

Joint Waste Management Plan for the South East Region 2006

Executive Summary



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1. INTRODUCTION

1.1. Authorisation

South Tipperary County Council is the Lead Authority and is acting on behalf of the six authorities, of the South East Region, for the preparation of the Joint Waste Management Plan for the South East 2006 - 2011.

The constituent local authorities participating in the plan and which form the Region are:

- Carlow County Council
- Kilkenny County Council
- South Tipperary County Council
- Waterford City Council
- Waterford County Council
- Wexford County Council

In this document, the use of the term “Region” refers to the six authorities and their functional areas (including Borough and Town Councils) or a constituent local authority acting in respect of the implementation of this Plan.

1.2. Definition of Purpose

The purpose of the Plan is:

- to promote waste prevention and minimisation through source reduction, producer responsibility and public awareness.
- a management plan for the recovery/recycling/disposal of waste arisings on a regional basis.

Waste Plan Issues:

The statutory period for which the Plan provides is 2006 – 2011, which is the “relevant period” as defined under Section 22 of the Waste Management Act. Projections of relevant criteria for waste planning purposes extend beyond 2011 i.e. population, waste generation, targets, etc, and typically cover the period 2006-2021.

The Plan will be reviewed at least once every five years in accordance with the Waste Management Act 1996.

1.3. Objective

The Primary Objective of the Plan is to secure the best environmental management of all waste including preventing and minimising the generation of waste wherever practicable.

In order of priority, waste must be prevented, minimised, re-used, recycled, recovered and disposed of safely, having regard to public health and environmental protection, occupational hazards in waste handling as well as having regard to the best value solution. There were 3 criteria, each of which receives equal weighting, used in the devising of the specific policy of this Plan. These criteria were environmental and health impacts, ability to meet the necessary targets and a financial assessment.

1.4. Background

In 2002, the Government issued a policy document, 'Prevention and Recycling – Delivering Change'. The policy statement provides for the support and development of recovery and recycling infrastructure.

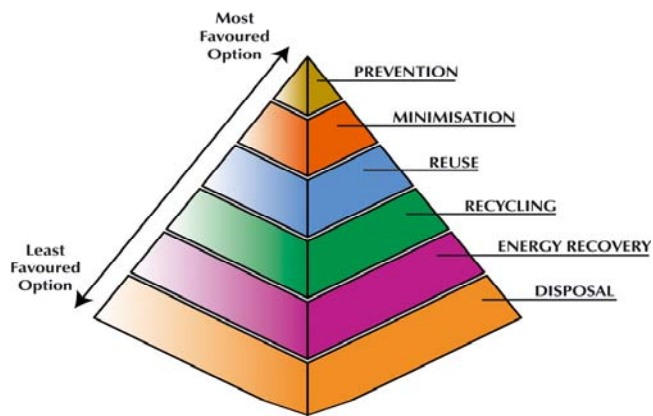
In April 2004 the Government issued a further national waste management policy document – "Waste Management: Taking Stock and Moving Forward". Taking Stock assesses progress on the implementation of a variety of aspects of the Waste Management Act 1996 over the last five years. It sets down new challenges in light of the findings of this assessment.

The document highlights the following key issues in relation to Waste Management Plans:

- Revised waste plans must better address the role and needs of private sector waste management service providers.
- Insufficient public awareness about waste plans.
- Revised waste plans must be subject to a mechanism to monitor implementation, with local authorities being obligated to prepare an annual report on waste plan progress within three months of the end of each year.
- All revised waste plans are required to set out a timetable for the provision of each of the elements of the infrastructure required to make up the integrated mix of options.

The policy statement also reaffirms the waste management hierarchy, which is shown in Figure 1.1.

Figure 1.1: Waste Management Hierarchy



The Waste Management Act (1996) sets out the legislative framework to develop waste management policies and Section 22 of this Act allows local authorities to act jointly to create an area waste management plan.

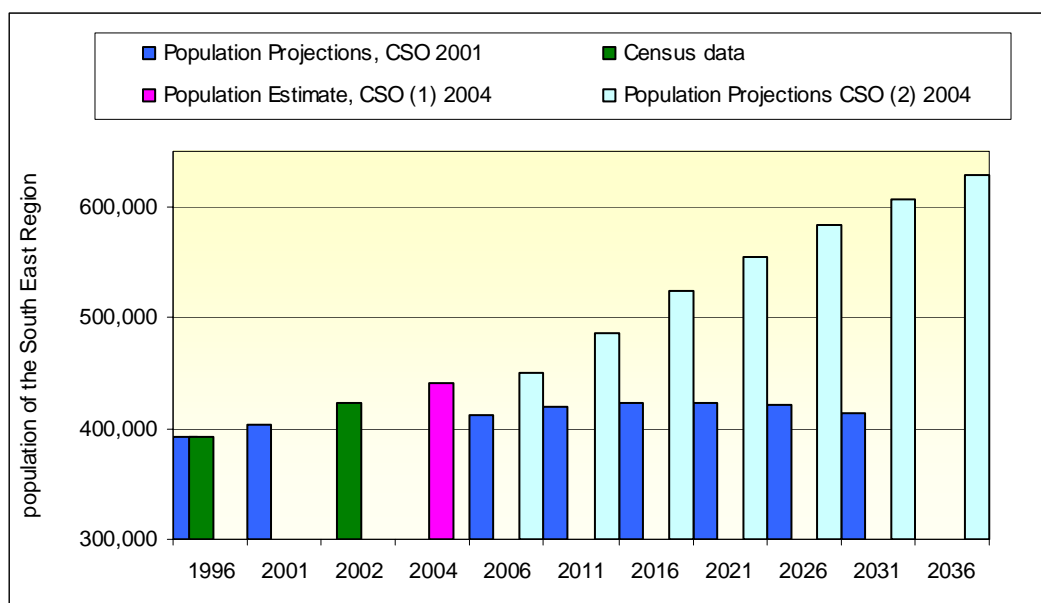
2. POPULATION AND DEVELOPMENT

A Population Census was carried out in Ireland in 2002. The population of the South East region was given as 423,256 persons. This is an increase of 31,739 persons or 7.5% from 1996. The South East Region accounts for 10.8% of the State's population.

57 % of the population of the South East Region (2002) lives in rural areas, where rural is defined as the countryside or villages with a population of less than 1,500.

A recent publication by the CSO (Fig 2.1 –CSO (2)), on population and labour force projections, predicts national populations for the period 2006-2036. These predictions have been used to estimate the predicted future population of the South East Region.

Figure 2.1: Population Projections to 2036



2.1. National Spatial Strategy

The National Spatial Strategy (NSS) sets out a framework for future development and growth in Ireland over the next twenty years.

The NSS identifies Waterford as one of the five nationally significant gateways supported by Kilkenny and Wexford as hubs. The NSS identifies these towns as a nationally strategic 'growth triangle' in the South East and regional growth will be driven through these towns. Population growth requires increased services and facilities and this encourages greater economic activity and an improved quality of life. However, it also leads to increased waste generation.

2.2. Regional Planning Guidelines

The Planning and Development Act (2000) gave Regional Authorities the power to generate Regional Planning Guidelines (RPG). The RPG for the South East reiterate the policy of the National Spatial Strategy (NSS) and identifies Waterford, Kilkenny and Wexford as a strategic "growth triangle". The guidelines identify nine key areas for investment and development within the region. One of these is the full implementation of the Joint Waste Management Plan for the South East Region

2.3. Other Specific Policies

Regional and national policies have been reviewed to assess their impact or requirements from the perspective of waste management. Both the National Spatial Strategy (NSS) and the Revitalising Areas by Planning, Investment and Development (RAPID) programme have been put in place to encourage the socio-economic growth of the region and in the case of RAPID the preferential development of disadvantaged areas within the region. Both policy documents envisage increased population and economic growth within the region, the impact of the successful implementation of these policies is the potential for increased waste production in all waste streams.

3. REPORTED WASTE GENERATION

Reported municipal solid waste (MSW) generation in the South East Region is outlined in Table 3.1.

Table 3.1: Waste Collected in the South East Region 2003

Waste Type	Total (t)	Hazardous Fraction (t)
Household	136,326	430
Commercial	86,262	Note 1
Industrial	45,735	Note 1
Industrial Sludges (non-hazardous) (tDS)	91,543	0
Litter and Street Cleansing	8,490	0
Agricultural	435,180	no data
C&D	430,000	0
Contaminated soils	2,834	2,834
Municipal sludges (tDS) (water treatment)	1,277	no data
Sewage sludge (tDS)	5,603	no data
Healthcare waste	955	955
Mining and quarrying waste	700,000	no data
Ash and other incineration residues	55	55
Priority Wastes	6,534	747
Port Waste		0
Hazardous Waste (not reported as other fractions)	17,000	17,000

Note 1: The quantities of waste above are tonnes of waste as reported. Where no returns were reported an estimate has been made. Details of reported and or estimated waste fractions are discussed in further detail in the following sections.

Note 2: Priority hazardous wastes and healthcare waste are included separately in the table. There was no differentiation between commercial and industrial hazardous waste in the returns. They are included as the fraction 'hazardous waste'.

3.1. Household Waste

A total of 136,326 t of household waste was reported to be collected in the South East Region in 2003. There are four main methods of collection:

- Local authority household collection service
- Private contractor household collection service
- Bring centres
- Recycling centres

The total quantities collected are outlined in Table 3.2.

