

## PART 3



## 12 POLICY AND LEGISLATION CHANGES

### 12.1 INTRODUCTION

The Waste Management Plans produced in 2001 throughout Ireland have delivered real change to managing waste throughout the country over the past five years. The majority of Local Authorities now plan and implement on a regional basis to deal with waste issues. Infrastructure has been developed on the basis of regional waste figures and needs. Steering committees meet to monitor and ensure continued progress on the implementation of the Waste Plan recommendations.

### 12.2 LEGISLATION AND POLICY AT EU AND NATIONAL LEVEL

European policy on waste management is embodied in a number of Directives, some of which contain statutory targets for minimising, reusing, recycling or recovering of waste, and have set out a certain timeframe for which these targets must be achieved by Member States. Much of the legislation governing waste management in Ireland is based on transposing the EU Directives into law.

#### 12.2.1 Recent EU Legislation

##### **EU Directive (2000/76/EC) on the Incineration of Waste**

This Directive supersedes EU Directives (89/368/EEC and 89/429/EEC) on the incineration of non-hazardous waste, and EU Directive (94/67/EC) on the incineration of hazardous wastes, addressing previous omissions in these Directives. The Directive aims to prevent or limit negative effects on the environment and the resulting risks to human health from the incineration or co-incineration of waste. It sets limit values for the emissions of dioxins, mercury and dusts arising from waste incineration, along with monitoring and operational requirements.

The Directive sets out minimum operational requirements in order to guarantee complete waste combustion. The quantity and harmfulness of incineration residues must be kept to a minimum and residues must, as far as possible, be recycled.

All incineration or co-incineration plants planned for Ireland will be licensed and monitored by the EPA, who will specify the type and quantity of waste allowed to be treated in such plants.

##### **EU Directive on End-of-Life Vehicles**

The EU Directive on End-of-Life Vehicles (ELVs) (2000/53/EC) was introduced in 2000. This Directive proposes to introduce the concept of producer-responsibility in the disposal of ELVs by applying a levy to the cost of production of each car that will then be used to recycle and dispose of the vehicle in an environmentally sustainable manner. In addition, producers must endeavour to reduce the amount of hazardous materials used in the production of vehicles in a way that allows them to be easily dismantled.

##### **EU Directive on Waste Electrical and Electronic Equipment**

The aim of this Directive (2002/96/EC) is to increase recovery rates for such waste/scrap items, and to reduce the quantities of this waste stream consigned to landfill. Producers of WEEE are responsible for the recovery of End-of-Life equipment such as computers, televisions, vacuum cleaners etc, deemed a priority waste by the EU. The directive includes a target of a minimum of 4kg of WEEE to be collected per inhabitant per year by 2006.

##### **EU Regulation on Animal By-Products**

The Animal By-Products Regulation (1774/2002/EC) is important in a waste context in that it regulates the disposal and use of animal by-products that are not intended for human consumption. The Animal By-Products Regulation came into force on 2nd May 2003, and divides by-products into 3 categories, specifying the means of disposal for each category.

## EU Solvent Emissions Directive

The European Council Directive 1993/13/EC on solvent emissions has been issued to address the harmful effects on human health and the environment caused by organic solvents. Organic solvents are used in many industrial processes and, owing to their volatility, they are emitted either directly or indirectly to the air. Such solvents can also inadvertently be released to sewers/waters or onto the ground. The directive has been brought into effect in Ireland through the Emissions of Volatile Organic Compounds from Organic Solvents Regulations, 2002.

There are many different types of businesses at the commercial and industrial level that will be affected by the Directive, such as: dry cleaners, printers, vehicle refinishing, manufacturing of varnish/ink/adhesives and pharmaceutical manufacturers.

A new system known as the Accredited Inspection Contractor (AIC) system will be used to implement the Directive for smaller businesses (larger companies in the IPPC sector are already regulated by the EPA). Non IPPC businesses must register with their Local Authority and submit the AICs annual report in order to obtain a certificate of compliance. The AIC will be reporting on:

- Solvent raw material,
- waste solvents,
- reused solvents,
- production data .

Consequently the Local Authorities, namely the Regulation and Enforcement Teams will be responsible for absorbing the regulation of this Directive into their existing workload and ensuring compliance and reporting.

The dates by which a facility must meet air emission requirements, and must register with and obtain a certificate of compliance from their Local Authority are:

- If you are a new installation (put into operation on or before 1 July 2003): before you start to operate
- If you are an existing installation using the reduction scheme: by 31 October 2005
- If you are an existing installation meeting the Emission Limit Values: by 31 October 2007.

## 12.2.2 Recent National Legislation

Since the making of the last Plan in 2001, the following legislation has been introduced with relevance to Waste Planning issues.

### **Waste Management (Use of Sewage Sludge in Agriculture) (Amendment) Regulations 2002**

These Regulations replaced the 1991 Regulations on the protection of the environment, and in particular of soil, when sewage sludge is used in agriculture.

### **Waste Management (Licensing) (Amendment) Regulations, 2002**

These Regulations clarify definitions of a number of relevant terms, classify different types of landfills allowed to operate under the licensing system, and stipulates a phasing out of certain types of waste from being accepted at landfills.

### **Protection of the Environment Act 2003**

This Act updates and improves the legislation governing the Integrated Pollution Control (IPC) licensing regime, such that it is replaced by Integrated Pollution Prevention and Control (IPPC) licensing and provides a statutory basis for incorporating improved groundwater protection requirements.

