performance under each policy heading detailed in Chapter 19 conducted by the Regional Office. An Annual Report will be prepared focusing on the progress of the implementation of the plan across the Region, taking account of the findings of the annual National Waste reports from the EPA. There is also a need for municipal waste characterisation data for the annual report highlighting the on-going national need for characterisation studies for waste reporting. The report will be prepared by the end of Q4 every year based on data for the previous calendar year with a summary of key waste statistics provided. The annual report will amalgamate information from each local authority in the region. Recommendations for any policy failures will be made and a particular focus will be placed on performance in relation to:

- Key performance indicators specified below;
- National Treatment and Recovery Capacity;
- Prevention/Minimisation and associated waste awareness activities;
- The delivery of the main collection systems, facilities and infrastructure required by the plan;
- Regulation and Enforcement Activities;
- Reporting any difficulties or challenges emerging in Plan implementation; and
- Review of financial performance and implementation of the Polluter Pays Principal, including for example a review of the charging mechanisms for waste services.

20.2 ENGAGEMENT AS PART OF ANNUAL REPORT

The Regional Office recognises the need for the ongoing input of stakeholders to the implementation of this Plan. It is proposed to provide stakeholders with an opportunity to provide feedback on the implementation of the Plan, and to bring forward new proposals or innovations as they arise. Preparation of an Annual Report gives an opportunity for two-way communication with relevant sectors including the waste management industry, community and voluntary sectors. The private waste sector has significant responsibility in the plan for collecting waste, developing facilities, both of which require significant investment. Proposed stakeholders are identified as :

- Waste holders/producers – households, businesses, institutions, and industry;
- Organisations handling or managing waste – private waste companies and charity sector;
- Voluntary and Non -Government Organisations;
- Representative Groups (REPAK);
- Regulators, policy makers, public sector (EPA, DECLG);
- Local Authorities in the Region;
- Advisory Group;

This engagement will be developed through workshops which will enable better partnership to be developed with sector in the coming years. Providing an opportunity to consult with and coordinate activities with other Local Authorities regarding prevention, recovery, collection and disposal.

20.3 STATISTICAL INDICATORS

The regions have improved the data collection and collation with the assistance of the Local Authorities, the EPA and the NWCPO. In addition to the policy action indicators, a series of primary and secondary statistical indicators known as key performance indicators (KPIs) have been developed. These are chosen to represent the main categories of waste streams and categories of activities/events addressed in the plan.

Using these KPIs will prove a useful tool in benchmarking performance with other regions, both nationally and internationally. They will also demonstrate real progress to other stakeholders including the public real progress. These indicators will form the basis of the statistical section of the annual report. The annual report will include a series of tables which will outline progress in the following areas:-

- Primary Household Waste Indicators;
- Primary Municipal Waste Indicators;
- Priority Waste Indicators; and
- Secondary Waste Indicators; and
- Environmental indicators;

Table 20-1 Primary Household Waste Indicators

Indicator	Unit
Household Waste Managed (HWM) / inhabitant	tonnes / inhabitant
HWM - Directed to recycling / recovery per inhabitant	tonnes / inhabitant
HWM - Disposed per inhabitant	tonnes / inhabitant
Kerbside HWM / household served	tonnes / household served
Total residual kerbside household waste collected / household served	tonnes / household served
TOTAL non-residual kerbside household waste collected destined for recycling ('Destination Recycling' (DREC)) / household served	tonnes / household served
Non-kerbside HWM / inhabitant	tonnes / inhabitant
Unmanaged household waste (estimate) / inhabitant	tonnes / inhabitant

Table 20-2 Primary Municipal Waste Indicators

Indicator	Unit
Municipal waste managed / inhabitant	tonnes / inhabitant
Managed municipal waste disposed / inhabitant	tonnes / inhabitant
Municipal waste destined for recycling ('Destination RECYcling'(DREC)) per inhabitant	tonnes / inhabitant
Commercial (municipal non-household) waste managed per inhabitant	tonnes / inhabitant
Commercial (municipal non-household) waste recovered per inhabitant	tonnes / inhabitant
Commercial (municipal non-household) waste disposed per inhabitant	tonnes / inhabitant

Table 20-3 – Priority Waste Indicators

Indicator	Unit
C&D:	
Total C&D waste collected	tonnes
Soil & stone waste collected	tonnes
Contaminated soils collected	tonnes
WEEE:	
Total Household WEEE (Compliance Scheme) Collected for Recovery	tonnes
Household WEEE (Compliance Scheme) Collected for Recovery/per inhabitant	kgs / inhabitant
Household WEEE (Compliance Scheme) Collected at Retailers	tonnes
Household WEEE (Compliance Scheme) Collected at Recycling Centres/CAS	tonnes
Household WEEE (Compliance Scheme) Collected at one off collection events	tonnes
Batteries:	
Separately Collected (Portable only)(Compliance Scheme) for Recovery	tonnes
Separately Collected (Portable only) (Compliance Scheme) for Recovery/per inhabitant	g / inhabitant
ELVs:	
Quantity of ELVs accepted at ATFs within the Region	tonnes / year/ region
Certificate of Destructions (CODs) issued	number
Tyres:	
Quantity of tyres collected	tonnes
Farm Plastics:	
Quantity of farm plastics collected	tonnes
Number of farmers which availed of the collection service	number
Other:	
Healthcare waste collected	tonnes
Waste oils collected	tonnes
PCBs collected	tonnes

Table 20-4: - Secondary Waste Indicators

Indicator	Number & Comment
Waste Prevention & Minimisation:	
Number and type of prevention awareness events held annually	
Number of Local Authority Prevention Network (LAPN) projects	
Number of Green Business site visits	
Number of waste minimisation events	
Green Schools/Green Flags:	
Number of schools in the region	
Number of schools registered with Green Schools	
% of schools registered with Green Schools	
Number of schools with Green Flag	
% of schools with Green Flag	
BeGreen Programme:	
Number of business taking up The Green Business Programme	
Number of Green Hospitality award members	
Number of hospitals/healthcare facilities that had Green Healthcare audits	
Household Refuse Collection Service:	
Number of Households with a waste collection service	
% of Households with a waste collection service	
Number of Households with a residual collection service ONLY	
% of Households with a residual collection service ONLY	
Number of Households with a residual & MDR collection service	
% of Households with a residual & MDR collection service	
Number of Households with an organic collection service	
% of Households with an organic collection service	
Number of Households with a glass collection service	
% of Households with an glass collection service	
Recycling Centres/Civic Amenity Sites (CAS):	
Number of Recycling centres /CAS (Public & private operators)	
Number of Recycling centres/CAS per 50,000 inhabitants	
Tonnage of waste collected at recycling centres/CAS	
Tonnage of waste collected at recycling centres/CAS per inhabitant	
Bring Banks:	
Number of bring banks	
Number of bring banks /5,000 inhabitants	
Tonnage of waste collected at bring banks	

Table 20-5 Environmental Indicators

Indicator	Sources & Responsibilities
The status of protected habitats and species as reported to the EU (report due every six years, first report in 2007).	The Status of EU Protected Habitats and Species in Ireland report. Published every 6 years, National Parks & Wildlife Service (NPWS)
Audit of progress in the implementation of mitigation measures two years post adoption of the plan and at completion of the plan period.	Lead Authority, local authorities
Total prevention / reuse budget per annum in each Local Authority as a % of total spend on waste management.	Financial Returns/Annual budget for local authorities to be reported to the Lead Authority
Number of households in the region on a kerbside collection. Quantity of unmanaged waste in the region.	Waste statistics data from Local authorities, private waste collectors, Lead authority National Waste Report, published annually, Environmental Protection Agency (EPA)
Number of authorisations granted for sites to be remediated. Number of authorised sites remediated in the region.	Historic Landfill Register held by Local Authorities, Historic Landfill Certificate of Authorisation Register published by the Environmental Protection Agency (EPA)
Status of water bodies as reported by the EPA. Number of authorisations granted for sites to be remediated. Number of authorised sites remediated in the region.	Water quality in Ireland report, Environmental Protection Agency (EPA) Historic Landfill Register held by Local Authorities, Historic Landfill Certificate of Authorisation Register published by the Environmental Protection Agency (EPA)
Number of exceedances relating to air quality and noise at waste licensed facilities. Quantity of unmanaged waste.	Focus on Environmental Enforcement Report in Ireland, covering a 3 year period, published every 3 years, Environmental Protection Agency (EPA) RMCEI plans. Local authority, Lead authorities for waste enforcement. Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement
Quantity of household waste generated per capita (measured nationally). % municipal waste recycled (measured nationally). Quantity of residual kerbside household waste sent for disposal. Number of strategic flood risk assessments completed for waste related infrastructure within the region.	Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement National Waste Report, published annually, Environmental Protection Agency (EPA) Strategic Flood Risk Assessment Reports, Local Authorities
Application of siting guidelines through the planning process.	Authorisation of locations in planning application files, Lead authority, local authorities, DECLG, An Bord Pleanála, EPA
Quantity of residual waste exported annually (Quantified nationally).	National Waste Report, published annually, Environmental Protection Agency (EPA)
More appropriately dealt with at project level.	Record of Monuments & Places, Department of the Arts, Heritage and the Gaeltacht (DAHG)

	The Archaeological Survey monitoring programme, Ireland Buildings at Risk Register, Heritage Council
More appropriately dealt with at project level.	Local authorities
Quantity of household waste generated per capita (measured nationally). % municipal waste recycled (measured nationally). Quantity of residual kerbside household waste sent for disposal.	Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement National Waste Report, published annually, Environmental Protection Agency (EPA)