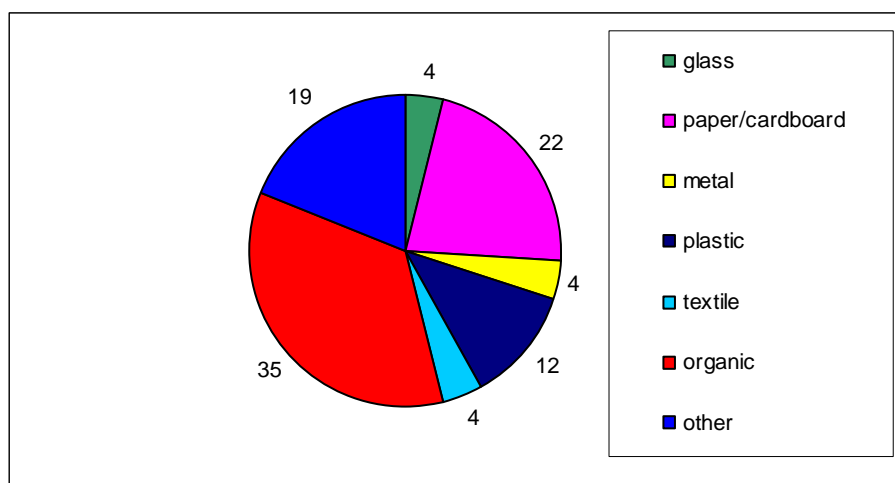
Table 3.2: Total Household Waste Reported as Collected in the Region in 2003

Local Authority Area	Total Household Waste (t)	household waste collected by area (%)
Carlow	18,169	13.5
Kilkenny	14,936	11
South Tipperary	26,988	20
Waterford County	15,356	11
Waterford City	22,299	16.5
Wexford	38,578	28
Total	136,326	100

3.1.1. Composition of Household Waste

Local authorities carried out household waste composition surveys for the 2001 National Waste Database (NWD). After review of a number of other household waste characteristics, the NWD, the 2001 data was used to produce an estimate of household waste composition analysis for the South East Region. Waste composition is shown in Figure 3.1. The composition is based on the total tonnage reported as collected in the region in 2003.

Figure 3.1: Estimated Fractions of Household Waste Collected in the Region, 2003 (as reported)



3.1.2. Household Hazardous Waste

It is estimated that 21,600 t of hazardous waste was generated in 2003.

The local authorities within the region have implemented measures to divert this waste stream from landfill. These are outlined in Table 3.3.

Table 3.3: Household Hazardous Waste Collection

County	Collection Measures
Carlow	Chemcar© Collection
Kilkenny	Chemcar© Collection Dedicated collection receptacles placed at Dunmore Recycling Centre
South Tipperary	Chemcar© Collection
Waterford County	Dedicated collection receptacles placed at Lismore, Dungarvan and Tramore recycling centres.
Wexford	Returnbatt receptacles, M. Barter Recycling, Atlas Environmental, receptacles at recycling centres for household hazardous waste, Chemcar© collection, annual waste action days – collection of household hazardous waste.

The Chemcar© is operated by Cara Waste Management

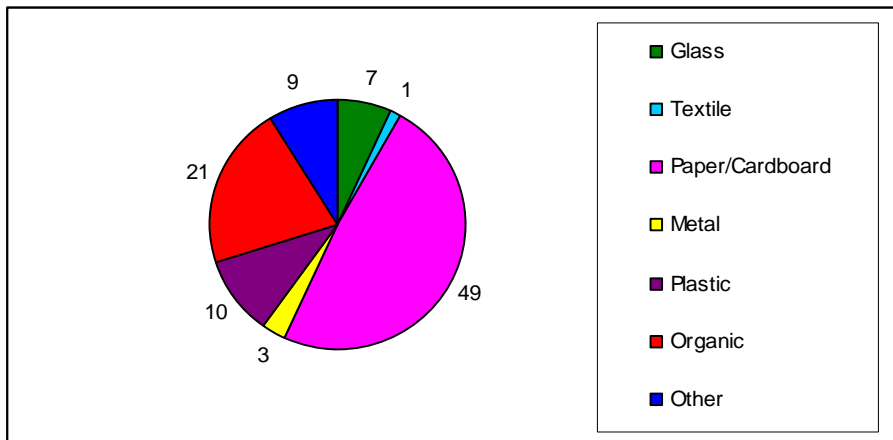
3.2. Commercial Waste

In 2003, 86,000t of commercial waste was reported as collected in the region. All commercial waste is collected by private contractors. A breakdown of the commercial waste collected in the region by private contractors is shown in Table 3.4.

Table 3.4: Total Commercial Waste Quantities Reported as Collected in 2003 by the Private Sector

Area	Mixed Waste (t)	Separate Collection (t)	Total (t)
Carlow	5,941	0	5,941
Kilkenny	3,261	4,242	7,609
Tipperary South	9,636	6,474	16,110
Waterford City	11,758	4,871	16,629
Waterford County	11,432	0	11,432
Wexford	10,970	17,571	28,541
Total	54,526	33,158	86,262

Figure 3.2: Estimated Fractions of Commercial Waste Reported as Collected in the South East 2003



3.3. Industrial Waste

A Regional Waste Audit was carried out in November 2004. Private waste contractors collect industrial waste that is not managed at the point of origin.

Table 3.5: Total industrial waste quantities managed in the region 2003 (as reported)

County	Waste Arisings
Carlow	Not available ^{Note 1}
Kilkenny	14,050
South Tipperary	4,828
Waterford City	13,806
Waterford County	926
Wexford	12,125
TOTAL	45,735

Note 1 – included in commercial collection

3.4. Priority Waste Streams

The European Commission has established specific measures, which aim to manage/prevent specific waste streams. The following waste streams were given priority by the EU:

- packaging waste
- healthcare waste
- batteries
- Polychlorinated Biphenyls (PCB's)
- End of Life Vehicles (ELV's)
- Construction and Demolition Waste
- Waste Electrical and Electronic Equipment (WEEE)
- waste oils
- waste tyres

of which, packaging, construction and demolition waste and electronic equipment are discussed in greater detail.

3.4.1. Packaging

Items such as glass bottles, plastic containers, food wrappers, aluminium cans and timber pallets are all classified as packaging (EPA 2001). The main source of packaging waste is highlighted in bold in Table 3.6. Smaller amounts of packaging waste are also found in metals i.e. aluminium cans.

Table 3.6: Main Source of Packaging Waste Arisings in the South East Region (2003)

Waste Type	Household		% Packaging	Commercial		% Packaging
	% of Total	Household fractions(t)		% of Total	Commercial fractions (t)	
Glass	4	5,453	4	7	6,038	1.0
Paper/Cardboard	22	29,992	6	49	42,268	30
Metal	4	5,453	3	10	8,626	2
Plastic	12	16,359	10	3	2,588	8
Textile	4	5,453		1	863	
Organic	35	47,714		21	18,115	
Other	19	25,902		9	7,764	
Total waste	100	136,326		100	86,262	
Main Source Packaging		31,355	23%		35,367	41%

The NWD Interim Report 2002, estimates that 0.229 tonnes of municipal packaging waste is produced per capita. At this rate of generation 97,000 t of packaging waste is estimated. Based on Table 3.6 a generation note of 202 kgs/capita can be calculated giving a total packaging waste arising of 85,481 t. An estimate of 100,000 t will be assumed for the purposes of the plan in the absence of reported data.

3.4.2. Construction and Demolition Waste

Employment in the building and construction sector in the South East at 10.1%, using this figure as an indicator of construction activity and construction waste generation gives 369,000 t/a of C&D in the region in 2001. The period 2002 and 2003 showed a significant increase in house construction of the plan and it is anticipated that this gave rise to a higher than average increase in C&D generation. A figure of 500,000 t/a is assumed.

3.4.3. Waste Electrical and Electronic Equipment (WEEE)

In 2003, reported WEEE generation was 673 tonnes. This generation volume is low when compared with estimated generation rates outlined in the EPA Report⁴⁷. The volume of WEEE predicted to be produced per capita is estimated at between 9 kgs and 18 kgs for the period 2001-2005. Assuming an average generation rate of 13.5 kgs per capita predicted WEEE generation for the region should be in the range of 5,700 tonnes per annum. An indicative European value for WEEE arisings throughout the member stated is 20kg per inhabitant/year. A lower value was calculated by the EPA for Ireland based on a material flows approach, i.e. sales of items of electrical and electronic equipment.

3.5. Waste Movements

3.5.1. Inter-Regional Waste Movement

Reduced landfill capacities, introduction of landfill quotas, non-acceptance of commercial waste at some local authority operated landfills, increased gate-fees and the introduction of source separation of dry recyclables have influenced inter-regional movement of commercial and dry recyclable waste in particular and some household waste.

Estimated volume of inter-regional waste movement is shown in Table 3.7.

Table 3.7: Known Volume of Inter Regional Waste Movement

Waste Type	Quantity (Tonnes)	% of Waste Stream
Commercial	16,629	19.2
Household	3,140	2.3
Dry Recyclables ^{Note 1}	13,928	34.5
Total	33,697	

Note 1 – Volume of dry recyclables shipped directly from the region prior to sorting.

3.5.2. Exports of Waste

6,130 t of waste was exported from the region in 2003. This does not include certain types of waste that do not require notifications, such as green list waste being exported for recovery. There is no overall figure for waste exports. No waste was imported into the region from abroad in 2003.

3.6. Municipal Sludge Arisings

The inventory of sludge arisings was estimated from returns submitted by the Local Authorities. 6,880 tDS (tonnes dry solids) municipal sludge is generated in the region of which 1,277 tDS is sludge from the treatment of raw water to a potable standard and 5,603 tDS of sludge is from wastewater treatment. The quantities of sludge generated per administrative area are listed in Table 3.8. There has been no significant change in quantities generated since the JWMPSE.

It is anticipated that the volume of sewage sludge for management will increase dramatically over the next twenty years as each authority upgrades their existing wastewater treatment infrastructure to comply with the Urban Wastewater Treatment Directive (91/271/EEC)⁴⁸. Under the Waste Management Act all local authorities are required to prepare sludge management plans. The primary function of these plans is to outline management strategies for sludge over the next twenty years. These plans are considered a subset of the Joint Regional Waste Management Plan

Table 3.8: Municipal Sludge Arisings (2003)

County	Water Treatment Sludge (tDS.y⁻¹)	Sewage Sludge (tDS.y⁻¹)
Carlow	80	912
Kilkenny	386	1,678
South Tipperary	204	1,936
Waterford	257	561
Wexford	350	516
Waterford City Council	0	0
Total	1,277	5,603

Water treatment sludge is managed by landfilling or discharging to source. Municipal sewage sludge is managed using anaerobic digestion, lime stabilisation, composting or long-term storage prior to landspreading or landfilling. There is no hazardous component to municipal sludges.