The Act amended the 1996 Waste Management Act to provide for a number of new measures, including the review, variation or replacement of a Waste Management Plan to be an executive function, and the introduction of explicit new powers for Local Authorities to charge for waste services.

### **Waste Management (Licensing) (Amendment) Regulations, 2004**

These Regulations now allow for waste licences to be issued on the basis of Best Available Techniques (BAT) rather than Best Available Technology Not Entailing Excessive Cost (BATNEEC). The application of BAT will further improve the environmental performance from future waste facilities in Ireland.

In addition, changes were made to the amount of information to be supplied by applicants to ensure greater transparency in relation to waste activities. Energy efficiency is now also a consideration in deciding on the award of waste licences, and new powers to revoke or suspend a

licence based on “fit and proper person” have been introduced.

In general, several amendments have been made to Waste Management legislation over the past five years, primarily aimed at reducing certain waste streams from being landfilled, on limiting the inclusion of harmful materials in the production of goods and products and on a more comprehensive permitting and licensing system.

### **12.2.3 Pending Waste Policy and Legislation**

#### **Proposed EU Biowaste Directive**

A second draft of the Working Document on the Biological Treatment of Biodegradable Waste was published by the EU in February 2001. The main aim of this document was to promote the biological treatment of biodegradable municipal waste (BMW) and to help achieve the targets set out by the Landfill Directive. The proposed Directive is likely to include a duty to source separate BMW.

It is anticipated that this Directive will be very influential in promoting composting of BMW and stipulating quality specifications and uses of compost within the EU. There is a possibility that this Directive will be merged with a proposed EU soil strategy and revised Sludge Directive, to be finalised in 2005.

#### **EU Soil Strategy**

The EU is taking steps in the development of a comprehensive EU policy on soil protection, which may impact on the spreading of compost, sludge and animal slurries.

#### **New Sludge Directive**

A third draft of a Working Document on Sludge was published in April 2000, which proposed to reduce maximum levels of heavy metals in the soil and sludge in comparison with those limits previously stated in Directive 86/278/EEC. The new Directive will require that producers and handlers of sludge must be certified and ultimately be responsible for the quality of sludge produced. The overall objective of this directive will be to improve the rates of recycling of sludge and organic matter.

### **12.2.4 Other Relevant EU Legislation**

Additional European Legislation currently being considered includes a Directive on waste tyres. This Directive is expected to set out a 'producer responsibility' approach to management of this waste stream - the producer/ importer of the products will have to take back and pay for recycling of the products at the end of their life. This and other legislation in turn will cause companies to rethink their product design in order to minimise recycling costs. The details of how this scheme will operate in Ireland are not yet clear, but it is possible that the role of enforcing compliance with tyre legislation and other legislation such as the WEEE directive will fall to the Local Authority, as is the case with the Packaging Regulations and the Farm Plastics Regulations.

### **12.2.5 Other Environmental Legislation**

Government policy is guided by the National Sustainability Document and a National Environment Partnership Forum to develop the concept of sustainable development. The Forum will represent a cross section of interest groups and a Consultation paper has been produced.

There is a proposed amendment to Directive 91/689/EC on Hazardous Waste. This deals with separate collection of certain wastes under separate collection schemes, and requires each Member State to set up public information campaigns to efficiently implement the Directive.

A list of relevant waste management legislation is contained in Appendix A. The introduction of new legislation, together with pending legislative enactments has had a significant impact on how Waste Management Practices have developed in the country.

### **12.2.6 National Waste Prevention Programme (NWPP)**

The National Waste Prevention Programme (NWPP) was launched in April 2004 by the Minister for the Environment, Heritage and Local Government and is to be implemented by the Environmental Protection Agency. It is a four year programme and aims to deliver substantive progress on waste prevention and minimisation and will integrate a range of initiatives addressing awareness raising,

technical and financial assistance, training and incentive mechanisms.

Currently the most relevant component of the NWPP for the Midlands Region is the development of the Local Authority Prevention Demonstration Programme (LAPD). This programme, to be launched in 2005, provides Local Authorities with an opportunity to apply for funding for prevention projects/programmes that demonstrate practical measures for preventing waste.

### 12.2.7 Race Against Waste Campaign

The Race Against Waste campaign is a national awareness and communication campaign. It was established by DEHLG to promote awareness at a national level of the importance of managing waste. The campaign aims to change behaviour both at home and at work in order to reduce the amount of waste being produced and increase recycling and composting.

The Regional Campaign currently works closely with the Environmental Awareness Officers in the Local Authorities and will continue to do so. Specific elements of waste management are being communicated through a national advertising campaign, with different focus groups being targeted. It is anticipated that this campaign will have a continued positive effect on raising awareness on the importance of waste management at every level.

### 12.2.8 Use-Related Charging for Household Waste: “Pay-by-weight/Volume”

During the preparation of the first set of Regional Waste Management Plans, a common theme in the submissions from the public was the need to link waste charges to the amount of waste generated. This represents a logical way to implement the ‘polluter pays principle’, and can offer a real incentive to waste producers to minimise waste. The introduction of use-related charges became a policy of the Waste Management Plans.

In 2004 the Minister for Environment, Mr Martin Cullen, requested Local Authorities to implement use-related charging for household waste in their areas in 2005. The policy was given further elaboration in the 2004 Government Policy Statement *‘Taking Stock and Moving Forward’*.

In the Midlands Region, the use-related charging is well advanced with all of the major waste collectors in the Region.