APPENDIX A
CONSULTATION INFORMATION

Appendix A Pre-Draft Submissions & Stakeholder Meeting 9/4/14 Attendance List

Pre-Draft Submissions	Stakeholder Workshop 9/4/14 Attendance
An Taisce	CIWM
An Taisce County Westmeath Association	IWMA
Limerick Institute Technology (Thurles Campus)	NWCPO
Big Bin	REPAK
Bord na Mona	RGDATA
Cement Manufacturers Ireland (CMI)	RPS
Greyhound Recycling & Recovery	Smile Exchange
CIWM	Connacht-Ulster Waste Region (Lead Authority)
Clean Ireland	Eastern-Midland Waste Region (Lead Authority)
Community Reuse Network	Southern Waste Region (Lead Authority)
Mulleady's Ltd	WEE Ireland
Panda	Westmeath County Council
Country Clean Recycling	CEWEP
Cre	Cre
WEEE Irl	CRNI
Zero Waste Alliance	DECLG
EPA	EPA
Geological Survey of Ireland (GSI)	Greyhound Recycling & Recovery
Greenstar	IBEC
IBEC	IFFPG
Indaver	IRBEA
Irish Motor Vehicles Recyclers Association	
IWMA	
Rehab	
SMILE	
Stream Bio-Energy	
The Rediscovery Centre	

APPENDIX B
LIST OF LEGISLATION

List of European Legislation
Directive on Batteries and Accumulators (2013/56/EC)
Commission Directive 2013/28/EU amending Directive 2000/53/EC on End of Life Vehicles
Commission Delegated Directive 2012/51/EU amending Annex III of EU Directive 2011/65/EU
Commission Delegated Directive 2012/50/EU amending Annex III of EU Directive 2011/65/EU
Directive on Restriction of Use of Hazardous Substances in WEEE 2011/65/EU
Directive on Waste Electrical and Electronic Equipment (WEEE) (2012/19/EU)
Commission Regulation (EU) No 493/2012 of 11 June 2012 laying down, pursuant to Directive 2006/66/EC of the European Parliament and of the Council, detailed rules regarding the calculation of recycling efficiencies of the recycling processes of waste batteries and accumulators
Commission Regulation (EU) No 142/2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive.
Commission Regulation (EU) 757/2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes I and III
Commission Regulation (EU) 756/2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes IV and V
Directive on Industrial Emissions (2010/75/EU)
Commission Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002
Directive (2009/28/EC) on the promotion of the use of energy from renewable sources
Waste Framework Directive (2008/98/EC)
Directive on the Management of Waste from the Extractive Industries (the Mining Waste Directive) (2006/21/EC)
Directive on Batteries and Accumulators (2006/66/EC)
Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste
Regulation (EC) No. 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, as amended.
Directive on Packaging and Packaging Waste (2005/20/EC) amending Directive 94/62/EC
Commission Decision of 24 January 2005 (2005/63/EC) amending Annex II to Directive 2000/53/EC
Commission Decision of 10 June 2005 (2005/438/EC) amending Annex II to Directive 2000/53/EC
Council Decision of 20 September 2005 (2005/673/EC) amending Annex II of Directive 2000/53/EC
Directive 2005/64/EC on the type-approval of motor vehicles with regard to their reusability, recyclability and recoverability
Directive on Packaging and Packaging Waste (2004/12/EC) amending Directive 94/62/EC
Regulation (EC) No 850/2004 on Persistent Organic Pollutants
Directive (2004/35/EC) on environmental liability with regard to the prevention and remedying of environmental damage
Directive 2003/4/EC on public access to environmental information
Directive (2003/35/EC) providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment, amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC
Council Decision (2003/33/EC) establishing criteria and procedures for the acceptance of waste at

landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC
Directive (2003/30/EC) on the promotion of the use of biofuels or other renewable fuels for transport
Directive (2003/87/EC) establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC
Commission Decision of 27 June 2002 (2002/525/EC) amending Annex II of Directive 2000/53/EC
Directive (2001/42/EC) on the assessment of the effects of certain plans and programmes on the environment (Strategic Environmental Assessment Directive)
Directive on End of Life Vehicles (ELV) (2000/53/EC)
Directive on the incineration of waste (2000/76/EC)
Directive 2000/53/EC on End of Life Vehicles
Commission Decision 2000/532/EC establishing a list of wastes
Directive on the Landfill of Waste (1999/31/EC)
Directive 96/59/EC on the disposal of PCBs/PCTs
Directive on Packaging and Packaging Waste (94/62/EC)
Directive 92/112/EEC on procedures for harmonising programmes for the reduction and eventual elimination of pollution caused by the titanium dioxide industry
Directive on the conservation of wild fauna and flora and of natural habitats (92/43/EEC)
Directive on Sewage Sludge (86/278/EEC)
Directive on the assessment of the effects of certain public and private projects (85/337/EEC) as amended by Directive 97/11/EC
Directive 82/883/EEC on procedures for the surveillance and monitoring of environments concerned by waste from the titanium dioxide industry
Directive on waste from the titanium dioxide industry (78/176/EEC) as amended by Council Directive 83/29/EEC

List of National Legislation
S.I. No. 149/2014 European Union (Waste Electrical and Electronic Equipment) Regulations, 2014
S.I. No. 281/2014 European Union (End-of-Life Vehicles) Regulations, 2014
S.I. No. 282/2014 European Union (Packaging) Regulations, 2014
S.I. No. 283/2014 European Union (Batteries and Accumulators) Regulations, 2014
S.I. No. 148/2013 European Union (Waste Incineration Plants & Waste Co-Incineration Plants) Regulations, 2013
S.I. No. 138/2013 European Union (Industrial Emissions) Regulations, 2013
S.I. No. 137/2013 Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations, 2013
S.I. No. 124/2013 Statistics (Waste Generation) Order, 2013
S.I. No. 251/2013 European Union (Household Food Waste and BioWaste) (Amendment) Regulations, 2013
S.I. No. 71/2013 European Union (Household Food Waste and Bio-Waste) Regulations, 2013
S.I. No. 194/2013 Waste Management (Landfill Levy) (Amendment) Regulations, 2013
S.I. No. 504/2013 Waste Management (Prohibition of Waste Disposal by Burning) (Amendment) Regulations, 2013
S.I. No. 515/2012 European Union (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) (Amendment) (No. 2) Regulations, 2012
S.I. No. 514/2012 European Union (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) (Amendment) (No. 1) Regulations, 2012
S.I. No. 513/2012 European Union (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) Regulations, 2012
S.I. No. 221/2012 Waste Management (Landfill Levy) (Amendment) Regulations, 2012
S.I. No. 324/2011 European Communities (Shipment of Hazardous Waste exclusively within Ireland) Regulations, 2011
S.I. No. 434/2011 Waste Management (Landfill Levy) Regulations, 2011
S.I. No. 477/2011 European Communities (Birds and Natural Habitats) Regulations 2011
S.I. No. 323/2011 European Communities (Waste Directive) (No. 2) Regulations, 2011
S.I. No. 126/2011 European Communities (Waste Directive) Regulations, 2011
S.I. No. 662/2011 European Communities (Access to Information on the Environment) (Amendment) Regulations 2011
Environment (Miscellaneous Provisions) Act, 2011
S.I. No. 201/2011 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations, 2011
S.I. No. 200/2011 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations, 2011
S.I. No. 31/2010 Waste Management (Landfill Levy) (Amendment) Regulations, 2010
S.I. No. 32/2010 Waste Management (Registration of Sewage Sludge Facility) Regulations, 2010
S.I. No. 235/2010 Persistent Organic Pollutant Regulations, 2010
S.I. No. 350/2010 Waste Management (Licensing) (Amendment) Regulations, 2010
S.I. No. 286/2009 Waste Management (Prohibition of Waste Disposal By Burning) Regulations, 2009
S.I. No. 508/2009 Waste Management (Food Waste) Regulations, 2009

S.I. No. 566/2009 Waste Management (Management of Waste From the Extractive Industries) Regulations, 2009
S.I. No. 252/2008 European Communities (Transmissible Spongiform Encephalopathies & Animal By-Products) Regulations 2008
S.I. No. 86/2008 Waste Management (Facility Permit and Registration) (Amendment) Regulations, 2008
S.I. No. 87/2008 Waste Management (Collection Permit) (Amendment) Regulations, 2008
S.I. No. 113/2008 Waste Management (Registration of Brokers and Dealers) Regulations, 2008
S.I. No. 524/2008 Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008
S.I. No. 547/2008 European Communities (Environmental Liability) Regulations, 2008
S.I. No. 62/2007 Waste Management (Environmental Levy) (Plastic Bag) Order, 2007
S.I. No. 167/2007 Waste Management (Environmental Levy) (Plastic Bag) (Amendment) (No. 2) Regulations, 2007
S.I. No. 419/2007 Waste Management (Shipments of Waste) Regulations, 2007
S.I. No. 664/2007 Waste Management (Tyres and Waste Tyres) Regulations, 2007
S.I. No. 133/2007 European Communities (Access to Information on the Environment) Regulations 2007
S.I. No. 820/2007 Waste Management (Collection Permit) Regulations 2007
S.I. No. 821/2007 Waste Management (Facility Permit and Registration) Regulations, 2007
S.I. No. 435/2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations, 2004
S.I. No. 436/2004 Planning and Development (Strategic Environmental Assessment) Regulations, 2004
S.I. No. 395/2004 Waste Management (Licensing) Regulations, 2004
S.I. No. 478/2003 Waste Management (Environment Fund) (Prescribed Payments) Regulations 2003
Protection of the Environment Act, 2003
S.I. No. 267/2001 Waste Management (Use of Sewage Sludge in Agriculture) (Amendment) Regulations, 2001
S.I. No. 341/2001 Waste Management (Farm Plastics) Regulations, 2001
S.I. No. 605/2001 Waste Management (Environmental Levy) (Plastic Bag) Regulations, 2001
Waste Management (Amendment) Act, 2001
S.I. No. 73/2000 Waste Management (Hazardous Waste) (Amendment) Regulations, 2000
S.I. No. 185/2000 Waste Management (Licensing) Regulations, 2000
S.I. No. 146/1998 Waste Management (Amendment of Waste Management Act, 1996) Regulations, 1998
S.I. No. 148/1998 Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998
S.I. No. 164/1998 Waste Management (Miscellaneous Provisions) Regulations, 1998
S.I. No. 166/1998 European Communities (Amendment of Waste Management Act, 1996) Regulations, 1998
S.I. No. 137/1997 Waste Management (Planning) Regulations, 1997
S.I. No. 192/1996 Waste Management Act, 1996 (Commencement) Order, 1996.
Waste Management Act, 1996