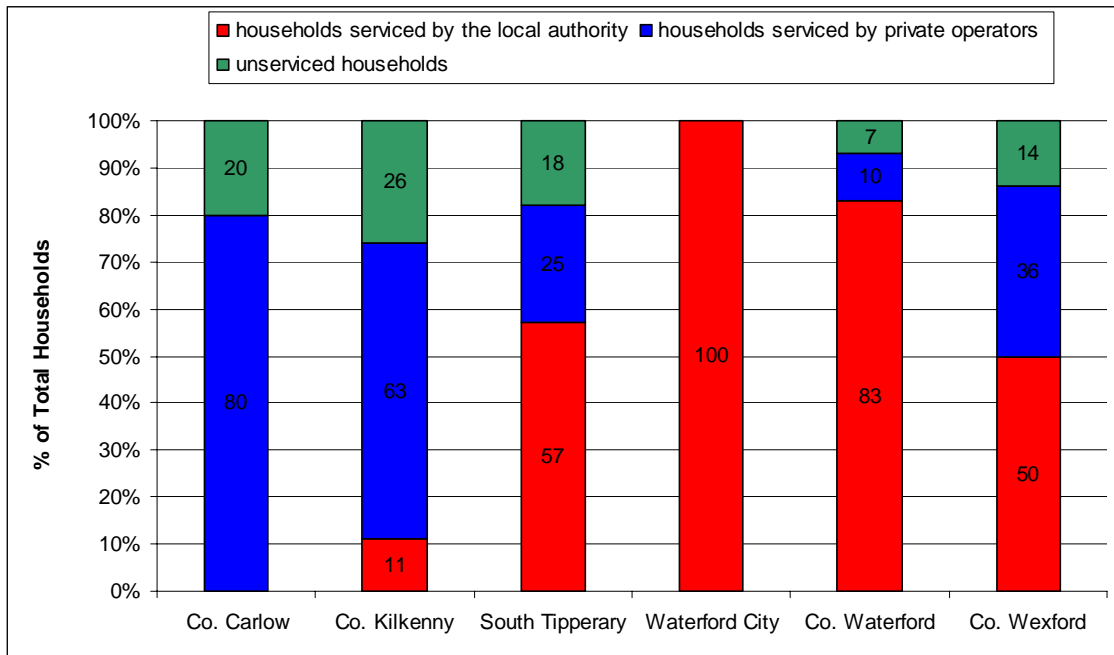
4. EXISTING WASTE MANAGEMENT ARRANGEMENTS

4.1. Collection of Household, Commercial and Industrial Waste

The local authorities are only involved in household waste collection, all other waste types are collected by private contractors.

The share of the household collection market is shown in Figure 4.1. In general very poor data was supplied for the commercial and industrial sector in terms of segregated collection. Data is included where available.

Figure 4.1: Percentage of households serviced by local authority or private contractor collection and percentage of houses unserved in 2004



On average, 14% of all households in the region are unserved, either due to remoteness from the services or non-participation.

4.2. Waste Management Infrastructure

Both the public and private sectors are involved in the provision of waste management infrastructure in the region. This infrastructure consists of:

- bring centres
- recycling centres
- waste transfer stations (WTSs)
- material recovery facilities (MRFs)
- biological waste treatment facilities
- landfills

4.3. Proposed Waste Management Facilities for the South East Region

The following facilities are proposed for the Region:

Bring Centres

It is proposed to strategically locate additional bring centres in the region at locations that best service the needs of the community.

Recycling Centres

Nine recycling centres are proposed for the Region by the public sector.

Waste Transfer Station

Four waste transfer stations are proposed, two by the private sector and the remaining by the public sector.

Material Recovery Facility

One facility is proposed by the private sector.

Biological Waste Treatment

Two facilities are proposed both by the private sector.

Landfills

Two landfills are proposed both by the private sector.

4.4. Waste Enforcement

Since 2003, the focus for all local authorities and the nominated authorities switched from predominantly issuing permits to the enforcement of permits issued, while still retaining their obligations to evaluate waste disposal/recovery/collection permit applications. This coincided with the employment of waste enforcement officers, the establishment of waste enforcement sections within local authorities and the commencement of road block inspections. This change in emphasis coincided with the establishment of the Office of Environmental Enforcement (OEE) within the Environmental Protection Agency.

An Environmental Network has been established by the OEE in conjunction with all local authorities. The network's objective is to foster cooperation in waste enforcement so that a more consistent standard is achieved throughout the country.

Up to 2003, the majority of local authority staff with waste management functions were involved in the issuing of permits with fewer staff involved in enforcement activities. To address staffing deficiencies in waste enforcement, local authorities were permitted to recruit staff to establish waste enforcement teams,

The main functions of waste enforcement staff are to:

- respond to and investigate third party complaints in relation to waste activities
- respond to unauthorised waste activities identified through effective enforcement
- undertake audits/inspections of permitted facilities and collectors

4.5. Local Authority Waste Initiatives in the South East Region

Since the publication of the JWMPSE there has been a significant increase in public awareness initiatives in the region. This can be attributed to the work of the Environmental Awareness Officers in each of the local authorities. These Officers are responsible for liaising with all sectors of the community including schools, businesses and the waste industry. The theme of their awareness/education campaigns compliment the elements of the National Race Against Waste (RAW) campaign as well as the Waste Initiatives for the South East Region (W.I.S.E.R. Ways).

All elements of the environmental education and awareness programme in the South East Region complement the elements of the National Race Against Waste campaign by the promotion of preventing, reducing, reusing and recycling initiatives across the region. Education and awareness programmes are aimed at various audiences, as previously identified in the JWMPSE (2002) including (but not limited to):

- domestic households
- youth groups (including schools and youth reach groups)
- commerce & industry (promotion of the RAW Small Change Campaign)
- agricultural sector (delivering REPS waste management training courses)
- community leaders & representatives

5. REVIEW OF THE WASTE MANAGEMENT PLAN IMPLEMENTATION

Section 12 of the Joint Waste Management Plan for South East Region (2002) (JWMPSE) outlined a number of policy actions/targets for the period of the plan. A total of six areas were identified and specific policies set for:

- prevention and minimisation
- waste collection
- waste recovery and recycling
- energy recovery from waste
- waste treatment
- final disposal

This section outlines the progress which has been made in the Region under each of the headings.

5.1. Waste Prevention and Minimisation

The following has been achieved:

- The schools education programme and the 'Green Schools Programme' are actively supported.
- Information on waste management is being actively disseminated to community groups, schools and businesses through public meetings, a newsletter and the Internet.
- The Plastic Bag Levy is now in effect and enforcement officers have been appointed to ensure compliance by suppliers and retailers.
- A sponsored battery-recycling scheme for primary and secondary schools has been supported. Wexford County Council have 102 primary and secondary schools participating in this scheme
- The Local Authorities have continued to purchase and provide – at cost price - composting bins for householders. The number of home compost bins issued in the region is outlined in Table 5.1.

Table 5.1: Households participating in home composting or 3-bin organic waste collection service

Local Authority	No. of home compost bins distributed ^{Note 2}	% of household participating in home composting or 3-bin organic waste collection service
Kilkenny	4,400	17
South Tipperary	2,461	9
Waterford City	17,500 ^{Note 1}	100
Waterford County	13,000 ^{Note 1}	70
Carlow	0	0
Wexford	6,400	16
Total	43,761	

Note 1 - 3 bin collection system implemented

Note 2 - This figure represents compost bins supplied by the local authority, it does not include compost bins supplied privately through garden centres.

Waste Collection

Household

The roll out of the 2-bin collection service across the region (end 2004) is shown in Table 5.3. The 2-bin collection service provides for the collection of residual and dry recyclable waste streams.

Table 5.3: No. of Households participating in a 2-bin Collection Service (end 2004)

Local Authority	No. of Households	No. of Households serviced by public or private collection service	2-bin collected by the Local Authority	2-bin collected by the Private Sector	% of households (on a collection route) serviced by 2-bin
	(2002 census)				
Carlow	14,931	14,931	0	****	****
Kilkenny**	25,603	20,100	1,400**	12,670	70
South Tipperary	26,410	21,600	15,000	6,600	100
Waterford City	17500***	17,500	17,500	0	100
Waterford County	18,606	15,006	13,000*	2,000‡	<100
Wexford	38,011	34,500	19,000	15,500	100
TOTAL	141,061	123,637	51,500	34,770	

* 3-bin

** as reported

*** according to figures from WCC, there are 17,500 households in the City. The figure quoted in the housing census 2002 is 15,299 households.

**** commenced in 2005

The roll out of a 2-bin collection system has commenced in all local authority areas. All householders availing of a local authority collection service has access to a segregated waste collection service. The private sector has commenced the roll out of the 2-bin collection service.

All dry recyclable collection services provide for the collection of paper/cardboard, paper/cardboard packaging, plastics and metal containers.

Dry recyclables are also collected using clear plastic bags. The benefit of using clear bags is to identify contamination.

The roll out of the 3-bin collection service has commenced ahead of schedule in Waterford City and County. All householders availing of waste collection services offered by these local authorities have access to a 3-bin collection service.

Commercial

Dry recyclables and residual waste collection is widely available to all commercial and industrial waste producers in the region. Separate collection of organic waste is available to all commercial and industrial waste producers located in Waterford City and County. The local authorities are currently reviewing all AER's submitted by waste collectors in their region, to assess quantity of mixed waste leaving the region with the intention of addressing this issue.

Waste Recovery and Recycling

The roll out of a 2-bin and 3-bin collection system has commenced in all Local Authorities. All householders availing of a Local Authority collection service has access to a segregated waste collection service. The private sector has commenced the roll out of the 2-bin collection service.