The positive impacts of use-related charging for household waste are:

- It provides an impetus for reduction of waste, by changing shopping and lifestyle habits.
- Householders have an incentive to recycle as much waste as possible.
- The need for a full ‘integrated’ range of recycling collections becomes more important.

The Local Authorities and waste collection companies will need to respond to this new system, by providing support and information to householders on how best to reduce and recycle waste.

Some negative side effects may occur when use-related charging is introduced. Householders may be tempted to reduce waste bills by inappropriate use of recycling bins, or illegal dumping or burning of waste. The Local Authority has a role in ensuring that waste is managed responsibly and in the long-term will require adequate resources for regulation and enforcement of waste. Householders need clear information on what forms of waste management are acceptable. The general public ultimately has the role of ensuring household waste is managed responsibly.

It is possible that charging mechanisms and collection systems may change over the coming years as the more equitable systems evolve across the country.

### 12.2.9 Producer Responsibility Initiatives

Following the publication of the Government policy statement ‘Delivering Change’ in 2002, ‘producer responsibility initiatives’ are being implemented in a number of sectors, promoted by the Department of Environment Heritage and Local Government. The concept of producer responsibility means that industries producing goods and materials need to take responsibility for the environmental impact of placing these goods on the market. The concept is at the core of EU environmental policy. Some of the current and proposed schemes are listed below.

- **Packaging**

A Packaging Waste scheme has been underway since 1997, with legislative backing. One 'approved body' representing industry (REPAK) provides subsidies to assist in recycling of packaging waste, in order to meet obligations under the EU Packaging Waste Directive. Irish legislation is being updated to improve performance

- **Newspapers**

The Irish newspaper industry is finalising a voluntary scheme with DEHLG for recycling of 'unsold' newspapers at newsagent level. A secondary scheme to support household recycling of newspapers is also being proposed.

- **Construction & Demolition Waste**

The Construction Industry Federation has developed a voluntary initiative to improve performance regarding C&D waste in order to meet National recycling targets. The implementation of this initiative will depend on Local Authorities requesting C&D Waste Plans to be prepared by developers at the pre-planning stage for the relevant projects.

- **Waste Electrical and Electronic Equipment**

Following the adoption of EU Directive 2002/96/EC, from August 2005 householders will be able to return 'WEEE' such as fridges, video players, radios etc. free of charge either to shops (new-for-old) or to a Local Authority Civic Amenity Facility. The industry is currently establishing a system to collect and manage this waste.

- **End of Life Vehicles (Scrap cars)**

Under EU Directive 2000/53/EC, car manufacturers are being required to manage the collection and management of old vehicles. This will mean free-of-charge return of vehicles by the public. Legislation will be introduced by the DEHLG to support the scheme.

- **Tyres**

The DEHLG is currently negotiating the introduction of a scheme to ensure proper management of tyres under a producer-responsibility initiative with the Irish Tyre Industry Association.

- **Other Producer Responsibility Schemes**

Further proposals are anticipated for materials such as batteries, telephone directories, paints, medicines, and junk mail.

The implications of these schemes should be positive for the average business or household. The responsibility for managing these waste streams will transfer to the producer rather than the public. This means that the cost of recovery or disposal will increasingly be included in the purchase price rather than being imposed on the end user of the product. The schemes will encourage industries to 'design out' waste at source and to design products that are more easily recycled and contain less waste packaging.

For the Local Authorities, there will be increased responsibilities to regulate the various schemes (inspections, data collections, enforcement measures, reporting to the EPA and DEHLG) to ensure the producers are conforming to the legislation. For WEEE, Local Authorities will have to invest in improving collection facilities at Civic Amenity Facilities. Initially, this will be undertaken by the provision of suitable storage facilities at each site, with expenditure recouped from the relevant Producer Initiative Scheme.

#### 12.2.10 Market Development Group

The ultimate objective of the recycling recommendations in this Plan is 'resource recovery', whereby recycled materials are used to create new products and in so doing reduce the consumption of resources. While recycling has improved dramatically in recent years, concerns have been expressed that, as a nation, we export almost 70% of recycled waste abroad. While export of materials for recycling is acceptable in terms of global flows in materials, for a number of waste streams, the lack of markets continues to make recycling unfeasible or very expensive.

In recognition of these issues the Government has established a Market Development Group to drive a market development programme for recyclable materials. This is being funded from the Environment Fund. Three working groups have been established from relevant sectors

(including industry, waste companies and the public sector) to work on specific materials, i.e. plastics, paper and compost. One of the objectives will be development of indigenous reprocessing capacity whereby less transport is required and more employment is retained in Ireland.

Local Authorities will also need to support market development measures by taking a lead where possible in demonstrating opportunities for the re-use of products and in the development of pilot schemes. Co-operation from the various industry sectors will also be required.

#### **12.2.11 North-South Co-Operation for Waste Management**

The potential benefits of addressing waste management on an all-island basis has been highlighted at Government level and through the research of the North-South Ministerial Council. The IBEC-CRI Joint Business Council prepared an assessment of waste management from the perspective of Small to Medium Enterprises (SMEs) north and south.

By considering recyclable materials on an All-Ireland basis, some potential 'economies of scale' become apparent – for example the economic viability of facilities to recover WEEE, waste tyres, or waste paper improves as the volume of material available increases. There is also the opportunity to share expertise and technology resources in the waste management sector. A number of successful recycling companies already operate on an all-island basis.

Recently, cases of unauthorised waste movement and disposal have come to light, which highlights the need for better communication and co-operation between Local Authorities and enforcement bodies in both jurisdictions.