APPENDIX C
HOUSEHOLD WASTE DATA BY LOCAL AUTHORITY

Local Authority	Total Household Waste Managed 2010 (t)	Total Household Waste Managed 2011 (t)	Total Household Waste Managed 2012 (t)
Dublin City Council	166,265	159,705	151,257
Dún Laoghaire-Rathdown County Council	62,764	66,389	67,512
Fingal County Council	98,903	98,131	99,629
South Dublin County Council	100,883	96,479	88,917
Meath County Council	54,614	58,759	57,534
Louth County Council	51,939	47,501	45,327
Laois County Council	19,297	23,459	23,045
Offaly County Council	21,308	16,159	18,009
Longford County Council	10,705	11,793	10,390
Westmeath County Council	28,756	26,283	26,281
Kildare County Council	78,584	79,236	69,715
Wicklow County Council	21,961	42,624	36,824
EMR Total	715,979	726,518	694,441

APPENDIX D
INVENTORY OF LOCAL AUTHORITY AUTHORISED SITES

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
1	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-12-0032	Eco Mattress Recycling Ltd.	10/PI/3S	880
2	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-10-0020	Everyday Waste & Skip Hire Ltd.	7 & 10 /PI/3S	20000
3	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-10-0017	Leech Papers Ltd.	10/PI/3S	N/d
4	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-09-0012	Levet Ltd.	10/PI/3S/	N/d
5	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-11-0031	Northside Recycling Ltd.	7 & 10/PI/3S	19500
6	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-11-0023	Padraig Thornton Waste Disposal Ltd.	10/PI/3S	5500
7	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-10-0021	Padraig Thornton Waste Disposal Ltd.	10/PI/3S	50000
8	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-11-0024	Rehab Enterprises Ltd.	10/PI/3S	300
9	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-11-0025	Rehab Enterprises Ltd.	10/PI/3S/	4583
10	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-09-0011	Shred – IT ROI Limited	10/PI/3S	5000
11	G1	Storage / Transfer	WFP	Dublin City Council	WFP-DC-09-0009	The George Fellow (Enterprises) Ltd.	1, 7 and 10/PI/3S	9450
12	G2	Metals, ELVs	WFP	Dublin City Council	WFP-DC-12-0034	Blancomet Recycling IE Ltd.	3, 4 & 9 /PI/3S	18300
13	G2	Metals, ELVs	WFP	Dublin City Council	WFP-DC-11-0022	Dawnlane Ltd.	4 /PI/3S	1880
14	G2	Metals, ELVs	WFP	Dublin City Council	WFP-DC-11-0026	Edward O'Reilly	4/PI/3S	605
15	G2	Metals, ELVs	WFP	Dublin City Council	WFP-DC-08-0002	G & T McGoverns Ltd.		2318
16	G2	Metals, ELVs	WFP	Dublin City Council	WFP-DC-09-0013	The Hammond Lane Metal Company Ltd.	2, 4 and 9/PI/3S	350000
17	G2A	Other Waste Vehicles	WFP	Dublin City Council	WFP-DC-11-0030	Rogers Recycling Ltd.	2, 4, 9 & 12/PI/3S	1000.4
18	G2A	Other Waste Vehicles	WFP	Dublin City Council	WFP-DC-10-0018	Summerhill Spares Ltd.	2, 4 and 12 /PI/3Sof	9760
19	G2A	Other Waste Vehicles	WFP	Dublin City Council	WFP-DC-11-0027	Tom Murphy Recovery & Towing Services Ltd.	2, 4, 9 & 12 P1/3sch	1000
20	G3	WEEE & Batteries	WFP	Dublin City Council	WFP-DC-09-0015	Chevron Environmental Ltd.	3 /PI/3S	750
21	G7	Non-hazardous & CFC	WFP	Dublin City Council	WFP-DC-09-0007	Dublin Sanitary Disposals Ltd.	11 /PI/3S	250
22	G7	Non-hazardous & CFC	WFP	Dublin City Council	WFP-DC-11-0028	Mitchell Taylor (Exports) Ltd.	11 /PI/3S	1600

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
23	G8	Temporary Storage	CoR	Dublin City Council	COR-DC-13-0004	Emerald Waste Company Ltd	2 /PII/3rd Sch	500
24	G8	Temporary Storage	CoR	Dublin City Council	COR-DC-11-0003	Jengus Ltd.	2 /PII/3rd Sch	900
25	G6	Organic Landspread	CoR	Dun Laoghaire Rathdown	COR-DLR-11-0001-03	GreenKing Composting	13 /PII/3rd Sch	1000
26	G6	Organic Landspread	CoR	Dun Laoghaire Rathdown	COR-DLR-10-0001-02	Landscape Providers	13 /PII/3rd Sch	1000
27	G8	Temporary Storage	CoR	Dun Laoghaire Rathdown	COR-DLR-13-0001-01	St John's National School	2 /PII/3rd Sch	1000
28	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-10-0006-02	Enable Ireland	10	2150
29	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-11-0008-01	Green Energy Recycling Ltd. t/a Plus Skip Hire	7/PI/3S 11/PI/3S 12/PI/3S	24500
30	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-13-0001-01	Johmick Ltd.	10	5500
31	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-10-0004-01	Pacon Waste & Recycling Ltd	7/PI/3S	22250
32	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-09-0006-01	Roadstone Wood Limited		24950
33	G1	Storage / Transfer	WFP	Fingal Co Co	WFP-FG-08-0002-02	Starrus Eco Holdings Ltd	10	49950
34	G2	Metals, ELVs	WFP	Fingal Co Co	WFP-FG-09-0009-02	Gannon City Recovery & Recycling Services	12	7000
35	G2	Metals, ELVs	WFP	Fingal Co Co	WFP-FG-10-0001-01	Industrial, Agri & Engineering Salvage Ltd T/A Greener Metal Recycling Ltd.	4	5500
36	G2	Metals, ELVs	WFP	Fingal Co Co	WFP-FG-12-0002-02	O'Reilly Recycling	4 9	6000
37	G2	Metals, ELVs	WFP	Fingal Co Co	WFP-FG-12-0001-01	TD Euroscrap Metals	4	2500
38	G4	Land Improvement	WFP	Fingal Co Co	WFP-FG-10-0007-01	James McNally	5	24000
39	G7	Non-hazardous & CFC	WFP	Fingal Co Co	WFP-FG-10-0002-01	Carno International,t/a Flood Paper Recycling	11	5000
40	G7	Non-hazardous & CFC	WFP	Fingal Co Co	WFP-FG-11-0002-01	OCS Ltd./Canon Hygiene	11	250
41	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-08-0347-01	Allied Waste Management Ltd	3 and 10/PI/3S	23700
42	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-10-060-01	Bolton RVO Ltd	10/PI/3S	5000

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
43	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-09-0355-01	Callan Sand and Gravel Ltd	7/PI/3S	5000
44	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-13-0069-01	Longsland Ltd	10/PI/3S	3700
45	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-10-061-01	Padraig Thornton Waste Disposal Ltd	4 and 10/PI/3S	2000
46	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-09-0357-01	Rehab Glassco Ltd	10/PI/3S	45800
47	G1	Storage / Transfer	WFP	Kildare Co Co	WFP-KE-12-0066-01	Ryston Industries	10/PI/3S	N/d
48	G2	Metals, ELVs	WFP	Kildare Co Co	WFP-KE-13-0067-01	Kildare Metal Recycling Ltd.	4/PI/3S	540
49	G3	WEEE & Batteries	WFP	Kildare Co Co	WFP-KE-14-0072-01	Irish Lamp Recycling Ltd	3, 4 & 9 /PI/3S	1048
50	G4	Land Improvement	WFP	Kildare Co Co	WFP-KE-12-0068-01	Arkill Ltd	5 and 7/PI/3S	15000
51	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-13-0025-01	Jane McLoughlin	5 /PII/3rd Sch	3245
52	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-08-0007-01	Keara Dunne	5 /PII/3rd Sch	5400
53	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-11-0017-01	Martin Coyne & Adele Clinton	5 /PII/3rd Sch	6200
54	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-09-0012-02	Rose Devine of Prosperous United A.F.C.	5 /PII/3rd Sch	23500
55	G4	Land Improvement	WFP	Kildare Co Co	WFP-KE-08-0354-01	Seamus McCaul	5/PI/3S	23400
56	G4	Land Improvement	WFP	Kildare Co Co	WFP-KE-13-068-01	Tom & John Keogh	5/PI/3S	35000
57	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-12-0021-01	Tom Yates	5 /PII/3rd Sch	25000
58	G4	Land Improvement	CoR	Kildare Co Co	COR-KE-11-0018-01	Willie Watson	5 /PII/3rd Sch	8300
59	G5	Biological	WFP	Kildare Co Co	WFP-KE-10-0064-01	Cleary Compost & Shredding Ltd	8/PI/3S	10000
60	G5	Biological	WFP	Kildare Co Co	WP-329/2008	Edward Mangan		98926
61	G5	Biological	WFP	Kildare Co Co	WFP-KE-0009-0059-01	Kildangan Stud Unlimited	8/PI/3S	5000
62	G5	Biological	WFP	Kildare Co Co	WFP-KE-12/0065-01	Paul Mooney	8/PI/3S	10000
63	G5	Biological	WFP	Kildare Co Co	WP 277/2007	Tom Gavin		0
64	G6	Organic Landspread	CoR	Kildare Co Co	COR-KE-13-0024-01	Robert Wilson Wright	13 /PII/3rd Sch	999