17% and 9% of householders in Kilkenny and South Tipperary respectively, have purchased home composting units. This is above the anticipated national average participation rate of 7% as outlined in the National Strategy on Biodegradable Waste, Draft Strategy Report.

The roll out of the establishment of bring centres has continued. There is 1 bring site per 400 households in the region (2004) (approximately 1 per 1,200 of population)

There are 11 recycling centres serving the region out of a proposed 22.

Waterford County Council has established a dry recyclables material recovery facility in Dungarvan. This facility has a licence throughput capacity to manage 24,000 tonnes of dry recyclable with the potential to increase capacity to manage 34,000 tonnes. This facility has the capacity to manage all dry recyclables collected from householders participating in local authority operated waste collection services for the design year 2011. (This is based on the assumption that total waste generation per household is 1.28 tpa and that there is a collection coverage of 80-85%).

Green waste composting sites were established at Lismore and Dungarvan Recycling Centres. A centralised in-vessel biological waste composting facility was established by Waterford City Council. The maximum design throughput capacity of this facility is 28,000 tonnes. This facility has the capacity to treat the organic fraction of household waste produced by all householders participating in local authority operated waste collection services for the design year 2011. (The calculation is based on the assumption that total waste generation per household is 1.28 tpa and that there is a collection coverage of 80-85%).

Public information and awareness campaigns are continuously undertaken by each of the local authority Education and Awareness Officers.

Education and Awareness Officers are continuously focusing information and awareness campaigns on the need to source separate waste streams and the implementation of the Packaging Regulation and Producer Responsibility Initiatives (PRIs) e.g. End-of-Life Vehicles (ELV), Waste Electronic and Electrical Equipment (WEEE).

Pay by weight and volume charging systems have been introduced, which is believed will encourage greater recovery rates.

A Clients Representative has been appointed to procure an integrated waste management facility for the region.

Recovery and Recycling of Packaging Waste

A number of local authorities including Waterford City Council, Waterford County Council, Kilkenny County Council and Carlow County Council have been engaged in co-operative initiatives with the commercial sector to encourage the prevention, minimisation, recycling and recovery of packaging waste. This cooperation will continue. The Awareness Officers in each local authority have produced initiatives with Repak to increase awareness of packaging waste and to inform both the public sector and commercial sector on the options available to them to play their role in managing packaging waste correctly. Information packs are being distributed to relevant sectors. Since the introduction of the 2-bin collection system throughout the local authority collection routes in the region, dry recyclables are collected separately.

The second bin helps to divert packaging waste from the household stream. There was an increased public awareness drive around the Christmas period in 2004 to highlight the issue of increased seasonal packaging waste generation. An advertisement campaign was run to provide information on seasonal packaging.

Energy Recovery from Waste

A Clients Representative was appointed in 2004 to procure an integrated waste management facility for the region. Recovery and utilisation of landfill gas is currently carried out in Kilbarry Landfill, Waterford.

Waste Treatment

Waterford County Council has established a dry recyclables material recovery in Dungarvan. This facility has a design throughput capacity to manage 24,000 tonnes of dry recyclable with the potential to increase capacity to manage 34,000 tonnes. This facility has capacity to manage all dry recyclables collected from householders participating in Local Authority operated waste collection services for the design year 2011. (Assuming total waste generation per household is 1.28 tonne with a collection efficiency of 80-85%).

Green waste composting sites were established at Lismore and Dungarvan Recycling Centres. A centralised in-vessel biowaste composting facility was established by Waterford City Council. The maximum design throughput capacity of this is facility 28,000 tonnes. This facility has the capacity to treat all biowaste/organic fraction of household waste produced by all householders' participation in Local Authority operated waste collection services for the design year 2011. (This is based on the assumption that total waste generation per household is 1.28 tpa and that there is a collection coverage of 80-85%).

Discussions have been held with the private sector regard the viability of operating a mobile system crushing and screening system to manage construction and demolition waste within the region.

A Clients Representative has been appointed to procure an integrated waste management facility for the region.

Final Disposal

Two residual landfills are proposed for the region, these facilities are proposed for Hardbog, (South Tipperary) and Holmestown (Wexford).

A Clients Representative has been appointed to procure an integrated waste management facility for the region.

6. WASTE GENERATION FORECASTS

Future waste arisings were predicted using growth rates from the Regional Planning Guidelines, National Overview of Waste Management Plans (NOWMP) and the JWMPSE 2002. The growth factors used in the NOWMP are outlined in Table 6.1. It should be noted that the growth factor percentage increases are not compounded. The NOWMP considers the following factors to determine growth rates:

- population statistics
- economic factors
- deduction in household size
- level of success of the National Waste Prevention Programme

It was considered that these projections are the most comprehensive waste predictions to date and accordingly are used for projections in this proposed review.

Table 6.1: Waste Arisings Forecast for the South East Region 2006-2026

Waste Stream	2006*	2007*	2008*	2009*	2010	2011- - 2026	Total Increase
Household	5.0%	2.5%	2.4%	1.7%	1.3%	2%	44.9%
Commercial/Industrial	3.3%	1.1%	1.2%	0.6%	0.3%	2%	38.5%

Based on these growth rates, waste tonnages were calculated for the period 2006 – 2026. The waste arising estimates for 2006 and 2011 have been compared with the predictions made in the JWMPSE in 2002 for waste arisings 2006 and 2011 in Tables 6.2 and 6.3. The estimates in Tables 6.3 and 6.4 were used in the financial and scenario modelling* in both this (2005) Review and in the JWMPSE (2002). 2011 is the design year for the plan.

*Household Waste estimates (2005) are based on generation of waste at 1.28 t/household and a coverage of 80% of households and include the household fraction of waste that is assumed to be home composted (4% of household fraction). Commercial waste arisings are estimated as a 1:1 ratio with household for the baseline year.

Table 6.2: Waste tonnages for the base year 2006

Data Source	Review ⁽²⁰⁰⁵⁾	JWMPSE ⁽²⁰⁰²⁾
Waste Stream	2006 (t)	2006 (t)
Household	171,000	147,000
Commercial/Industrial	151,000	130,000

Table 6.3: Waste tonnages for the design year 2011

Data Source	Review ⁽²⁰⁰⁵⁾	JWMPSE ⁽²⁰⁰²⁾
Waste Stream	2011 (t)	2011 (t)
Household	186,000	192,740
Commercial/Industrial	159,000	144,780

Although different growth rates were used in the original plan and in this review there are no significant changes.

The plan has chosen 2011 as the design year. This means, waste arisings in 2011 will be used for waste planning purposes, such as sizing facilities. In this way planned facilities will be of a reasonable size with little redundancy. Facility size requirements can be reviewed either at the plan review intervals or as part of the facility procurement process. Facilities should be sized for economies of scale and on a value for money basis. This may require inter-regional waste movements to achieve these objectives.

Table 6.4: Design Year 2011

Fraction	Range	B (t)	C (t)	Range	A (t)	D (t)	No. of main facilities realistic range
Dry Recyclables ⁽¹⁾	min-max	130,770	181,107	realistic	172,601	177,836	5
Organics ⁽²⁾		51,753	69,625		65,101	67,885	2
Thermal ⁽³⁾		121,570	157,476		143,415	152,068	1
Landfill		13,508	17,493		15,935	16,897	1
<i>Residual (Total)</i>		135,078	174,974		159,350	168,965	1

Note 1 dry recyclables, 172,000 tpa to 177,000 tpa or typically 5-6 facilities in the range of capacities of 25,000 tpa to 30,000 tpa

Note 2 organics, 65,000 tpa to 68,000 tpa or typically 2-3 facilities in the range of capacities of 25,000 tpa to 30,000 tpa

Note 3 residual landfill/thermal, 143,000 tpa to 170,000 tpa or one facility of each type in the capacity range of 150,000 tpa.

6.1.1. Short Term Requirements

The table above gives an insight into the capacity required in the short term to cover the period 2005 - 2011 while recycling increases from a low level at present to required levels by 2011.

Within the "realistic" range (A and D), there is an immediate requirement for disposal of between 338,377 tpa to 352,822 tpa. This will reduce to between 159,350 tpa to 168,965 tpa by 2011 with the provision of an integrated waste facility, (comprising thermal treatment, associated transfer systems, biological and dry material recovery facilities) and less than half of this range again thereafter.

To cater for this short term deficiency within the region, landfill capacity should be maintained and/or developed either by extension and/or development of landfill capacity of minimum 150,000 tpa. It may also be prudent to progress a second new facility to preconstruction stage (in the event of delays in the procurement process of the regional integrated facility) and to ensure the region is self sufficient in this transition period.

This phasing of facilities requires co-ordination between the authorities to avoid excess capacity and hence excessive cost/expenditure. Required capacity should be jointly developed as this provides the best opportunity to develop value for money short term solutions.

In the case where the public sector landfill capacity is insufficient there is also a role for the private sector in the provision of residual landfill capacity in accordance with diversion targets set out in the Plan and the Landfill Directive.

Prior to the implementation of the integrated waste treatment facilities (including thermal treatment) the Plan anticipates that approximately 5 - 10 % of the anticipated biodegradable waste generation in the Region will require an alternative management strategy to comply with the Landfill Directive. The possible short term options may include:

- Inter regional waste movement (which is currently the position)
- Other waste treatment outside the Region subject to compliance with the Landfill Directive.

7. POLICY DEVELOPMENT & POLICY DECISION MAKING CRITERIA

The formulation of the waste management policy for the Region is based on the following criteria each of which received equal weighting:

1. Environmental assessment of recommended waste management scenarios
2. Ability to meet European and National waste management targets
3. Financial Cost

7.1. Environmental Assessment

An environmental assessment of four waste management scenarios/strategies was carried out. In each scenario the collection, treatment and recovery of dry recyclables and bio waste is the same. The collection, treatment and recovery/disposal of the residual bins are what differentiate the scenarios. The scenarios for the residual bins are:

- Landfill only
- Mechanical & Biological Treatment (MBT) and Landfill
- MBT and Thermal Treatment
- Thermal Treatment

When the environmental burdens associated with the different waste management scenarios are examined for local impacts, options containing thermal treatment are preferred. In all environmental impact categories examined, the thermal treatment options resulted in avoided environmental burdens.