Currently Monaghan County Council is completing a Cross-Border Waste Management Study which examined the opportunities for co-operation in waste management planning and development of infrastructure. Current barriers or differences in waste management such as the regulatory regimes and the procedures for import and export of waste was also examined.

#### **12.2.12 Improvements in Waste Regulation and Enforcement**

One of the key challenges in waste management in Ireland over the life of the new Plan is regulation and enforcement. Since the mid 1990's the volume of legislation in place in the waste management sector has increased dramatically. Most of the day-to-day implementation falls to the Local Authorities. This new role of regulator has gradually taken over from the traditional function of service provider in many counties.

In general the past five years have seen an escalation in gate fees at waste facilities and a rapid growth in waste and problems of unauthorised disposal have occurred in many regions. Waste management is increasingly being carried out by private companies, all of whom have to be regulated. The first obligation is to ensure that waste is not handled in a manner that can create pollution. In addition, the ability to plan properly for waste management depends on accurate and up-to-date statistics. All Local Authorities face a challenge to ensure they have the management systems and resources in place to fulfil these requirements.

With high charges for waste collection, and the recent introduction of use-related charging for household waste, greater emphasis on regulation of waste producers – household and businesses – is also needed. As identified in the Draft National Biodegradable Waste Strategy (April 2004), some additional legislation is needed to provide an effective remedy to the current negative trend towards the use of back-yard incinerators and in-sink macerator units, both of which cause pollution.

In 2003/2004 significant additional resources were provided by the DEHLG to assist in staffing the regulation and enforcement units. The EPA is carrying out two studies aimed at improving the effectiveness of waste regulation and enforcement across the Country. These projects – a Review of Unauthorised Waste Disposal, and a Review of Waste Permitting - will lead to training programmes for Local Authority staff and new protocols to be used in day-to-day activities. In addition to this, the EPA is co-ordinating a number of useful 'working groups' to assist in efficient and consistent implementation of the Packaging Regulations and the movement of waste internationally

under the Trans Frontier Shipment legislation.

### 12.2.13 Use of Economic Instruments

2002 saw the introduction of the Plastic Bag Levy, which has had a dramatic impact on Irish shopping lifestyles. The Local Authorities are required to enforce the regulations behind the levy. Some of the gains made in the initial phase are now being eroded as people become used to accepting disposable paper bags. Ongoing promotion of reusable shopping bags is needed.

A Landfill Levy is also in place in Ireland, and the levy collected on each tonne of waste landfilled has been directed into an Environment Fund. This funding has benefited the public through the funding of new recycling infrastructure and environmental awareness programmes.

Further economic instruments are being considered – for example to help recover litter costs associated with fast food outlets. An economic levy is also an option when 'producer responsibility' schemes are being developed. In some countries, a levy is also imposed on energy recovery plants in order to keep the emphasis on waste reduction and recycling. In such cases the landfill levy is usually set even higher to discourage landfilling and to support the recovery of energy from waste, in accordance with the waste hierarchy.

## 12.3 ENERGY POLICIES AND WASTE MANAGEMENT

With Ireland under severe pressure to improve performance in relation to Kyoto protocol targets, increased focus is likely to concentrate on improving performance in the waste management sector. In addition to meeting the Kyoto targets, it is expected that energy policies will increasingly favour the use of renewable resources such as:

- Using food waste, agricultural wastes and industrial sludges to generate biogas for energy production.
- Using wood chips – including residues of clean wood – for energy generation.
- Developing biodiesel from waste cooking oil.

- The use of waste derived fuels in power plants and cement kilns as an alternative to the use of fossil fuels.
- Employing energy-efficient district heating systems.

The Waste Management Plan needs to retain flexibility to enable such proposals to be developed where appropriate.

## 12.4 RECENT DEVELOPMENTS IN WASTE MANAGEMENT IN IRELAND

### 12.4.1 County And Regional Waste Planning.

The Waste Management Act (1996) paved the way for inter-county and Local Authority co-operation on waste planning. Since then the focus of waste management has switched from being county-based towards finding regional solutions. By pooling resources the possibility of increasing prevention and recycling initiatives, and introducing thermal and biological treatment becomes viable when considered in a regional context.

Arguably the regional consideration of waste management also makes private investment a more attractive and viable prospect.

Over the last decade the private sector has grown to dominate the collection of commercial and industrial waste, and has entered partnership with a number of Local Authorities for household waste collection services. The DEHLG continues to promote a partnership approach between Local Authorities and private firms for the provision of future waste treatment and disposal facilities.

The regional approach to waste management, promoted in '*Changing Our Ways*' has seen 7 regional groupings in the country, listed in Table 12.1, with 3 individual Local Authorities producing their own waste management plans.



**Table 12.1: Waste Management Regions in Ireland**

Region	Local Authorities Included
Connaught	Mayo, Sligo, Roscommon, Leitrim, Galway City & County
Cork	Cork City and County
Donegal	Independent Waste Plan
Dublin	Dublin City, Dun-Laoghaire Rathdown, Fingal, South Dublin
Kildare	Independent Waste Plan
Midlands	Offaly, Westmeath, Longford, Laois, North Tipperary
Mid West	Limerick (City & County), Kerry, Clare.
North East	Meath, Louth, Cavan, Monaghan
South East	Wexford, Carlow, Kilkenny, South Tipperary, Waterford City & Council
Wicklow	Independent Waste Plan

#### 12.4.2 EPA National Policy on Hazardous Waste – Implications for Local Authorities.

The Environmental Protection Agency (EPA) is responsible for hazardous waste planning under the Waste Management Act, 1996. The National Hazardous Waste Management Plan (NHWMP) was published by the EPA in accordance with Section 26 of the Waste Management Act, 1996, and adopted in July 2001.