INO	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
65	G6	Organic Landspread	CoR	Kildare Co Co	COR-KE-09-0011-01	Shane Thornton	13 /P11/3rd Sch	1000
66	G6	Organic Landspread	CoR	Kildare Co Co	COR-KE-09-0015-01	Shane Thornton	13 /P11/3rd Sch	1000
67	G8	Temporary Storage	CoR	Kildare Co Co	COR-KE-12-022-01	Environmental Compaction Systems Ltd	2 /P11/3rd Sch	150
68	G1	Storage / Transfer	WFP	Laois Co Co	WFP-LS-11-0004-01	Alan Ashe	10	50000
69	G1	Storage / Transfer	WFP	Laois Co Co	WFP-LS-13-0001-01	Irish Polymer Extrusions Ltd	10	N/d
70	G1	Storage / Transfer	WFP	Laois Co Co	ATF WMP 007E	ONE 51 ES Metals t/a A1 Metal Recycling	1,2,3,4,9 & 12	0
71	G1	Storage / Transfer	WFP	Laois Co Co	WFP-LS-11-0001-01	ROC Recycling Solutions Ltd	10	N/d
72	G1	Storage / Transfer	WFP	Laois Co Co	WMP 044C	Walker Recycling Services Ltd	10	50000
73	G2	Metals, ELVs	WFP	Laois Co Co	ATF WMP 002D	Martin Byrne Car Dismantlers		
74	G2	Metals, ELVs	WFP	Laois Co Co	ATF WMP 140A	Munnely Brothers		
75	G2	Metals, ELVs	WFP	Laois Co Co	WFP-LS-12--0002-03	V Tech Metals & Dismantlers Ltd.	2,4 & 12	1000
76	G2	Metals, ELVs	WFP	Laois Co Co	ATF WMP 008D	Whelan's Auto Dismantlers Ltd		
77	G2A	Other Waste Vehicles	COR	Laois Co Co	COR -124B	Brendan Conlan		25000
78	G2A	Other Waste Vehicles	COR	Laois Co Co	COR 128B	Christy McCormack		25000
79	G2A	Other Waste Vehicles	WFP	Laois Co Co	ATF WMP 029B (1)	Corcoran's Auto Body Works Ltd.	2,4, 9 & 12	500
80	G2A	Other Waste Vehicles	WFP	Laois Co Co	ATF WMP 029B	Corcoran's Auto Body Works Ltd.	2,4, 9 & 12	600
81	G2A	Other Waste Vehicles	COR	Laois Co Co	COR-LS-13-0001-01	Dowling's Quarries Ltd		0
82	G2A	Other Waste Vehicles	WFP	Laois Co Co	WMP 62 B	Eamonn O'Reilly		25000
83	G3	WEEE & Batteries	WFP	Laois Co Co	WFP-LS-12-0001-01	Interrec BV Ireland Ltd		
84	G4	Land Improvement	WFP	Laois Co Co	WMP24 C	Park Plant Hire	5	22500
85	G4	Land Improvement	WFP	Laois Co Co	WMP 112B	Patrick Larke		
86	G4	Land Improvement	WFP	Laois Co Co	WFP 63 C	Pierre Lewis	5	100000
87	G5	Biological	WFP	Laois Co Co	WFP-LS-11-0003-01	McMahon Biogas Plant	8	N/d
88	G1	Storage / Transfer	WFP	Longford Co Co	WFP-LD11-0004-01	Furniture Recycling Ltd.	10	15000
89	G1	Storage / Transfer	WFP	Longford Co Co	WFP-LD10-0001-01	Mulleady's Limited	1, 9 and 11/P1/3S	3050.5

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
90	G2	Metals, ELVs	WFP	Longford Co Co	WFP-LD11-0003-01	Waste Not Want Not Recycling	4 and 10 of Third Schedule	1000
91	G2A	Other Waste Vehicles	WFP	Longford Co Co	WFD-LD11-0006-02	Longford Auto Recyclers Ltd	2,4 & 9	12000
92	G2A	Other Waste Vehicles	WFP	Longford Co Co	WFP-LD11-0002-01	M&N Nolan	2/PI/3S/	200
93	G4	Land Improvement	CoR	Longford Co Co	COR-LD12-0003-01	Cooke George West	5 and 6 of Third Schedule	2000
94	G4	Land Improvement	CoR	Longford Co Co	COR-LD11-0004-01	John Matthews	6 /PII/3rd Sch	500
95	G4	Land Improvement	CoR	Longford Co Co	COR-LD13-0003-01	Noel Flynn	Classes 5 and 6/PII/3rd Sch/	2100
96	G4	Land Improvement	CoR	Longford Co Co	COR-LD13-0002-01	Rhyne Rock Ltd.	5/PII/3rd Sch/	11000
97	G8	Temporary Storage	CoR	Longford Co Co	COR-LD12-0002-01	Designwell Ltd.	2 /PII/3rd Sch	50
98	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-10-0006-01	Ace Environmental Ltd	10/PI/3S	50000
99	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-10-0005-01	Crumb Rubber Ireland Ltd	10/PI/3S	50000
100	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-11-0006-01	Drogheda Port Company (1)	10/PI/3S	50000
101	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-12-0004-01	Drogheda Port Company (2)	10/PI/3S	50000
102	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-13-0001-01	Drogheda Port Company (3)	10/PI/3S	50000
103	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-10-0002-01	Express Mini Mix & Skip Hire Ltd	10/PI/3S	5000
104	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-08-0002-02	Gotvista Ltd	10/PI/3S	50000
105	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-13-0004-01	Greenore Port Ltd	10/PI/3S	50000
106	G1	Storage / Transfer	CoR	Louth Co Co	COR-LH-13-0004-01	Kilsaran Concrete	7 /PII/3rd Sch	9700
107	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-11-0002-01	Lenviron Ltd	10/PI/3S	50000
108	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-10-0001-01	Michael Taffe	10/PI/3S	1100
109	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-12-0002-01	O'Hanlon & Sons Contractors Ltd	10/PI/3S	50000
110	G1	Storage / Transfer	WFP	Louth Co Co	WFP-LH-12-0003-01	Tyres2Oil Limited	10/PI/3S	50000

INO	Code	Type	Local authority	AuthNo	Name	Class	Capacity
111	G1	Storage / Transfer	Louth Co Co	WFP-LH-11-0001-01	V&W Recycling (Dundalk) Ltd	10/PI/3S	2000
112	G2	Metals, ELVs	Louth Co Co	WFP-LH-10-0004-01	Fiodav Ltd	12/PI/3S	0
113	G2	Metals, ELVs	Louth Co Co	WFP-LH-10-0003-01	Gary Myles	12/PI/3S	0
114	G2	Metals, ELVs	Louth Co Co	WFP-LH-10-0008-01	John & Mark McShane	12/PI/3S	360
115	G2	Metals, ELVs	Louth Co Co	WFP-LH-11-0007-01	Oriel Auto Specialists Ltd	12/PI/3S	0
116	G2A	Other Waste Vehicles	Louth Co Co	WFP-LH-11-0004-01	Dungooley Auto Salvage Ltd	2, 9, 10, 12/PI/3S	50000
117	G2A	Other Waste Vehicles	Louth Co Co	COR-LH-09-0003-01	M&M Recovery and Breakdown Services Ltd	3 /PII/3rd Sch	N/d
118	G4	Land Improvement	Louth Co Co	COR-LH-12-0002-01	Gibson Brothers (Ireland) Ltd	5 /PII/3rd Sch	25000
119	G4	Land Improvement	Louth Co Co	COR-LH-13-0002-01	Gibson Brothers (Ireland) Ltd	5 /PII/3rd Sch	25000
120	G4	Land Improvement	Louth Co Co	WFP-LH-09-0005-01	John O'Hagan	5 & 6/PI/3S	25000
121	G4	Land Improvement	Louth Co Co	WFP-LH-13-0003-01	John O'Neill	5 & 6/PI/3S	100000
122	G4	Land Improvement	Louth Co Co	WFP-LH-09-0002-01	McParland Brothers (Ireland) Ltd	5/PI/3S	100000
123	G4	Land Improvement	Louth Co Co	COR-LH-11-0001-01	Mr James Duffy	5 (PA), 6 /PII/3rd Sch	25000
124	G4	Land Improvement	Louth Co Co	COR-LH-11-0002-01	Ready Mixed Concrete (Ireland) Ltd	5 (PA), 6 & 7 /PII/3rd Sch	35000
125	G4	Land Improvement	Louth Co Co	COR-LH-11-0003-01	The Trustees of Naomh Moinne Hurling	5 /PII/3rd Sch	25000
126	G6	Organic Landspread	Louth Co Co	COR-LH-10-0002-01	Clearpower Ltd	13 /PII/3rd Sch	1000
127	G6	Organic Landspread	Louth Co Co	COR-LH-10-0003-01	Clearpower Ltd	13 /PII/3rd Sch	1000
128	G6	Organic Landspread	Louth Co Co	COR-LH-11-0005-01	John Conlon	13 /PII/3rd Sch	1000
129	G7	Non-hazardous & CFC	Louth Co Co	WFP-LH-11-0005-01	OCS One Complete Solution Ltd	11/PI/3S	7500
130	G8	Temporary Storage	Louth Co Co	COR-LH-12-0003-01	Rethink Europe Ltd	2, 4 /PII/3rd Sch	250