7.2. Ability to Meet European and National Waste Management Targets

Recycling is defined as recycling of materials obtained through the dry recyclable collection, the organic collection and the recyclable fraction obtained through mechanical and thermal treatment processes.

Materials recovery is defined as materials recovery which includes waste to energy and stabilised material going to co-combustion or waste to energy facilities after pre-treatment in a mechanical biological facility. Recovery also includes composting.

The residual that can not be recycled, recovered or thermally treated is landfilled.

The following table outlines the percentage of recycling, recovery and landfill for each of the scenarios.

For any scenario involving thermal treatment the recovery percentage is higher than the recycling percentage. This is because energy (heat) that is produced during the thermal process can be recovered. Waste that cannot be recycled or recovered can be thermally treated and therefore the percentage of residual waste (11 and 7% respectively for thermal or thermal and MBT) going to landfill is much lower than the landfill only and MBT and landfill scenarios (48 % and 32 % respectively).

Table 7.1: Recovery, Recycling and Disposal Indicators for each Scenario

	Landfill	Thermal	MBT & landfill	MBT & Thermal
Recovery	49%	85%	65%	89%
Recycling	49%	50%	54%	54%
Landfill	48%	11%	32%	7%
Disposal outside of county (hazardous fly ash)	0%	1.3%	0%	1.0%
Disposal outside of county (dross from recycling)	2%	2%	2%	2%

Notes The values shown above are based on the assumption that there is a 3-bin collection system and a biological treatment plant to treat separately collected biowaste. Some waste will be disposed of outside the Region, hazardous fly ash generated from thermal treatment has to be disposed of to a hazardous waste landfill and if any recycling takes place outside the region or country, the dross arising from that fraction will be managed there.

Materials for disposal are those residues, which are not recycled or recovered through mechanical biological treatment facilities and/or thermal facilities. These would include low quality stabilised compost from mechanical biological treatment systems.

The following table sets out the primary targets for the diversion of biodegradable waste from landfill in the Landfill Directive and other national targets and degree of achievement. These diversion targets are based on waste arisings for the baseline year of 1995.

Table 7.2: Bio-Degradable Waste

Bio-degradable Waste	Landfill	MBT & Thermal	MBT & Landfill	Thermal
Target to divert 25% of biodegradable waste from landfill (2006)	x	✓✓	✓✓	✓✓
Target to divert 50% of biodegradable waste from landfill (2009)	x	✓✓	✓✓	✓✓
Target to divert 65% of biodegradable waste from landfill (2016)	x	✓✓	✓✓	✓✓
A diversion of 50% of overall household waste away from landfill (2013)	x	✓✓	✓	✓✓
35% recycling of municipal waste (2013)	✓	✓✓	✓✓	✓

x Fails to meet targets
 ✓ Meets targets
 ✓✓ Exceeds Targets

It is clear from the tables that the landfill only option for residual wastes will not achieve compliance with the landfill directive and accordingly further treatment of the materials collected in the residual bin is required.

Solutions involving thermal treatment achieve (in relative terms) higher diversion from landfill and higher recovery target rates.

7.3. Financial Assessment

A financial assessment has been carried out on four (1, 2A, 2B, 3) waste management scenarios for the region. They have been carried out over a twenty-year period and include the operating and capital costs for the primary components of each scenario 2A, 2B and 3. For these scenarios they do not include for operators profits, risk or procurement and design costs and VAT.

7.3.1. Financial Model for Assessment of Scenarios

The financial model calculates the operational and capital expenditure costs for the primary components of the waste scenarios as set out hereunder. The table illustrates the costs that were considered in the model.

Process Elements	Financial
Provision of bins at households	No
Provision of bins to non households	No
Collection at households	Yes
Collection at commercial/industrial waste producers	No
Transfer costs of dry recyclables, all sectors	Yes
Bring systems, including bring banks and civic amenity sites	Yes
Transfer stations	Yes
Home Composting	No
Bio-treatment	Yes
Dry materials recovery facilities	Yes
Mechanical biological treatment facilities	Yes
Thermal treatment	Yes
Landfilling	Yes
Landfill taxes	Yes

The investment and operational costs assumed for each process element are set out in Table 7.3. For the collection, recycling and recovery systems these are set out as a cost per tonne and are used to calculate the net present value of the core portion of the waste system, comprising collection, biological treatment and dry materials recovery. These elements of the waste collection system are the same for each of the four scenarios.

In relation to landfill, a gate price of €85 per tonne is assumed and in addition a landfill tax of €25 per tonne is assumed post 2008.

Table 7.3 Investment and Operational Costs for Waste Services

Item	Facility	CAPEX	OPEX	Other Costs/Income	Facility Size t/a
1	3 Bin Collection	-	€/t 164	--	
2	Civic Amenity	€/t 27	€/t 90	-	
3	Bring Site	€/t 22	€/t 160	-	
4	Dry Materials Recovery	€24	€/t 67	Transfer Cost €/t 8	30,000
5	Biotreatment	€/t 28	€50	-	16,000 t/a
6	Landfill	-	€85	€25 (Landfill Tax)	Market Gate Fee
7	MBT with Residue to Thermal	€69.4 m	€13.3 m	€3 m income	150,000 t/a
8	MBT with Residue to Landfill	€69.4 m	€14.0 m	€1.1 m	150,000 t/a
9	Thermal Treatment	€113 m	€8.7 m	€5.1 m	150,000 t/a

Within the overall waste collection system, all waste collection including treatment of recovered materials is covered by Items 1 to 5 and their costs are expressed in Euros per tonne. All costs are current in the First Quarter of 2006.

For each of the three residual waste management systems the capital value is given in Column 3 and annual operational costs are given in Column 4, annual operational cost are nett cost with appropriate allowances for revenue streams.

7.3.2. Financial Evaluation

The financial evaluation is carried out for the management options for the residual bin separate to the collection, recycling and materials recovery elements as these are common to all scenarios. The distinguishing component between each scenario is a method of treatment for the residual waste fraction or "grey bin". The costs from the financial model for the core elements comprising collection, biological treatment and dry materials recovery are set out in Table 7.4

The costs from the financial model for each of the four scenarios in terms of net present value for a twenty year horizon and net present value on a per tonne basis are set out in Table 7.5.

Table 7.4: Financial Evaluation (Core Cost – Nett Present Value (NPV))

	NPV (20 year)	NPV/tonne
	B€	€/t
Collection, Transfer, Bio-treatment and Materials Recovery	1.130	205

Table 7.5: Financial Evaluation (Residual Waste Disposal Cost – Nett Present Value (NPV))

	Scenario 1	Scenario 2A	Scenario 2B	Scenario 3
	Landfill	MBT to landfill	MBT to thermal treatment (outside country)	Thermal treatment
Net Present Value (20 year)	258 m€	296 m€	288 m€	215 m€
Net Present Value per tonne	110 €/t	126 €/t	123 €/t	92 €/t

In addition, a sensitivity analysis on the MBT options was also carried out. This comprised optimising the energy recovery from the anaerobic digestion plant, which achieves an approximately €5/tonne reduction in gate fees. Aerobic stabilisation only was also considered, producing a refuse derived fuel, which achieves an approximately €2/tonne reduction in gate fees. The most significant cost and highest risk item within the MBT scenarios is the disposal of stabilised material and soiled paper and caseboard. In the short to medium term, the market approach to this material is unlikely to change significantly and accordingly these materials attract a transportation/disposal charge or disposal charge respectively.

At present (2006), there are no RDF thermal treatment facilities or co-combustion facilities for RDF proposed in the Irish market. The disposal of RDF outside of Ireland, accordingly, attracts a transportation (shipping and handling) and disposal charge.

The financial calculations show that the thermal treatment option is the most cost effective.

7.4. Summary

The outcome of the environmental, resource and financial assessments are set out in Table 7.6.

Table 7.6: Environmental, Resource and Financial Assessment Summary of each of the Scenarios (2011) (Ranking)

	Environmental Comparator		Resource Comparator	Financial Comparator Residual Waste Treatment
	Local	Global		
Scenario 1 landfill	4 th	4 th	Non Compliant	N/A
Scenario 2(a) MBT & Landfill	3 rd	3 rd	3 rd	3 rd
Scenario 2(b) MBT & Thermal	2 nd	2 nd	2 ^{nd*}	2 nd
Scenario 3 Thermal	1 st	1 st	1 ^{st**}	1 st

In summary, both thermal options show a greater performance over the two landfill options. Residual waste to landfill without pre-treatment will be non-compliant with EU targets after 2009. At the time of writing (March 2006, the DoEHLG on behalf of the state were seeking a derogation with respect to the landfill directive target years).

Accordingly Scenario 3 with thermal treatment of the residual waste stream is the preferred option to form part of an integrated waste management approach in the South East Region.

8. SPECIFIC POLICY AND OBJECTIVES FOR THE REGION

The Primary Objective of the Plan is to secure the best environmental management of all waste including preventing and minimising the generation of waste wherever practicable.

In order of priority, waste must be prevented, minimised, used, recycled, recovered and disposed of safely, having regard to public health and environmental protection, occupational hazards in waste handling as well as having regard to the best value solution.

There were 3 criteria, each of which receives equal weighting, used in the devising of the specific policy of this Plan. These criteria were environmental and health impacts, ability to meet the necessary targets and financial assessment.