The Plan is a statutory document, designed to prevent and better manage hazardous waste in Ireland. The Plan is reviewed by the EPA at 5-year intervals. Under section 22(8) and 26(5) of the Waste Management Act, Local Authorities are required to incorporate recommendations of the NHWMP into their Waste Management Plans.

The NHWMP has regard to:

- The prevention and minimisation of hazardous waste
- The recovery of hazardous waste
- The collection and movement of hazardous waste
- The disposal of such hazardous waste as cannot be prevented or recovered.

Local Authorities have responsibilities under each of these key areas.

#### Hazardous Waste Prevention

Prevention of all waste is a priority in waste management, which includes hazardous waste. Prevention of hazardous waste

should follow the direction from the EPA and the National Waste Prevention Programme in terms of:

- Improving awareness of what constitutes hazardous material and how it should be managed.
- Promoting hazardous waste prevention and minimisation
- Improving awareness of collection and treatment options

#### Hazardous Waste Collection

Under the terms of the NHWMP, each Local Authority is obliged to provide a collection system for 'small-scale' producers of hazardous waste, which would include householders, farmers and small businesses.

Materials constituting hazardous waste include waste oil, waste vegetable oil, fluorescent tubes, cleaning agents, waste medicines, batteries, antifreeze, herbicides, pesticides, adhesives, old paints and paint thinner/stripper.

At present, waste oil is collected at facilities operated by Local Authorities in counties Laois, North Tipperary, Offaly and Westmeath, with hazardous waste collected by mobile units such as the Chemcar in counties Laois and Offaly. The Chemcar is a specially designed vehicle that can collect household hazardous waste from different sites around the country. The unit is sited at central locations on a pre-arranged date and members of the public can bring their hazardous wastes for depositing.

Adequate facilities for the collection of household hazardous waste need to be improved. If possible the existing network of recycling facilities will be upgraded for the collection of household hazardous waste either on a full time basis, or periodically throughout the year. Other outlets for specific waste streams should also be investigated, such as pharmacies taking back old medicines, and hardware stores taking back old paints, where options for reuse exist.

The EPA points out that a proposed amendment to the EU Hazardous Waste Directive is expected to require that household hazardous waste be separately collected.

#### Hazardous Waste Recovery/Disposal -

The EPA NHWMP states that at least 2 engineered landfill cells for hazardous waste

are required nationally, suggesting one in the Dublin area and one in the South East, being the two largest hazardous waste producing areas.

**Hazardous Waste Disposal Sites** - The NHWMP sets out a methodology by which Local Authorities, in conjunction with their obligations under Section 22 of the Waste Management Act, can identify sites at which hazardous waste disposal took place previously and prioritise those sites requiring short, medium and long term action/remediation.

It is proposed that a register of these sites be compiled by each Local Authority, known as a Section 26 Register (after Section 26 of the Waste Management Act). A risk assessment of the sites in the register shall also be conducted by each Local Authority, allowing allocation of priority in dealing with any remediation.

#### **Cost Recovery**

The National Hazardous Waste Management Plan is based on the 'Polluter Pays Principle'. It recommends that 'Resources be made available' for the provision of improved hazardous waste collection facilities. The cost of preparing a 'Section 26 Register' was estimated at between €45,000 and €55,000 at the time of its publication in 2001, with an annual upkeep of €10,000. It is stated that the cost of remediation of former hazardous waste disposal sites should be recovered from the body that caused the pollution.

level of service. This is consistent with the situation nationally. A net result of these changes has inevitably been an increase in waste charges to reflect the higher level of service and the move towards an increasingly integrated waste management system.

#### **12.4.3 Developments in Agricultural Waste Management**

Improved management of agricultural waste is being approached through initiatives such as *river basin management planning*, which is now gaining momentum in Ireland. The DEHLG has commissioned such studies in each of the main catchments across the country and these are at various stages of progress.

#### **12.4.4 Other Developments within the Midlands Region**

One of the main developments in the Midlands Region during the life of the original Waste Management Plan has been the consolidation of the waste industry with a small number of larger professional and well-organised companies now offering a high

## 13 MIDLANDS WASTE PROJECTIONS

### 13.1 INTRODUCTION

In order to manage future waste arisings it is necessary to predict how much waste will be generated in the various sectors using information available today. Projections are included in this Plan for household waste and commercial and industrial waste streams, and consideration has also been given to construction and demolition waste.

The previous Plan recorded that the generation of waste per household in the Midlands Region stood at 1.06 tonnes per annum (1999). By 2003, the figure was calculated to be 1.2 tonnes per annum. This would suggest that waste generated per household has risen by 14%, i.e. 2.83% per annum over a five-year period.

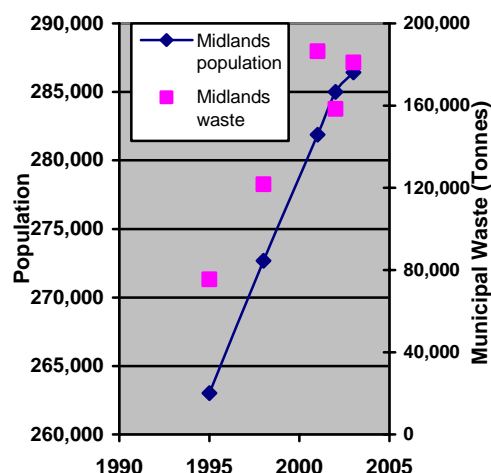
### 13.2 RECENT TRENDS IN WASTE GENERATION

With a rising population the number of households in the Region has been growing steadily in the last decade. Based on population increases forecast in the Regional Planning Guidelines (Midlands and Mid West) the number of households will exceed 113,000 by 2013.