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
131	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-11-0010-01	Great White Destruction Ltd	: 1, 3, & 10	1030
132	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-10-0012-01	Iron Mountain (Ireland) Secure Shredding Ltd	10 & 11	12050
133	G1	Storage / Transfer	WFP	Meath Co Co	WMP 2007/22	Kiernan Sand & Gravel Ltd	10	126000
134	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-10-0015-01	Kilsaran Concrete Ltd	7	16000
135	G1	Storage / Transfer	WFP	Meath Co Co	WMP 2008/28	Mark Ryan	10	4830
136	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-10-0011-01	McKenna Waste Paper Recycling Ltd	10 & 11	1280
137	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-09-0008-01	OMD Waste Recycling Ltd	7 & 10	50000
138	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-12-0005-01	Rabbitte Catering Services Ltd	10	10000
139	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-11-0003-01	Roadstone Wood Ltd	7	30000
140	G1	Storage / Transfer	WFP	Meath Co Co	WFP-MH-10-0005-01	Slane Farm Oils	10	2940
141	G2	Metals, ELVs	WFP	Meath Co Co	WFP-MH-12-0007-01	Michael Ferguson Ltd,	12	0
142	G2	Metals, ELVs	WFP	Meath Co Co	WFP-MH-10-0013-01	Nicro Metals Recycling Ltd	4 & 10	25000
143	G2	Metals, ELVs	WFP	Meath Co Co	WFP-MH-09-0009-01	Sylvan Tractor Spares	4, 9, & 12	6000
144	G2A	Other Waste Vehicles	WFP	Meath Co Co	WFP-MH-12-0004-01	Diamond Car Parts	: 12,2, & 4	10000
145	G2A	Other Waste Vehicles	WFP	Meath Co Co	WFP-MH-12-0002-01	Labroc Ltd,	: 12, 2, & 4	115
146	G2A	Other Waste Vehicles	WFP	Meath Co Co	WFP-MH-10-0007-01	Maynooth Spare Parts Ltd	: 2, 4, 9, & 12	690
147	G2A	Other Waste Vehicles	WFP	Meath Co Co	WFP-MH-10-0001-01	Oristown Auto Recyclers Ltd	: 2,4, 9 & 12	26000
148	G2A	Other Waste Vehicles	WFP	Meath Co Co	WFP-MH-10-0002-01	T.D. Caldwell & Sons Ltd	: 2,4, 9 & 12	250
149	G3	WEEE & Batteries	WFP	Meath Co Co	WFP-MH-11-0005-01	The Recycling Village Ltd	: 3,4, & 9	10000
150	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-12-0008-01	Coffey Construction (1) Limited	5	12500
151	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-10-0004-01	Damian Fitzsimons Transport	5 & 10	42500
152	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-11-0009-01	Jim Lenehan	5	18434
153	G4	Land Improvement	CoR	Meath Co Co	COR-MH-13-0002-01	John Prior	5	1862
154	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-10-0008-01	Martin Brady	5 & 10	42000
155	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-13-0002-01	Phoenix Rock Enterprises Limited,	5	13000
156	G4	Land Improvement	WFP	Meath Co Co	WFP-MH-10-0010-01	Thomas Curtis	5 & 10	12000
157	G5	Biological	COR	Meath Co Co	SSF-COR-MH-12-0001-	Adrian Lindsay-Fynn		3500

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
					01			
158	G5	Biological		Meath Co Co	SSF-COR-MH-13-0001-01	Biocore Environmental Ltd		3500
159	G5	Biological		Meath Co Co	WFP-MH-08-0004-02	Peter Joseph Barry	8, 10	35000
160	G6	Organic Landspread		Meath Co Co	SSF-COR-MH-12-0002-01	Clearpower Ltd		3000
161	G6	Organic Landspread		Meath Co Co	SSF-COR-MH-12-0003-01	Clearpower Ltd		9000
162	G6	Organic Landspread		Meath Co Co	SSF-COR-MH-13-0003-01	Paddy Brady Agri Limited		3000
163	G6	Organic Landspread		Meath Co Co	SSF-COR-MH-13-0002-01	Paddy Brady Agri Limited		3000
164	G1	Storage / Transfer		Offaly Co Co	WFP-OY-10-0189-01	Better Bathroom Co. Ltd	10	50000
165	G1	Storage / Transfer		Offaly Co Co	WFP-OY-13-0193-01	Condron Tyres Ltd	10	50000
166	G1	Storage / Transfer		Offaly Co Co	WFP-OY-10-0183-02	Guessford Ltd	7; 10 & 11	50000
167	G1	Storage / Transfer		Offaly Co Co	COR-11-OY-0004-01	Killeshal Precast	7 of Third Schedule Part II	25000
168	G2	Metals, ELVs		Offaly Co Co	WFP-OY-10-0180-01	Condron Car Dismantlers Ltd.	4 & 12	N/d
169	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-10-0182-01	Ballycumber Exports Ltd	2; 4; 9 & 12	N/d
170	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-10-0191-01	Christopher Langan	2 & 12	N/d
171	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-10-0186-01	David N. Bracken	2; 4; 9 & 12	N/d
172	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-10-0184-01	Gregory Kinahan Sales Ltd T/A GKS	2 & 12	N/d
173	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-13-0194-01	Guinan Waste Recovery Ltd	2; 3; 4; 9; 10 & 12	50000
174	G2A	Other Waste Vehicles		Offaly Co Co	WFP-OY-10-0190-01	James Hanamy	2 & 12	N/d
175	G3	WEEE & Batteries		Offaly Co Co	WFP-OY-10-0181-01	Source Imaging Supplies Ltd	3,4 & 10	50000
176	G4	Land Improvement		Offaly Co Co	WFP-OY-08-0178-01	Ellsport Ltd	5	0
177	G4	Land Improvement		Offaly Co Co	WFP-OY-08-0167-02	Hinch Plant Hire Ltd	5	66000
178	G1	Storage / Transfer		South Dublin Co Co	WFP-DS-11-0002-02	Arneg Gate Ltd_Skip Trans	7/PI/3S	5000
179	G1	Storage / Transfer		South Dublin Co Co	WFP-DS-11-0004-01	Asset Management Ireland Ltd	1/PI/3S	835

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
180	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-10-0009-01	Frylite (Dublin) Ltd.	10/PI/3S	7500
181	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-11-0009-01	Kilsaran Concrete		10000
182	G1	Storage / Transfer	CoR	South Dublin Co Co	COR-DS-11-0002-01	KN Network Services Ltd.	7	10000
183	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-11-0001-03	Natural Energy & Recycling Ltd	10/PI/3S	20000
184	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-12-0001-02	Pulp Recycling Limited	10/PI/3S/	5000
185	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-10-0001-01	Rentokil Initial Ltd	1	100
186	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-11-0005-01	Roadstone Wood Ltd	7/PI/3S/	50000
187	G1	Storage / Transfer	WFP	South Dublin Co Co	WFP-DS-12-0008-01	Summerhill Investments Ltd	10/PI/3S/	20000
188	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-13-0003-01	Bonnerpoint Limited	12/PI/3S	3000
189	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-11-0014-03	Electrical waste Management Ltd	4/PI/3S	82803
190	G2	Metals, ELVs	CoR	South Dublin Co Co	WFP-DS-10-0005-02	Hammond Lane Metal Co. Ltd		24748
191	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-12-0013-01	Marie Cullen	12/PI/3S	150
192	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-10-0002-02	Mark O'Reilly	4	7500
193	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-11-0012-01	Motor Rescue Direct Limited	12/PI/3S	3000
194	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-12-0009-01	OMC Motors Ltd.	12/PI/3S/	200
195	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-12-0005-01	Robert Cullen	12/PI/3S	1500
196	G2	Metals, ELVs	WFP	South Dublin Co Co	WFP-DS-09-0009-06	The Hammond Lane Metal Co. Ltd	2, 4 & 12	24900
197	G2A	Other Waste Vehicles	WFP	South Dublin Co Co	WFP-DS-10-0013-02	Themroc Ltd.	2	20.5
198	G2A	Other Waste Vehicles	WFP	South Dublin Co Co	WFP-DS-09-0001-01	Westlink Recovery Services Limited	2 & 12	3000
199	G3	WEEE & Batteries	WFP	South Dublin Co Co	WFP-DS-10-0010-02	Clondalkin Community Recycling Initiative Limited	3, 9 & 11	1150
200	G3	WEEE & Batteries	WFP	South Dublin Co Co	WFP-DS-14-0003-01	Kavanagh Recycling & Recovery Ltd	3 & 9/PI/3S/	2000
201	G3	WEEE & Batteries	WFP	South Dublin Co Co	WFP-DS-10-0008-03	Rehab Enterprises Ltd.	3 & 9/PI/3S/	10000
202	G3	WEEE & Batteries	WFP	South Dublin Co Co	WFP-DS-11-0008-01	Rehab Enterprises Ltd.	3/PI/3S	11560
203	G5	Biological	WFP	South Dublin Co Co	WFP-DS-10-0007-01	Kennedy Landscape Supplies Limited	8 /PI/3S/	1000
204	G7	Non-hazardous & CFC	WFP	South Dublin Co Co	COR-DS-10-0001-01	Refrigeration Distributors Ltd.		36
205	G7	Non-hazardous & CFC	CoR	South Dublin Co Co	COR-DS-10-0002-01	RSL Ireland Limited	14 /PI/3rd Sch	36