The specific policy and objectives of the South East Waste Management Region (Region) are set out hereunder and grouped into the following sections:

- Public Awareness and Education
- Prevention and Minimisation
- Waste Collection and Charging
- Waste Recovery and Recycling
- Waste Treatment/Final Disposal
- Unauthorised Landfilling
- Location of Waste Management Facilities
- Litter Prevention
- Sludge Management
- National Hazardous Waste Management Plan
- Priority Waste Streams
- Market Development
- Policy on Joint Management and Procurement
- Complaints

8.1. Public Awareness and Education

The aims of the waste management plan are to:

- Minimise waste production
- Recover waste
- Promote waste prevention
- Recycle waste
- Manage waste in the most appropriate environmental manner

The regions awareness programme will be based on the national "Race Against Waste" campaign and tailored to develop local and regional campaigns.

Public awareness initiatives will lay the communications foundation for important events around which the plan will be delivered. These include:

- Roll-out of new collection schemes and methods
- Increasing and maintaining public participation in recycling initiatives etc.
- Establishment of the necessary waste management infrastructure

In the procurement of waste services for the implementation of this plan, all or a portion of the public awareness and education initiatives may be transferred to the contracting entity/private sector.

8.2. Prevention and Minimisation

The 1989 community strategy for waste prevention set out 3 fundamental concepts behind EU waste strategy:

- waste prevention
- waste recovery
- waste disposal

The most recent Sixth Environmental Action Programme outlines four main waste related aims and these are to:

- develop a thematic strategy on sustainable use and management of resources
- develop and implement measures on waste management and prevention
- develop a thematic strategy on waste recycling
- revise the legislation on waste

To implement the Sixth Environmental Action Programme at local level the Region will target the following key areas for specific action:

- Drawing up estimates of materials and waste stream flows within, into or out of the Region
- Raising awareness of the public's potential contribution to waste reduction
- Developing further indicators in the field of waste management
- Develop and implementing measures aimed at ensuring source separation and the collection and recycling of priority waste streams
- The appointment of a Green Business Officer to promote waste prevention initiatives may be considered by each of the Local Authorities within the Region
- The Region intends to apply for funding under the Local Authority Prevention Demonstration (LAPD) programme for a waste prevention initiative within the region.

Meeting these requirements will be achieved partly by a comprehensive and pro-active waste education and awareness campaign focusing on the public and commercial sectors. The theme of these local (and regional) initiatives will complement the initiatives under the "Race Against Waste" campaign and other National initiatives such as the National Waste Prevention Programme.

National Waste Prevention Programme

It will be the policy of the Region to promote the objectives of the National Waste Prevention Programme. These objectives will be achieved through education and awareness with the ultimate aim of decoupling waste generation and economic growth. The Waste Prevention Programme will target six key waste streams:

- Agriculture – waste packaging, oily sludges, sheep dip, farm plastics
- Industry – small to medium size enterprises
- Construction and demolition waste
- Mining and quarrying waste – stone and quarrying activities
- Municipal waste
- Hazardous waste

Waste streams subject to producer responsibility initiatives will be included.

8.3. Waste Collection and Charging

It is the policy of the Region to promote and apply a “pay-by-use” charging system for all municipal solid waste (MSW) collections. Acceptable pay by use mechanisms are to:

- pay-by-tag
- pay-by-lift
- pay-by-weight
- pay-by-volume

A flat charge only is no longer acceptable for the collection of MSW. However any of the “mechanisms” above together with a flat charge is acceptable.

Policy in relation to charging will be kept under review by the Region and adjusted as required.

The Region may produce common guidelines and/or Bye-Laws to implement pay-by-use policy.

In accordance with the Landfill Directive, it is the policy of the Region that waste prior to land filling will be pre-treated. Accordingly, source separation will be the minimum pre-treatment requirement post 2008.

It is the policy of the Region to seek to achieve that 80-85% on average of all households in the Region will have a waste collection service provided either by the Local Authorities and/or private sector by 2008.

For the 15-20% of households that may not have access to a collection service the Region proposes to adopt and implement the following waste management strategy:

- Promotion and support for home composting
- Identification, development and servicing of strategically located disposal outlets for dry recyclables and residual waste
- Apply the polluter pays principal to the collection of waste streams subject to resources
- Implementation of an information and awareness campaign aimed at reducing the extent of backyard burning and fly tipping in the region.

For the commercial/industrial sector all waste arisings will either be:

- managed on site by segregation of waste under the Packaging Regulations, or
- source segregated by the implementation of a 2-bin system (pre 2006) (dry recyclables and residual waste) and collected by a permitted collector.

Not later than year end 2006, all waste collection services for household, commercial and industrial in the region will comprise of a 2-bin system for dry recyclables and residual waste.

Dry recyclables will include (but not be limited to):

- Paper/cardboard
- Paper/cardboard packaging
- Plastics
- Metal containers

In the period post 2007, a 3 bin collection system will be mandatory throughout urban areas greater than 1,000 persons in the region for household, industrial and commercial waste or as otherwise determined by the Region. This third collection bin will be utilised to collect bio-waste.

The implementation of a three-bin collection system will be complete by end of 2008 for all sectors unless otherwise determined by the Region.

It is the policy of this plan that the implementation of the 2 and 3 bin system for the region will be enforced through the use of the Waste Management (Collection) Permit Regulations and/or waste presentation Bye-laws.

The receptacles for the collection of organic, dry recyclables and residual waste will be to the approval of the Region. This approval will include material type, receptacle type, size, colour and condition. The Region may, if deemed appropriate, consider the use of microchips or other electronic aids for waste receptacles and require the use of these electronic aids both in public and private collections of household, commercial and industrial wastes.

Producer responsibility will ensure that wastes arisings are segregated, collected and properly managed thereafter in permitted and/or licensed facilities.

The local authorities in the region may consider the introduction of common local bye-laws as appropriate.

The Region will rigorously, enforce compliance with the waste collection permits issued to include the auditing of the nature, origin and management of all waste collected. In the case of non-compliance will take appropriate action which may include seeking to review, suspend or terminate the collection permit of collectors. For all waste collections, the collector will demonstrate to the satisfaction of the Region, the nature, origin (by premises, commercial and/or industrial enterprises etc), treatment and final disposal of all wastes collected. .

The Region will actively seek to enforce the requirements of the Waste Management (Movement of Hazardous Waste) Regulations 1998 and the Waste Management (Transfrontier Shipment of Waste) regulations 1998 in order to ensure that hazardous wastes are properly managed from "cradle to grave". This will include ensuring that all hazardous waste movements in and out the region are accompanied by C1 consignment notes. The Region will also ensure that hazardous waste produced within the region that is being exported from the region for recovery or disposal is accompanied by the appropriate TFS notices.

It is a policy of this plan that residual waste collected within the Region will be directed under the Waste Management (Collection) Permit Regulations or other appropriate regulatory or enforcement measures to a nominated facility/facilities in accordance with law. In line with Government policy and targets to divert residual waste from landfill, as set out in Section 1.5 of this Plan, it is intended that a nominated facility for residual waste in accordance with this policy will be an integrated waste facility incorporating thermal treatment and energy recovery to be developed in accordance with this Plan.

It is the policy of the Region to carry out inspections and audits of facilities subject to waste permits, along with visits to authorised waste collectors. Such activities will be prioritised on the basis of factors such as the environmental significance of the activity and resource availability.

The Region will develop its methodologies to improve waste data statistics on the number of householders participating in collection services and seek to identify disposal outlets for householders not participating in collection services or who are unserved.

The Region will have regard to the guidance document issued by the EPA in relation to the recommended minimum criteria for environmental inspections (RMCEI).

It is an objective of this Plan that the Region will undertake waste characterisation studies on each of the three bin waste streams.

The Region will have regard to the recommendations of the National Working Group on waste collection permits and the revised collection permit regulations when published.

8.4. Waste Recovery and Recycling

Collection and recycling efficiencies for the component waste streams in household and commercial/industrial waste are set out in Section 9. Waste collectors and operators of waste infrastructure facilities either proposed or subject to review will demonstrate their degree of compliance with these collection and recycling efficiencies to the appropriate local authority/agency. The Region will have regard to the degree of compliance demonstrated when evaluating waste collection and/or infrastructure permit applications or reviews.

The specific policy of the Region in relation to recovery/recycling efficiencies is to enable the achievement of the targets set out hereunder:

- Home composting will be available to not less than 20% of urban households and 55% of rural households by 2010.
- The Region will provide or arrange for the provision of bring centres with the emphasis on quality of location, presentation and range of receptacles. The Region will keep under review the density of sites per thousand of population and the collection frequency necessary to enhance the management of bring sites.
- Proposed apartment and housing developments will be appropriately laid out to enable the implementation of three bin collection systems.
- For proposed apartment and housing developments the Region will ensure that these developments are either serviced by existing infrastructure or make appropriate provision for bring sites in their layout. Adequate access will be provided in developments to service proposed bring sites.
- The Region will provide or arrange for the provision of a minimum of 9 additional recycling centres subject to resources and the PPP process.
- The Region may require the inclusion of recycling centres as part of proposed waste infrastructure. These sites will be provided and operated by the infrastructure provider to the approval of the local authority and regulatory agencies. The scale and scope of these sites will be appropriate to the scale of the proposed waste infrastructure
- The Region will have regard to the range of recycling/recovery receptacles at recycling centres and where appropriate will ensure that arrangements are in place for collection of household hazardous waste and electronic waste and electric equipment (WEEE).
- The Region will encourage the provision of local biological treatment for agricultural wastes.
- The Region will encourage the provision of dry material recovery facilities for source segregated MSW.
- The Region will encourage the provision of biowaste treatment facilities for source segregated MSW
- The Region will provide or arrange or facilitate for the provision of an appropriate number of waste transfer facilities, to facilitate the movement of recyclables, biowaste and residual waste to their respective treatment facilities.
- The Region will provide for and or facilitate appropriate public information and awareness campaigns to complement national awareness initiatives and to coincide with the rollout of collection and waste infrastructure.
- The Region will encourage and or facilitate and disseminate information on source reduction and producer responsibility initiatives.
- The Region will encourage the provision of an adequate range of waste recovery and recycling infrastructure and will have due regard to the requirements of scale for economic viability.
- The Region will require developments (as determined from time to time by the local authorities) to submit for approval a C+D waste management plan with planning applications

As part of the provision of an integrated waste management system the Region may integrate the existing Biological Treatment Facility at Waterford City and the existing Dry Materials Recovery Facility at Dungarvan, Co. Waterford into the Public Private Partnership process.