Figure 13.1 summarises the municipal waste growth in the Midlands Region over the past 9 years. The growth in waste from 1995 to 2001 is dramatic however it appears that waste growth is moderating in the Midlands, with waste growth during the period 2001-2003 following the estimated population growth line.

The 'dip' in the graph in 2002 is due to poor reporting across the Region for several waste streams. The waste data for 1995 and 1998 relied heavily on estimates across Ireland.

Figure 13.1: Midlands Profile – Population and Reported Municipal Waste



### 13.3 FACTORS INFLUENCING GROWTH

A variety of factors can influence future waste growth per capita or per household. Some of the main factors influencing the household sector are discussed below.

Factors driving growth
<p><b>Economic prosperity</b> – growth in economic output is commonly linked with growth in waste arisings. A key aspect is increased consumer spending power which influences household and commercial and industrial waste.</p>
<p><b>Health and Safety requirements</b> – increased packaging, food safety (encourage to throw away rather than save food).</p>
<p><b>Lifestyle Factors</b> - (Influenced by workforce productivity, technology advances, etc.) e.g. growth in convenience (ready to go) meals – more packaging (But perhaps less food waste).</p>
<p><b>Internet Shopping</b> – if 'distance buying' increases substantially, this might increase packaging generated at household level.</p>
<p><b>Falling prices</b> for goods such as clothing and household electronic goods means more frequent purchases and higher obsolescence (repair is more costly than replacement).</p>
<p><b>Improved waste systems</b> – especially composting of green waste – material otherwise left in the garden may be presented for central composting.</p>

Factors driving reduction
<p><b>Prevention and Minimisation Actions</b> - Increased awareness of waste management and motivation to change shopping and lifestyle habits – driven by national and local waste prevention and minimisation campaigns (Race Against Waste etc.).</p> <p><b>Economic instruments</b> – use related charging: this has been demonstrated to change the way people manage waste. As well as increasing recycling it can influence consumer behaviour and promote, for example, home composting and 'sensible shopping'.</p> <p><b>More compact housing</b> – apartments/duplex housing etc. – no garden waste. Apartments produce less waste.</p> <p><b>Producer Responsibility</b> – when enforced by government, this can influence manufacturers and suppliers to 'design out' waste.</p>

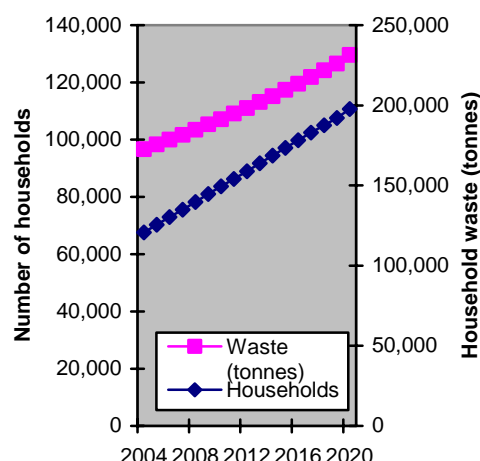
### 13.4 APPROACH TO WASTE PROJECTIONS

The waste model developed for the Midlands Waste Management Strategy Study in 1999 covered a 15 year time period from 1999 to 2013. The population growth rates presented in the original Plan were based on CSO population projections. These factors have been revised in this Plan to reflect demographic trends in the Region over the last five years.

Projection data sets for the Region from a number of sources were examined, namely the Central Statistics Office (CSO) and the relevant Regional Planning Guidelines (Midlands and Mid-West). Following analysis of the CSO regional projections it was considered that the relevant fertility and migration factors which govern projections did not reflect the current demographic trends in the Region.

The Regional Planning Guidelines published four projection possibilities and the suitability of each was assessed. Two preferred projection sets were selected with the resulting number of householders calculated providing a lower and upper band of growth. To obtain a single set of household projections, the mean of these 2 sets of projections was obtained. The resulting percentage growth factors are presented in Figure 13.2.

Figure 13.2: Estimated Future Household Waste Growth



### 13.5 COMMERCIAL/INDUSTRIAL WASTE GENERATION

The generation of commercial and industrial waste arisings are inextricably linked to Gross Domestic Product (GDP), a trend that has been recorded across the EU. The simplest approach to projecting commercial and industrial waste generation is to use GDP growth estimates. Table 13.1 highlights the national GDP estimate developed in the 'ESRI Medium-Term Review 2003-2010'.

Table 13.1: GDP Estimates from 2004-2020

Year	GDP growth (%)*	Year	GDP growth (%)*
2003	2.60	2012	3.30
2004	3.10	2013	3.30
2005	6.10	2014	3.30
2006	6.60	2015	3.30
2007	5.90	2016	2.90
2008	5.90	2017	2.90
2009	5.30	2018	2.90
2010	5.00	2019	2.90
2011	3.30	2020	2.90

\*Based on ESRI 'Benchmark' Forecast

An estimate of commercial and industrial waste arisings from 2004 to 2020 is shown in Figure 13.3 and has been estimated simply using GDP factors. The challenge for the Midlands Region is to decouple Commercial and Industrial waste generation from national GDP.