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
206	G7	Non-hazardous & CFC		South Dublin Co Co	WFP-DS-09-0008-01	Smart Waste Ltd.		
207	G8	Temporary Storage	CoR	South Dublin Co Co	COR-DS-13-0001-01	The Emerald Waste Company Ltd.		2
208	G1	Storage / Transfer	WFP	West Meath Co Co	WFP-WM-2011-0004-01	Barna Waste Ltd (Mr. Sean Curran)		10 N/d
209	G1	Storage / Transfer	WFP	West Meath Co Co	WFP-WM-2010-0003-01	Chris Lynch Waste Management Ltd.		10
210	G1	Storage / Transfer	WFP	West Meath Co Co	WFP-WM-2010-0001-01	G & J O'Neill		10
211	G1	Storage / Transfer	WFP	West Meath Co Co	WFP-WM-2009-0007-01	John Gannon Concrete Ltd		10
212	G2	Metals, ELVs	WFP	West Meath Co Co	WFP-WM-2013-00002	O'Reilly Commerials, Ballinalack	2,4,9,12	N/d
213	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2013-00003	AEP Factors Ltd	2,4,9,12	N/d
214	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2013-0004	Auto Euro Parts Ltd	2,4,9,12	N/d
215	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2011-0001-01	E. Hamill & Sons Ltd	2,4,12	N/d
216	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2014-01	Ganly Motors Ltd	2,4,9,12	N/d
217	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2010-0002-01	Joe Devery Car Dismantlers	2,4,12	N/d
218	G2A	Other Waste Vehicles	WFP	West Meath Co Co	WFP-WM-2011-0002-01	The Hammond Lane Metal Company Ltd.	2,4,12	N/d
219	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2011-0005-01	Albert Casey		5
220	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2009-0003-01	BD Flood Ltd.,	5,6	15000
221	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2009-0005-01	Cois River Sand and Gravel Ltd		5
222	G4	Land Improvement	CoR	West Meath Co Co	COR-WH-11-00002-01	Eamonn Cuinnffe		6
223	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2012-0004-01	Gerry Flynn		6
224	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2012-0001-01	Healion Contractors Ltd		5
225	G4	Land Improvement	WFP	West Meath Co Co	WFP-WM-2013-00001	Michael McManus		6
226	G5	Biological	WFP	West Meath Co Co	WFP-WM-2010-0005-01	Johnstown Recycling	8,10	2000
227	G6	Organic Landspread	CoR	West Meath Co Co	COR-WH-12-00001-01	BioCore Environmental		13
228	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-13-0003-02	Cullen Excavations Limited	5,7	50000
229	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-11-0023-01	Dan Morrissey Limited		7
230	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-12-0031-01	East Coast Transport Limited		7
231	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-12-0030-01	Polymer Recovery Limited		10

INo	Code	Type	Type	Local authority	AuthNo	Name	Class	Capacity
232	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-14-0033-01	QTLS Limited	10	23900
233	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-10-0020-01	Wicklow Farm Relief Services Limited	10	1000
234	G1	Storage / Transfer	WFP	Wicklow Co Co	WFP-WW-12-0007-02	Wicklow Port Company	10	50000
235	G4	Land Improvement	COR	Wicklow Co Co	COR-WW-13-0019-01	Cullen Excavations Limited	5,7	50000
236	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-10-0009-01	Emma Kennedy	5	15000
237	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-10-0010-01	Greystones Golf Club	5	10000
238	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-11-0014-01	James Bradbury	5	5000
239	G4	Land Improvement	WFP	Wicklow Co Co	WFP-WW-12-0012-03	James Nolan	5	25000
240	G4	Land Improvement	WFP	Wicklow Co Co	WFP-WW-12-0029-01	John Webb	5	12000
241	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-11-0015-01	Michael Byrne	5	5000
242	G4	Land Improvement	WFP	Wicklow Co Co	WFP-WW-10-0017-01	Ray Kavanagh	5	75000
243	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-10-0007-01	Sinead Brannagh	5	7000
244	G4	Land Improvement	CoR	Wicklow Co Co	COR-WW-12-0016-01	TP & S Delahunt	5	25000
245	G4	Land Improvement	WFP	Wicklow Co Co	WFP-WW-11-0028-01	Vincent Cousins	5	25000
246	G6	Organic Landspread	WFP	Wicklow Co Co	COR-WW-13-0018-01	SEDE Limited		25000

APPENDIX E
INVENTORY OF EPA WASTE LICENSED SITES

#	Reg. no.	Facility name	Facility name	Organisation name	Facility type
1	W0124-01	Carbury Compost Limited	Carbury Compost Limited	Carbury Compost Limited	Composting
2	W0198-01	Bord na Móna (Kilberry)	Bord na Mona	Bord Na Mona	Composting
3	W0218-01	Kings Trees Services Composting Facility	Kings Tree Services Composting Facility	Kings Tree Services Limited	Composting
4	W0219-01	Organic Gold (Marketing) Ltd.	Organic Gold (Marketing) Ltd.	Organic Gold (Marketing) Limited	Composting
5	W0195-02	Kilmainhamwood Compost	Kilmainhamwood Compost	Padraig Thornton Waste Disposal Limited	Composting
6	W0083-01	Lower Oriel Street	Lower Oriel Street	Sita Environmental Limited	Hazardous Waste Facility
7	W0112-01	National Recycling and Environmental Protection Ltd	National Recycling and Environmental Protection Ltd	National Recycling & Environmental Protection Limited	Hazardous Waste Facility
8	W0237-01	Ormonde Organics Limited	Ormonde Organics Limited	Ormonde Organics Holdings Limited	Hazardous Waste Facility
9	W0035-01	Sita Environmental Ltd.	Sita Environmental Ltd.	Sita Environmental Limited	Hazardous Waste Facility
10	W0036-02	Indaver Ireland Limited (Tolka Quay Road)	Indaver Ireland Limited (Tolka Quay Road)	Indaver Ireland Limited	Hazardous Waste Facility
11	W0040-01	Sorundon Ltd t/a Irish Environmental Services	Sorundon Ltd t/a Irish Environmental Services	Sorundon Limited T/A Irish Environmental Services	Hazardous Waste Facility
12	W0184-01	Enva Ireland Limited (Portlaoise)	Enva Ireland Limited (Portlaoise)	Enva Ireland Limited	Hazardous Waste Facility
13	W0185-01	Rilta Environmental	Rilta Environmental	Rilta Environmental Limited	Hazardous Waste Facility
14	W0196-01	MacAnulty Clear Drains	MacAnulty Clear Drains	MacAnulty Specialist Underground Services Ltd	Hazardous Waste Facility
15	W0054-02	SRCL Limited	SRCL Limited	SRCL Limited	Hazardous Waste Facility
16	W0115-01	Soltec (Ireland) Limited	Soltec (Ireland) Limited	Soltec (Ireland) Limited	Hazardous Waste Facility
17	W0055-02	SRCL Limited	SRCL Limited	SRCL Limited	Hazardous Waste Facility
18	W0099-01	Safety Kleen Ireland Ltd	Safety Kleen Ireland Ltd	Safety Kleen Ireland Limited	Hazardous Waste Facility
19	W0113-04	KMK Metals Recycling Limited	KMK Metals Recycling Limited	KMK Metals Recycling Limited	Hazardous Waste Facility
20	W0140-03	Nurendale (Rathdinagh)	Nurendale (Rathdinagh)	Nurendale Limited	Integrated Waste Management Facility
21	W0232-01	Dublin Waste to Energy Project	Dublin Waste to Energy Project	Dublin City Council	Integrated Waste Management Facility
22	W0239-01	Tonge Industries Limited	Tonge Industries Limited	Tonge Industries Limited	Integrated Waste Management Facility
23	W0014-01	Silliot Hill Landfill	Silliot Hill Landfill	Kildare County Council	Integrated Waste Management Facility
24	W0034-02	Dundalk Landfill & Civic Waste Facility	Dundalk Landfill & Civic Waste Facility	Dundalk Town Council	Integrated Waste Management Facility

#	Reg. no.	Facility name	Organisation name	Facility type
25	W0053-03	Starrus Eco Holdings Limited	Starrus Eco Holdings Limited	Management Facility
26	W0208-01	Oxigen Environmental (Merrywell)	Oxigen Environmental	Integrated Waste Management Facility
27	W0223-01	Kilshane Cross Recycling Park	Fingal County Council	Integrated Waste Management Facility
28	W0167-02	Indaver Ireland Limited (Duleek)	Indaver Ireland Limited	Integrated Waste Management Facility
29	W0127-01	Dunsink Landfill aka Dunsink Civic Amenity	Fingal County Council	Landfill
30	W0033-01	Drogheda Landfill	Drogheda Borough Council	Landfill
31	W0129-02	Murphy Environmental Hollywood Limited	Murphy Environmental Hollywood Limited	Landfill
32	W0231-01	Fingal Landfill, Nevitt	Fingal County Council	Landfill
33	W0009-03	Balleally Landfill	Fingal County Council	Landfill
34	W0010-02	Basketstown Landfill Facility	Meath County Council	Landfill
35	W0015-01	Ballyogan Landfill Facility Ballyogan Recycling Park	Dun Laoghaire Rathdown County Council	Landfill
36	W0046-01	Ballylinan Landfill Site	Tegral Building Products Limited	Landfill
37	W0047-02	Kerdiffstown	Herhof Environmental Ltd.	Landfill
38	W0048-01	Kilmurry South	Marrakesh Limited	Landfill
39	W0071-02	Marlinstown Landfill	Westmeath County Council	Landfill
40	W0080-01	Dillonsdown	Carnegie J.W. & Co. Ltd.	Landfill
41	W0151-01	Murphy Concrete Manufacturing Ltd	Murphy Environmental Hollywood Limited	Landfill
42	W0153-01	Annaskinnan Landfill	Greenstar Holdings Limited	Landfill
43	W0156-01	KTK Sand & Gravel Ltd	KTK Sand & Gravel Limited	Landfill
44	W0181-01	Swalcliffe Limited	Swalcliffe Limited	Landfill
45	W0204-01	Brownfield Restoration Ireland Ltd	Brownfield Restoration Ireland Limited	Landfill
46	W0146-02	Knockharley Landfill Limited	Knockharley Landfill Limited	Landfill
47	W0254-01	Cemex (ROI) Limited	Cemex (ROI) Limited	Landfill
48	W0011-02	Ballymurtagh Landfill Facility	Wicklow County Council	Landfill
49	W0004-04	Arthurstown Landfill	South Dublin County Council	Landfill
50	W0028-03	Ballydonagh Landfill	Westmeath County Council	Landfill