8.5. Waste Treatment

It is necessary for source segregated waste to be treated in the most appropriate manner to optimise recovery, recycling and re-use. The specific policies of the Region with regard to the primary waste fractions are as follows:

Organic Fraction

- Encourage the provision of local biological treatment facilities for agricultural/other non MSW bio wastes throughout the Region
- Provision/promotion of home composting systems for household organics
- Provision/promotion of a minimum of 9 recycling centres with provision for the collection of green waste from householders
- The Plan anticipates that by 2011 ~ 60,000 tonnes of recovered biological materials will be generated in the Region. It is the policy of the Plan not to support the further establishment of smaller biological facilities (particularly those of less than 25,000 tonnes). It is recognised that a number of smaller facilities currently operate in the Region and it is not anticipated that this will change. The Region promotes the establishment of larger facilities with a view to achieving economies of scale and to ensure that proposed facilities are fully assessed by means of an environmental impact assessment (EIA).

The Region will support the existing biological treatment facility at Six Mile Cross, operated by Waterford City Council and promote the provision by the private sector of major materials recovery facilities for the organic waste fraction elsewhere in the Region.

Provision/promotion of the use of green waste as amendment material in the larger scale biological treatment facilities. Failing this the provision/promotion of smaller windrow composting facilities at suitable locations for green waste.

Dry Recyclables

The Region will support the existing facility at Dungarvan operated by Waterford County Council and promote the provision by the private sector of major materials recovery facilities for dry recyclables elsewhere in the Region. The Plan anticipates that by 2011 ~ 140,000 tonnes of recovered dry materials will be generated in the Region. It is the policy of the Plan not to support the further establishment of smaller dry material recovery facilities (particularly those of less than 25,000 tonnes). It is recognised that a number of smaller facilities currently operate in the Region and it is not anticipated that this will change. The Region promotes the establishment of larger facilities with a view to achieving economies of scale and to ensure that proposed facilities are fully assessed by means of an environmental impact assessment (EIA).

Residual Waste Treatment

Short term Requirements

It is the policy of the Region to ensure adequate residual landfill capacity in the region particularly in the short term. This capacity may be provided either by the public or private sectors.

Prior to the implementation of the integrated waste treatment facilities (including thermal treatment) the Plan anticipates that approximately 5 - 10 % of the anticipated biodegradable waste generation in the Region will require an alternative management strategy as set out below to comply with the Landfill Directive or amendments thereof:

- Inter regional waste movement (which is currently the position)
- Other waste treatment outside the Region subject to compliance with the Landfill Directive

As our need for energy increases, the recovery of energy trapped in waste materials can benefit the environment by replacing energy from non-renewal sources. Even after extensive recycling, the residual waste stream still has a high combustible content available for energy recovery.

It is a specific policy of this plan to recover and beneficially reuse this energy from the combustible residual waste stream.

Energy Recovery

Residual waste – The Region will promote the recovery of energy from residual MSW by means of thermal treatment with energy recovery either for electricity generation or combined heat and power.

Landfilled waste – The Region will promote the recovery and utilisation, where practicable, of landfill gas generated at existing landfills within the Region.

Agricultural biological wastes and industrial sludges – the Region will promote the recovery of energy through appropriate processes.

Treatment of Residual Waste Stream

The Region will arrange for the provision of an integrated waste management system with associated waste transfer, biological and material recovery facilities and including thermal treatment with energy recovery by 2011.

The thermal treatment facility would have a capacity chosen to meet residual waste disposal needs of the South East region while taking cognisance of the requirement of economies of scale and value for money.

It is a policy of this plan that residual waste collected within the Region will be directed under the Waste Management (Collection) Permit Regulations or other appropriate regulatory or enforcement measures to a nominated facility/facilities in accordance with law. In line with Government policy and targets to divert residual waste from landfill, as set out in Section 1.5 of this Plan, it is intended that a nominated facility for residual waste in accordance with this policy will be an integrated waste facility incorporating thermal treatment and energy recovery to be developed in accordance with this Plan.

Final Disposal

Even after maximum recycling and recovery efforts, a residual waste stream will remain, it will be necessary to deal with this as outlined below.

The specific policy for final disposal details necessary actions to be undertaken by the Region as follows:

- Non-combustible residual waste is to be disposed of in residual landfills in the region.
- Non- hazardous bottom ash from the thermal treatment process to be disposed of in residual landfills in the region.
- Untreated fly ash (hazardous waste) from the thermal treatment process to be managed in an environmentally secure manner at an appropriate facility.
- Excess residual waste which cannot otherwise be dealt with is consigned to residual landfill in the region, pending provision of alternative or additional treatment/recovery facilities in accordance with the Landfill Directive.
- The Region will promote the provision of residual landfill capacity to deal with either inert, non-combustible waste streams, bottom ash or excess residual waste by the public and/or private sector.
- Provision of other residual waste disposal facilities within the Region must demonstrate compliance with the diversion targets set out in the Plan and the Landfill Directive.

Directing Waste

It is a policy of this plan that residual waste collected within the Region will be directed under the Waste Management (Collection) Permit Regulations or other appropriate regulatory or enforcement measures to a nominated facility/facilities in accordance with law. In line with Government policy and targets to divert residual waste from landfill, as set out in Section 1.5 of this Plan, it is intended that a nominated facility for residual waste in accordance with this policy will be an integrated waste facility incorporating thermal treatment and energy recovery to be developed in accordance with this Plan.

Litter Prevention

The Region will provide for street cleansing and enforcement of Litter Management Plans.

Sludge and Biosolids Management

It is the policy of this plan to ensure the full implementation of all Sludge Management Plans in the region.

The Region will consider the co-treatment/disposal of other sludge/biosolids with residual MSW where environmental and/or economic benefit would arise.

8.6. National Hazardous Waste Management Plan

The EPA's National Hazardous Waste Management Plan contains a variety of recommendations which are directed towards state bodies and the private sector, including central government, local authorities, hazardous waste contractors and industry.

In relation to the requirements specified as being vested with local authorities, the Region will:

- Actively participate in any of the hazardous waste stakeholder groups proposed by the EPA or by the Department of the Environment, Heritage and Local Government;
- Actively seek to fully enforce the requirements of the Waste Management (Movement of Hazardous Waste) Regulations 1998 and the Waste Management (Transfrontier Shipment of Waste) Regulations 1998 in order to ensure that hazardous wastes are properly managed from "cradle to grave";
- Play its part in the national effort to eliminate the existence of the small proportion of hazardous waste which the National Hazardous Waste Plan defines as "unreported". This will be achieved by programmes of inspection of waste producers, public information initiatives and by other similar schemes;
- Seek to ensure that household hazardous waste is managed correctly and that there is adequate infrastructure available in the Region for its collection and storage prior to disposal at recycling centres and other facilities;
- Encourage suppliers of hazardous waste management services to extend their operations to include additional small businesses and the agricultural sector;
- Identify sites where hazardous wastes have been stored or processed in the past, with a view to carrying out a risk assessment of any long-term contamination and, in accordance with the requirements of the National Hazardous Waste Plan, to maintain a register of such locations.
- The provision of mobile household hazardous waste collection systems will be kept under review
- Provision will be made at recycling centres for the collection of household hazardous waste.

8.7. Priority Waste Streams

The priority waste streams include the following:

- Healthcare waste
- Electrical and electronic waste
- PCB's
- End of Life Vehicles
- Batteries
- Construction and Demolition Waste
- Packaging waste
- Waste oils
- Tyres

Specific policies in relation to them are set out hereunder.

Non-Hazardous Healthcare Waste

- It is the specific policy of the Region that as far as is practicable and subject to an analysis of associated risk, all non-hazardous waste streams from residential/healthcare facilities, will be source separated into the three primary components of dry recyclables, organic waste and residual waste.
- Healthcare waste will be collected by appropriately permitted collectors.
- The Region will liaise with the Health Authorities with regard to facilities for collection and recovery of selected waste streams.
- The Region will examine in conjunction with the Health Authority the treatment of non-hazardous source separated food waste from healthcare facilities at appropriate facilities within the region and its subsequent beneficial re-use.

Electrical and Electronic Waste

The Region will promote the achievement of the recovery rates set out in the Directive by:

- Ensuring that all recycling centres have provision for the recovery of WEEE (it is noted that the return of electronic and electric goods by householders is free of charge under the Directive).
- Raising awareness of the recycling of WEEE in order to achieve the target of an average of 4 kgs of waste electronic and electrical equipment to be collected from each private household per year by January 2006.

PCBs

The Region will enforce the Waste Management (Hazardous Waste) Regulations in order to satisfy the requirements of the PCB Directive (96/59).

The Region will take measures to ensure that premises in which PCB's are stored must be appropriately labelled to alert the emergency services to their presence in the case of accident or fire.

Through its responsibility to the C1 and TFS Regulations, the Region will ensure that premises falling under the Regulations will dispose of PCBs to appropriate facilities.

Enhance awareness of the Regulations of the Directive and the requirements of the EPA's Management Plan for Polychlorinated Biphenyls (PCBs).

End of Life Vehicles

The Region will regulate dismantling facilities to ensure that they are authorised and meet certain environmental performance standards and defined recycling levels as set out in the Directive.

The Region will promote the establishment of authorised facilities for the processing of end-of-life vehicles.

Batteries

The Region will:

- Promote the requirements of existing and proposed Directives.
- Continue to support the schools battery-recycling scheme.
- Promote the provision of drop-off points for batteries at collection facilities.
- Focus awareness and education initiatives on the hazards associated with batteries.