Figure 13.3 Estimated Future C&amp;I Waste Growth

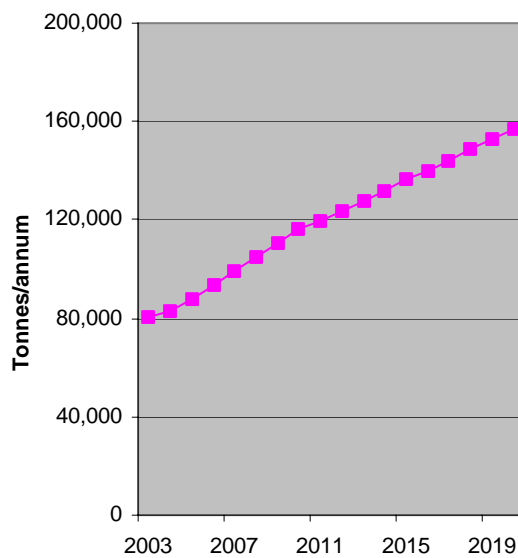
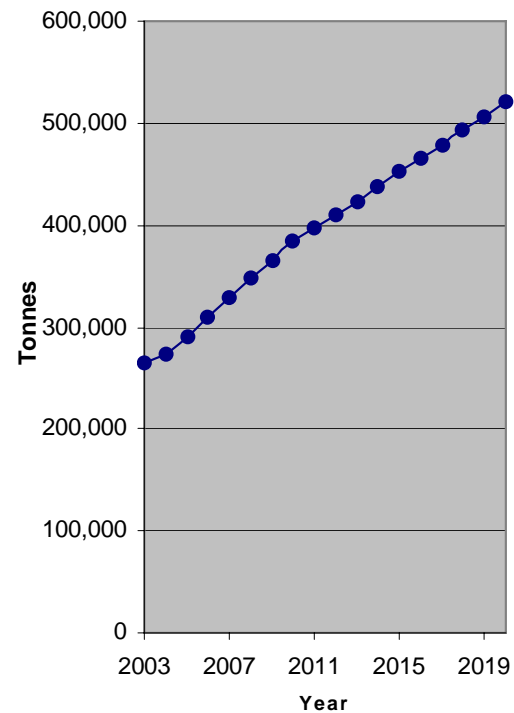


Figure 13.4 Estimated Future C&amp;D Waste Growth



### 13.6 CONSTRUCTION/DEMOLITION (C&D) WASTE GENERATION

In the absence of accurate statistics on C&D waste in previous years, a simple approach must be applied to determine future projected growth. In this case activity in the construction sector is linked to the changing economic circumstance of the country as represented by the GDP. Following this approach, recent trends indicate that growth in the Construction Industry turnover match the continued growth of national GDP. Similar to the C&I waste stream, a future projection of C&D waste has been generated using GDP estimates, as illustrated in Figure 13.4.

## 14 TRENDSETTERS

The following case studies demonstrate recent initiatives in the Public and Private Sector in Waste Management throughout Ireland. These case studies have relevance to all Waste Management Regions.

### Waste Prevention & Minimisation for Business

In Dun Laoghaire-Rathdown County Council (DLRCC) a full time Green Business Officer has been appointed, whose sole function is to raise awareness and provide support to businesses in the area and who has been carrying out this function by usefully applying a variety of tools and instruments. A number of focused and worthwhile events have been facilitated from 2002 – 2004. An event specific to hospitals was held in November 2002 where information was presented and staff from hospitals could discuss common issues of concern and potential solutions. Such events provide practical information from external experts as well as motivational good practice case studies for local businesses and SMEs.

The DLRCC website ([www.dlrcoco.ie](http://www.dlrcoco.ie)) also provides a wide range of useful and timely information with regard to the most pressing environmental issues for SMEs in the Region. It also provides useful links to external sources of advice and support from, for example, EPA, ENFO, Enterprise Ireland, Envirowise etc.

Part of the remit of the Green Business Officer is to work in co-operation with businesses, business associations, chambers of commerce, elected representatives and recycling companies in the development of a Green Business Network.

This group aims to bring businesses and other stakeholders together to share experiences and allow networking to find environmental solutions for the benefit of individual companies, sectors and the Region as a whole. This is an excellent example of a worthwhile co-operative approach to stimulating beneficial environmental change and is based on best practice principles. The Green Business Officer also visits individual companies,

outlining their requirements in legislation, giving advice, encouragement and support. Companies can be assisted, free of charge, with a waste review, setting up a management system, talking to staff, providing advice on recyclers, composting, waste handling equipment, etc. According to the *Green Business Programme Report 2003*, 28 companies received a full waste consultation in 2003 and 136 businesses were visited.

### Kerry County Council - EcoSense ANSWER Project

The ANSWER (A New Solid Waste Environmental Response) Project was a three-year demonstration project funded under the 1999 EU Life Programme. The aim was to develop a new waste management programme for South Kerry. The project required Kerry County Council to work in cooperation with individuals, local communities, commercial sector and non-government organisations to achieve a number of aims.

- To reduce municipal solid waste arisings by 25% by waste avoidance and minimisation measures
- To identify sustainable outlets to divert 60% of the remaining municipal solid waste from landfill by waste recycling and recovery
- To identify appropriate supporting financial instruments
- To assess employment potential of local waste recovery/treatment facilities

The project programme involved formation of a working group to oversee the project, a public awareness campaign to run the duration of the project, information and advice centres, a central composting scheme to be established in Killarney, on board weighing and identification system on all collection vehicles and identification and development of suitable markets for the recovered/recycled waste.