#	Reg. no.	Facility name	Organisation name	Facility type
51	W0066-03	Rampere Landfill	Wicklow County Council	Landfill
52	W0060-03	Whiteriver Landfill Site	Louth County Council	Landfill
53	W0165-02	Ballynagran Landfill Limited	Ballynagran Landfill Limited	Landfill
54	W0201-03	Drehid Waste Management Facility	Bord na Mona Public Limited Company	Landfill
55	W0029-04	Derryclare Landfill	Offaly County Council	Landfill
56	W0026-03	Kyetalesha Landfill	Laois County Council	Landfill
57	W0081-04	Kilcullen Landfill Limited	Kilcullen Landfill Limited	Landfill
58	W0049-02	Clonbulloge Ash Repository	Bord Na Mona	Landfill (Active Inert)
59	W0238-01	Ballymount MRF (Merrywell)	Dublin City Council	Materials Recovery Facility
60	W0242-01	Thorntons Recycling Centre	Padraig Thornton Waste Disposal Limited	Materials Recovery Facility
61	W0206-01	Padraig Thornton Waste Disposal Ltd	Padraig Thornton Waste Disposal Limited	Materials Recovery Facility
62	W0205-01	Greyhound Recycling & Recovery	Greyhound Recycling and Recovery	Materials Recovery Facility
63	W0261-01	Nurendale (Cappagh Road)	Nurendale Limited	Materials Recovery Facility
64	W0275-01	Drumman Materials Recycling and Waste Transfer Facility	Bord na Mona Public Limited Company	Materials Recovery Facility
65	W0283-01	Drehid Mechanical Biological Treatment (MBT) Facility	Bord na Mona Public Limited Company	Materials Recovery Facility
66	W0247-01	Blackhall Soil Recovery Facility	Behan's Land Restoration Limited	Soil Recovery Facility
67	W0269-01	Fassaroe Waste Recovery Facility	Roadstone Limited	Soil Recovery Facility
68	W0097-01	Swalcliffe Limited	Swalcliffe Limited	Waste Transfer Station
69	W0003-03	Ballymount Baling Station	South Dublin County Council	Waste Transfer Station
70	W0039-02	Nurendale (Ballymount)	Nurendale Limited	Waste Transfer Station
71	W0045-01	Greenhills Road, Walkinstown, Dublin 12	KeyWaste Management Limited	Waste Transfer Station
72	W0079-01	Starrus Eco Holdings Limited	Starrus Eco Holdings Limited	Waste Transfer Station
73	W0131-02	Midland Waste Disposal Company Limited	Midland Waste Disposal Company Limited	Waste Transfer Station
74	W0175-01	Athy Civic Amenity Centre	Kildare County Council	Waste Transfer Station
75	W0183-01	Starrus Eco Holdings Limited	Starrus Eco Holdings Limited	Waste Transfer Station
76	W0188-01	Starrus Eco Holdings Limited	Starrus Eco Holdings Limited	Waste Transfer Station
77	W0044-02	Thornton's Recycling Centre	Padraig Thornton Waste Disposal Limited	Waste Transfer Station
78	W0169-01	Mulleady's Ltd	Mulleady's Limited	Waste Transfer Station
79	W0158-01	Ray Whelan Ltd	Ray Whelan Limited	Waste Transfer Station
80	W0042-01	Dean Waste Company Ltd (Upper Sheriff Street)	Dean Waste Co. Limited	Waste Transfer Station
81	W0152-03	Oxygen Environmental (Robinhood)	Oxygen Environmental	Waste Transfer Station

#	Reg. no.	Facility name	Organisation name	Facility type
82	W0144-01	Oxigen Environmental (Coes Road)	Oxigen Environmental	Waste Transfer Station
83	W0221-01	Labre Park Civic Amenity Site	Dublin City Council	Waste Transfer Station
84	W0222-01	Advanced Environmental Solutions (Ireland) Limited	Advanced Environmental Solutions (Ireland) Limited	Waste Transfer Station
85	W0194-02	Advanced Environmental Solutions (Ireland) Ltd	Advanced Environmental Solutions (Ireland) Limited	Waste Transfer Station
86	W0227-01	Lawlor Brothers Waste Disposal Ltd t/a Access Skip Hire	Lawlor Brothers Waste Disposal Limited	Waste Transfer Station
87	W0228-01	Green Waste Facility	South Dublin County Council	Waste Transfer Station
88	W0197-02	Mulleady's Limited	Mulleady's Limited	Waste Transfer Station
89	W0192-03	Rilta Environmental Limited	Rilta Environmental Limited	Waste Transfer Station
90	W0263-01	Irish Packaging Recycling	Irish Packaging Recycling	Waste Transfer Station
91	W0104-03	Advanced Environmental Solutions (Ireland) Limited (Tullamore)	Advanced Environmental Solutions (Ireland) Limited	Waste Transfer Station
#	Reg. no.	Facility name	ORGOrganisation name	Facility type
	P0030-04	Irish Cement Limited	Platin Works	
	P0487-06	Lagan Cement Limited	Killaskillen	
(from the EPA's IPPC dataset for co-incineration of waste)				

APPENDIX F
LEGACY AND HISTORIC LANDFILLS

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
Dublin	S22-02292	Artane school	Pre 1977			0				
Dublin	S22-02329	Labre park	Pre 1977			0				
Dublin	S22-02330	Californian hills	Pre 1977			0				
Dublin	S22-02331	Long meadows	Pre 1977			0				
Dublin	S22-02332	Sundrive road	Pre 1977			0				
Dublin	S22-02333	Irishtown	Pre 1977			0				
Dublin	S22-02334	Bond road	Pre 1977			0				
Dublin	S22-02335	East wall road	Pre 1977			0				
Dublin	S22-02336	Clontarf park	Pre 1977			0				
Dublin	S22-02337	Mount temple schools	Pre 1977			0				
Dublin	S22-02338	Edenmore park	Pre 1977			0				
Dublin	S22-02339	Lauder's lane	Pre 1977			0				
Dublin	S22-02340	Ballyboggan quarry	Pre 1977			0				
Dublin	S22-02341	Tolka valley	Pre 1977			0				
Dublin	S22-02342	Merville quarries	Pre 1977			0				
Dublin	S22-02343	James larkin road	Pre 1977			0				
Dublin	S22-02344	Bull island causeway	Pre 1977			0				
Dun Laoghaire-Rathdown	S22-02619	Jennings	C&D			1000000	10	C		
Dun Laoghaire-Rathdown	S22-02620	Brennan	C&D			20000	10	C		
Fingal	S22-02655	Barnageeragh	Municipal			3600	12.5	C		
Fingal	S22-02658	Curkeen Quarry	Municipal			3900	31.25	C		
Fingal	S22-02669	St. Doolagh's Quarries	Municipal		Municipal	3600	50	B		
Fingal	S22-02670	Burrow Road	Pre 1977	Municipal		12000	42	B		

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
Fingal	S22-02691	Porterstown	Pre 1977	Other		16200	5	C		
Fingal	S22-02692	Tolka River Park	Municipal	C&D		1440	30	C		
Fingal	S22-02745	Castlemoate House	Municipal			7836	22.5	C		
Fingal	S22-02746	Nevitt	C&D			120000	2.083333	C		
Fingal	S22-02747	Belcamp Lane	Municipal	Industrial	C&D	40000	50	B		
Fingal	S22-02817	Fancourt	Pre 1977	C&D	Municipal	20000				
Kildare	S22-02363	Oghill Refuse Depot, Monasterevin	Municipal	Other	Other	0	33	C		
Kildare	S22-02364	Monasterevin Refuse Depot	Municipal	Other	Other	1	33	C		
Kildare	S22-02424	Ballysize, Donore, Carragh	Pre 1977	ELV/Scrap Metal	Other	1	70	A		
Kildare	S22-02430	Carrigeen, Clane	C&D	Municipal	Other	40000	50	B	√	
Kildare	S22-02431	Mountrice Refuse Depot, Monasterevin	Municipal	Other	Other	0	50	B		
Kildare	S22-02432	Digby Bridge, Barretstown, Sallins	Municipal	Other	Other	100000	100	A		
Kildare	S22-02433	Pollardstown Refuse Depot, Loughbrown, The Curragh	Municipal	Other	Other	13500	10	C	√	
Kildare	S22-02436	Donnelly's Hollow, The Curragh	Municipal	Other	Other	0	25	C		
Kildare	S22-02437	Landenstown, Sallins	Municipal	Other	Other	8000	50	B		
Kildare	S22-02438	Rathangan Refuse Depot	Municipal	Other	Other	442	50	B		
Kildare	S22-02439	Rahadoon, Sallins	Municipal	Industrial	Other	60500	50	B		
Kildare	S22-02440	Waterstown, Sallins	Municipal	Other	Other	11700	50	B		
Kildare	S22-02441	Yellowbogcommon, Kilcullen	Municipal	Other	Other	2400	50	B		

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
Kildare	S22-02442	Robertstown Refuse Depot	Municipal	Other	Other	5000	50	B		
Kildare	S22-02443	Knocknagarm Refuse Depot, The Curragh	Municipal	Other	Other	6667	70	A		
Kildare	S22-02507	Greenhills Refuse Depot, Athy	Municipal	Other	Other	0	70	A		
Kildare	S22-02508	Prusselstown Refuse Depot, Athy	Municipal	Other	Other	0	70	A		
Kildare	S22-02509	Moone Refuse Depot	Municipal	Other	Other	0	30	C		
Kildare	S22-02763	Waterstown 2, Donore, Sallins	Municipal	Municipal	Other	10000	30	C		
Laois	S22-02273	Kilmainham	Municipal	Industrial	Other	100	16.67	C		
Laois	S22-02274	Rathdowney road	Municipal	Industrial	Other	100	50	B		
Laois	S22-02275	Oughaval	Municipal	Industrial	Other	100	50	B		
Laois	S22-02276	Trumera landfill	Municipal	Industrial	Other	100	16.67	C		
Laois	S22-02277	Ballydine landfill 1	Pre 1977	Industrial	Municipal	100	10	C		
Laois	S22-02278	Ballymorris landfill	Municipal	Industrial	Other	38500	43.75	B		
Laois	S22-02280	Aghanure landfill	Pre 1977	Other	Other	100	43.75	B		
Laois	S22-02281	Ballinakill landfill	Municipal	Other	Other	100	50	B		
Laois	S22-02282	Castletown landfill	Pre 1977	Other	Other	100	3.75	C		
Laois	S22-02283	Clonard landfill	C&D	Other	Other	100	16.67	C		
Laois	S22-02284	Coolkerry landfill	Pre 1977	Other	Other	100	5	C		
Laois	S22-02285	Cooltederry landfill	Pre 1977	Other	Other	100	8.75	C		
Laois	S22-02286	Kilabban	Unknown	Other	Other	100	50	B		
Laois	S22-02287	Kilbreedy landfill	Municipal	Other	Other	100	37.5	C		
Laois	S22-02288	Mountrath town landfill	Pre 1977	Municipal	Other	100	7.5	C		
Laois	S22-02289	Rathmoyle landfill	Pre 1977	Other	Other	100	5	C		
Laois	S22-02290	Ridge road landfill	Pre 1977	Other	Other	100	3.75	C		

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
Laois	S22-02291	Wynne park landfill	Pre 1977	Other	Other	100	50	B		
Longford	S22-02485	Lissard	Municipal	Other	Other	8000	20	C		
Longford	S22-02486	Ballymahon	Municipal	Other	Other	0	50	B		
Longford	S22-02487	Ballymaurice	Municipal	Industrial	Other	140000	70	A		
Longford	S22-02488	Barnacor	Municipal	Other	Other	20000	43.75	B		
Longford	S22-02489	Cartron big	Municipal	Industrial	C&D	400000	70	A		
Longford	S22-02490	Longford town no. 1	Municipal	Other	Other	0	70	A		
Longford	S22-02491	Longford town no. 2	Municipal	Other	Other	30600	50	B		
Longford	S22-02653	Ballymulvey	Municipal			27000	17.5	C		
Longford	S22-02652	Drumlish	Municipal	Industrial		24750	29.16667	C		
Louth	S22-02450	Ardee town dump	Municipal			35000	50	B		
Louth	S22-02451	Bolies county dump	Municipal			30000	16.66667	C		
Louth	S22-02452	Carlingford town dump	Municipal			22000	50	B	√	
Louth	S22-02453	Omeath town dump	Municipal			0	17	C		
Meath	S22-02198	Fletcherstown Bog	Municipal	Other	Other	75000	10.5	C		
Meath	S22-02207	Drumconrath Town Dump	Municipal	C&D	Other	50000	28	C		
Meath	S22-02209	Oldcastle Town Dump	Municipal	Other	Other	10000	45	B	√	
Meath	S22-02211	Jeninstown Dump	Municipal	Other	Other	5000	33.33333	C		
Offaly	S22-02388	Clonbrone, birr	Municipal	Agriculture	C&D	47765	46.66667	B		
Offaly	S22-02389	Ballydaly, tullamore	Pre 1977	C&D	Agriculture	9000	37.5	C		
Offaly	S22-02390	Ballydrohid, tullamore	Pre 1977	Agriculture	C&D	1000	10	C		
Offaly	S22-02391	Ballyvora, ferbane	Municipal	Agriculture	C&D	1000	33	C		
Offaly	S22-02392	Ballybracken little	Municipal	Agriculture	C&D	25000	61	B		
Offaly	S22-02393	Cloncannon, edenderry	Municipal	C&D	Agriculture	10000	12	C		
Offaly	S22-02394	Pre cloncannon	Municipal	C&D	Agriculture	2000	6	C		
Offaly	S22-02484	Scurragh landfill	Pre 1977	C&D	Agriculture	0	10	C		

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
Offaly	S22-02499	Kilbride, kilcoursey, clara	Municipal	C&D	Agriculture	1000	46	B		
South Dublin	S22-02166	Friarstown	Municipal			2000	100	A		
South Dublin	S22-02167	Waterstown	Municipal	Hazardous	C&D	500	100	A		
South Dublin	S22-02168	Mill lane	Industrial	Hazardous		20000	50	B		
South Dublin	S22-02397	Corbally Tallaght hill Ref C221	C&D	Other	Other	20000	5	C		
South Dublin	S22-02399	Cruagh, rockbrook	Municipal	Industrial		500	70	A		
South Dublin	S22-02400	Glassamucky	C&D	Other	Other	2000	7.5	C		
South Dublin	S22-02402	Kilnamanagh Ref 233	Pre 1977	Municipal	C&D	500	7.5	C		
South Dublin	S22-02403	Lucan demesne	Municipal	C&D	Other	50000	70	A		
South Dublin	S22-02632	Bohernabreena (Ref B 215)	Pre 1977			1000	10	C		
South Dublin	S22-02645	Greenhills Road Site (Ref 232)	Pre 1977	C&D		500	7.5	C		
South Dublin	S22-02649	Whitehall Road west /St Peter's Crescent	Pre 1977	Municipal		500	10	C		
South Dublin	S22-02711	Bluebell ,J.F.K industrial Estate Map Ref 234	Pre 1977	C&D		200	7.5	C		
South Dublin	S22-02742	Nangor Road, Ballybane Ref 238	C&D	Industrial	ELV/Scrap Metal	5000	2.5	C		
South Dublin	S22-02748	Corbally Sargat Map Ref.222 Durcan	C&D			2000	10	C		

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
South Dublin	S22-02749	Corbally Saggat Paul Joyce	C&D	Industrial	Hazardous	170000	70	A		
South Dublin	S22-02750	Robinhood Road Landfill Map Ref 235	Pre 1977	Municipal	Municipal	100000	10	C		
South Dublin	S22-02751	Clondalkin Papermill Map Ref 237	Industrial	Hazardous		200000	100	A		
South Dublin	S22-02752	Tymon Lane near Balrothery	C&D			50000	3.75	C		
South Dublin	S22-02753	Balrothery Landfill Map ref 208	C&D			100000	5	C		
South Dublin	S22-02754	Firhouse Road	Industrial	Hazardous	C&D	1000	50	B		
South Dublin	S22-02756	Edmondstown Road Map B 201	Municipal			500	50	B		
South Dublin	S22-02757	Edmondstown Road Landfill Map Ref.202	C&D			5000	5	C		
South Dublin	S22-02758	Woodtown Map Ref A 205	Industrial			1000	70	A		
South Dublin	S22-02766	Mountpelier, East of Friarstown, map Ref 211	Industrial	C&D	Other	1000	20	C		
South Dublin	S22-02767	Bohernabreena Landfill Map Ref B216	C&D	C&D		100000	5	C		
South Dublin	S22-02777	Piperstown, Tallaght Ref B212	C&D	Agriculture	Other	2000	5	C		
South Dublin	S22-02778	Ballinascorney Ref 217	Municipal	C&D		300	30	C		
South Dublin	S22-02779	Mount Seskin Road Landfill Map Ref. B218	Industrial	Hazardous	Other	200000	30	C		
South Dublin	S22-02818	Calliaghstown Upper (W. of Brittas) Map Ref	Municipal	C&D	Other	50000				

Local Authority	Site ID	Site Name	Waste Type A	Waste Type B	Waste Type C	Quantity	Site Score	Risk	COA Application	COA Received
		225								
Westmeath	S22-02293	Golden island	Municipal	Industrial	C&D	40000	50	B		
Westmeath	S22-02412	Moate	Municipal	Industrial	C&D	61000	70	A		
Westmeath	S22-02413	Kilbeggan	Municipal	Industrial	C&D	22000	50	B		
Westmeath	S22-02414	Tyrrellspass	Municipal	Industrial	C&D	42000	20	C		
Westmeath	S22-02415	Rochfortbridge	Municipal	Industrial	C&D	9000	15	C		
Westmeath	S22-02416	Killucan	Municipal	Industrial	C&D	10500	20	C		
Westmeath	S22-02417	Marlinstown	Municipal	Municipal Sludge	Industrial	108000	70	A		
Westmeath	S22-02418	Milltownpass dump	Municipal	Industrial	C&D	10800	8	C		
Westmeath	S22-02425	Ballinlig, clonmellon	Municipal	Industrial	C&D	29000	28	C		
Westmeath	S22-02426	Castlepollard	Municipal	Industrial	C&D	11000	20	C		
Westmeath	S22-02428	Coole dump	Municipal	C&D	Other	6500	20	C		
Westmeath	S22-02429	Delvin dump	Municipal	Industrial	C&D	14000	4	C		
Westmeath	S22-02434	Christianstown, collinstown	Industrial	Other	Other	6000	47	B		
Westmeath	S22-02435	Lickbla	Industrial	Other	Other	27200	70	A		