### Integrated Household Waste Recycling

Galway City Council and Waterford County Council have taken a lead nationally in the recycling of household waste.

Galway City Council has approximately 18,000 household customers, and since 2001 has implemented a 3-bin collection

scheme helping the city reach just over 51% household waste recovery.

Waterford County Council is the first Local Authority to offer a 3-bin system to its entire catchment of household customers, including rural areas. The dry-recyclables collection has been underway since 2003, and the organic waste bin was introduced in 2004. Composting is carried out at a facility established by Waterford City Council (which also have a 3-bin household waste service) operated by a private company. Civic Amenity Facilities have also been set up at Tramore, Dungarvan and Lismore for the deposition of recyclable bulky wastes.

These successful schemes have the following common characteristics:

- Schemes were rolled out with the support of a team of awareness officers – in Galway 10 trained awareness staff called door to door to explain the new system before the phased rollout of bins. Support is ongoing and information campaigns relate the performance back to the public.
- Collections are alternated - dry recyclables and organics are collected one week with the mixed residual bin collected every alternate week to reduce overall collection costs.
- The Local Authorities have benefited from partnership with private waste industry (sorting and baling dry recyclables for both, and composting in the case of Waterford).
- Bin inspections are undertaken regularly to ensure the householder is using the right bin and contamination is kept to a minimum. Serious bin contaminations are not collected.

#### **Use-related charging**

The changeover to use-related charging in 2005 has created new challenges for the Local Authorities and waste management companies. A number of collectors – such as Westmeath County Council, Cork County Council, Dun Laoghaire Rathdown County Council, Mulleady (Longford) and Mr. Bin Man (Limerick) have already demonstrated the effectiveness of pay by weight/use systems.

McElvaney Waste in County Monaghan equipped its vehicles and bins with new electronic systems and commenced a 'pay-by-weight' system for its 6,000 household customers from January 1<sup>st</sup> 2003. Two wheelie bins are employed – the residual bin is collected up to 40 times per annum (depending on how often it is filled by the householder). A flat rate of €79 is charged every six months, with an additional charge of €11.50 per 100Kg of waste presented. The dry-recyclables bin is collected monthly.

Since the introduction of the service, the weight of waste presented for disposal has dropped by 40% to 0.7 tonnes/household. About half of the weight has transferred to the recycling bin, with use of Bring Banks (for glass, textiles, cans), home composting, and waste prevention assumed to be taking the balance. Furthermore the scheme has proven popular with householders after a few teething problems were addressed.

#### **Green Waste Composting**

A number of Local Authorities have been successfully composting green waste for several years. The system offers a relatively low-cost option that diverts substantial amounts of waste away from landfill. With a growing population and increased attention to landscaping and gardening, the quantities of garden waste will continue to grow in all counties.

Successful schemes are operated by Cork City Council, Kerry County Council, South Dublin County Council and Limerick County Council, as well as a growing number of private facilities. The facilities typically comprise a concrete composting slab with leachate collection, and machinery such as windrow turner, shredder and loading shovel. In Ireland, green waste contains low levels of contaminants and as a result the market potential for the finished compost, based on its quality, should be good.

#### **Construction and Demolition (C&D) Waste Management Facility**

A number of private C&D waste recycling facilities have been put in place that demonstrate the huge potential for recycling of this major waste stream. In the Greater Dublin Region, a range of facilities are in operation achieving high levels of materials recovery. Companies such as A1 Waste, Roadstone, and Marrakesh are all producing crushed concrete for use as engineering

aggregate while recovering other materials such as metals and timber for recycling.

active in regulating waste collection, enforcing packaging regulations and auditing permitted facilities.

### **Waste-To-Energy (WTE) and District Heating**

In many Scandinavian countries, district heating systems powered by WTE plants are used to heat houses and offices. Excess heat from the boiler is circulated in a mains pipe as a 'fourth utility' (following water, wastewater and gas). Customers can switch on and off the heat supply when required, and are metered according to use.

District heating systems are highly energy-efficient and as a result offer environmental benefits by reducing greenhouse gas emissions. Because of the overall efficiency, there is lower use of fossil fuels and less local air emissions compared to domestic gas or solid fuel heating systems. Systems can also be developed to supply energy to industries, swimming pools or hospitals. A district heating project is proposed by Dublin City Council to use the excess heat from the proposed Poolbeg Waste-to-Energy Plant.

### **Market Development**

Developing markets for materials recovered from waste is a key requirement for successful recycling. In a bid to demonstrate what can be achieved with 'waste' materials, the Midlands Local Authorities have decided to put some novel ideas in place in new Civic Amenity Facilities being developed under the Midlands Regional Waste Management Plan. With the help of grant aid from the EPA Cleaner Greener Production Programme, a number of innovative design initiatives are planned for the new Civic Amenity Facilities in Birr, Mullingar, and Port Laoise.

- Recycled glass for paving surfaces
- Asphalt plantings in bituminous pavement
- Recycled crushed concrete in foundations
- Compost from household food and garden waste in landscaping

In addition, a range of other eco-friendly features including renewable energy, rainwater harvesting and sustainable building concepts are being used in the design.

### **Regulation and Enforcement**

In 2004, Waste Enforcement Units were established in most Local Authorities across the country. To date the units have been