Construction and Demolition Waste

The Region will:

- Promote the provision of mobile crushing and screening systems located at existing/proposed waste facilities where practical (open for consideration at other locations) in accordance with the objectives of the Irish National Construction and Demolition Waste Council (NCDWC).
- Promote the Draft Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects
- Promote and raise awareness on the Voluntary Industry Initiative aimed at increasing minimisation and recycling rates of construction and demolition waste
- Consult with the National Construction and Demolition (C&D) Waste Council (NCDWC) in relation to any significant issues that may arise with regard to C&D.
- Encourage the recovery of C&D, soil and stone at waste permitted sites. It is recognised that there is a requirement for these facilities by both the public and private sector.
- Encourage the establishment of a mobile crushing and screening plant. The Region will consider the need for transfer stations for C&D waste.
- Regularly review the types of waste which are collected at civic amenity facilities and may facilitate the collection of the recovery of rubble and stone from householders and from small builders if it is economical to do so.
- Promote the provision, by the private sector, of the necessary infrastructure for the recycling and recovery of C&D waste
- In the exercise of its development management functions, (the local authority) will encourage the provision of recycling facilities in appropriate quarry developments, construction sites and landfills for the recycling/recovery of C&D waste. The Region will promote the re-instatement of historical sites with appropriate material subject to site suitability. These facilities may be subject to other statutory processes.

The Region has prepared guidelines for the preparation of site waste plans for use in development management exceeding specified thresholds and will implement these.

Packaging Waste

The following specific policies will be followed for packaging waste recovery in the region:

- The Region will work closely with Repak Ltd. to ensure that the quantity of packaging required by the Packaging Regulations and the EU Directive are recycled within the required timescales.
- The Region will actively enforce the Waste Management (Packaging) Regulations with a view to eliminating “free riders”, ensuring all major producers are either self-compliant or Repak members and require the obligations on producers of packaging waste to be met.
- The Region will provide information to all packaging producers in the region on the need for compliance with the Packaging Regulations and with a view to increasing packaging waste recovery. This information will also include material on the prevention of the creation of packaging waste.

- Having regard to land use planning and environmental considerations, Repak approved waste contractors will be encouraged to establish and extend collection systems and recycling facilities for packaging waste.
- In order to facilitate the application of the “Polluter Pays Principle” and the collection and recycling of packaging waste, all local authority household waste collection activities will be fully costed and appropriately charged to the householders in the region.
- The Region will, as part of their programme of environmental awareness, provide information to householders on the need to recycle packaging waste and on how the production of packaging waste can be prevented.

Waste Oils

It is the policy of the Region to promote and prioritise the regeneration of waste oil and its safe collection. Waste oil within the Region will be managed in accordance with the Waste Management (Hazardous Waste) Regulations 1998.

Tyres

It is the policy of the Region to promote the recovery, recycling and/or disposal of tyres in accordance with best environmental practice.

The Region will promote the establishment of authorised facilities for the processing of waste tyres.

8.8. Market Development

The Region will examine the re-use of recovered materials within the Region and promote research and development on them.

A fundamental element of waste reuse and recycling is the availability of markets for recyclable and recycled materials. Market development will be encouraged through the public education campaign and the implementation of legislative tools. Industry will be encouraged to adopt minimum content standards for the recycled content of goods.

The Region will consult with the National Market Development Group for recycling markets and assist, where appropriate, with the rollout of initiatives.

8.9. Identification of Sites – Waste Disposal or Recovery

It is a requirement under Section 22 of the Waste Management Act (WMA) to identify those sites at which waste disposal or recovery activities have been carried on (whether authorised or unauthorised).

The policy direction issued by the Minister requires that each local authority:

- prepare an inventory of sites at which waste disposal and recovery have been carried on
- carry out an initial risk assessment of each of these sites (i.e. walkover survey)

The Region has commenced this process.

In response to the policy direction referred to above, the EPA has issued draft guidelines on the Code of Practice for assessing the risk presented by such sites. The Region will have regard to the Code of Practice as developed by the Office of Environmental Enforcement.

In the period prior to the National Guidelines being published, the Region will develop the following procedure:

- an initial assessment will be undertaken by the Region of any such allegations of unauthorised waste activities
- depending upon a range of relevant factors, the nature and scale of the activity, its seriousness and environmental impact, whether a first-time or repeat offender is involved, and other relevant issues, enforcement action will be taken where necessary.

In accordance with Section 22(7)(h) of the Waste Management Acts 1996 to 2003, the following measures will be utilised to identify sites where waste disposal or recovery activities have been carried out in the past or which are otherwise contaminated. This identification process will also have regard to the DoEHLG's Circular letter ENV 11/88, which is entitled "Identification of Waste Contaminated Land", and the relevant parts of the National Hazardous Waste Management Plan.

Details of sites known or suspected to have been used for the historic disposal of hazardous waste will be included in a "Section 26 Register". Once identified, the sites will be prioritised in accordance to the methodology set out in Chapter 7 of the National Hazardous Waste Management Plan. The implementation of the Section 26 Register will require significant additional staffing and financial resources.

Table 8.1 below outlines the stages for the risk assessment of such sites.

Table 8.1: Hazardous Waste Management Plan – Methodology for Developing a Register for Hazardous Waste Disposal Sites

Stage 1	Develop a list of the industrial, commercial or agricultural activities most likely to have resulted in the generation of hazardous waste which would subsequently have required disposal either on or off-site.
Stage 2	Assess historical land-use with particular reference to the contaminative uses identified in Stage 1. This will require a desk study to identify the waste disposal activities likely to have been carried out and whether these took place on or off-site.
Stage 3	Identify which of the locations identified in Stage 2 are most likely to have been used for the disposal of hazardous waste.
Stage 4	Compile a 'Section 26 Register' of all suspected or known hazardous waste disposal sites.
Stage 5	Carry out a preliminary risk assessment based on the desk study procedure in Stages 1 to 4. The assessment will allow suspect sites to be provisionally allocated to one of three priority categories (A, B or C), thereby assigning each site included in the local authority register to a preliminary priority rating.

Stage 6	Undertake an intermediate risk assessment, based on a literature review and a visual inspection of the site. The results of this procedure will allow suspect sites to be re-allocated, as appropriate, to a more relevant priority category. The resultant priority rating will allow identification of those sites which must be subjected to Stage 7 investigations, as well as ranking them in order of priority.
Stage 7	Carry out a detailed risk assessment, based on actual site investigation work. Stage 7 investigations will verify the presence or absence of contaminants and will provide the information to be used to identify an appropriate remediation strategy.

In general the categories of waste disposal sites are:

- a) Local authority operated sites (1977 – 1996)
- b) Local authority sites operated and closed under a waste licence
- c) Existing local authority landfills
- d) Orphan sites (sites where the owner and/or operator are unknown).

For sites in (a) to (c) inclusive, it is the policy of the Region to compile an initial register by the end of 2006. For other sites, they will be added to the register as they are identified.

The local authorities in the Region in moving from the direct provision of disposal facilities to an integrated waste management system, local authorities will no longer have the income streams available to them to adequately address legacy (historical) landfills or waste recovery activities. State assistance is now being made available and accordingly the Region will seek the maximum state assistance to provide the funding to achieve the necessary standards in remediation and aftercare to comply with pending guidance from the EPA and the Section 60 Policy Notice from the DoEHLG.

8.10. Unauthorised Waste Management Activities

The Region recognises the need to ensure that the Waste Management Acts and subsidiary legislation are enforced in an effective and equitable manner across the region as a whole. Enforcement activity will involve the full invocation of all relevant powers under national law where this is necessary and appropriate. Particular enforcement effort will be concentrated upon activities which are large-scale, are associated with significant environmental impacts, involve repeat offenders or continue after the receipt of warnings. Issues of priority to the Region will include the operation of unauthorised waste management sites and collection activities, fly-tipping and backyard burning by householders and commerce. Operators of facilities subject to waste permits or registrations and waste transporters authorised by waste collection permits will be expected to fully comply with these forms of statutory authorisation. Enforcement effort will also be targeted to ensure that there is strict compliance with any relevant by-laws covering issues such as waste presentation.

The Region is committed to tracking and auditing waste movements within the region.

8.11. Contaminated Sites

The Region will continue to liaise with the EPA's Office of Environmental Enforcement. The Agency has established a working group which is currently developing a "Complaints Investigation Protocol" on waste-related issues. It will be the policy of the Region to implement the protocol as developed by the Office of Environmental Enforcement.

From the outset, the Region has been represented on the National Working Group for Unauthorised Waste Activities.

Nationally, unauthorised waste management activities and contaminated sites have proven a difficult area to police from a range of perspectives, including legal, geographical and administrative perspectives. The Region has engaged in the process and has identified a number of sites.

In relation to unauthorised waste management activities and contaminated sites, the Region will have regard to:

- the policy direction issued by the Minister for the Environment, Heritage and Local Government on the 3rd May 2005
- the EC Court of Justice judgment dated the 26th April 2005 against Ireland in relation to the Waste Directive 75/442/EEC as amended by 91/156/EC.

It is the policy of the Region that all costs incurred in respect of investigations relating to proven unauthorised waste activities will be recovered from the landowner, collector and/or operator of the facility.

Investigation may include:

- an initial site walk over/site history investigation to determine the waste material deposited at the site
- trial pit site investigation
- gas monitoring or probe survey at each trial pit
- collection of surface water samples
- collection of soil samples from each trial pit location
- chemical analysis of all samples obtained

If required, intrusive site investigations of unauthorised waste sites, as well as other contaminated land, will be conducted in accordance with BS 5930:1999 titled "Code of Practice for Site Investigations" and the "Guidance Notes for the Safe Drilling of Landfills and Contaminated Land" where required.

It is the policy of the Region that the environmental assessments/investigations carried out on behalf of the landowner will only be undertaken by a suitably qualified and experienced organisation. The appointment of such a body will be required to be subject to the approval of the relevant County or City Council within the region in a manner appropriate for each instance where it is necessary.

8.12. Policy on Joint Management and Procurement

It is the policy of the local authorities to act jointly in the procurement and management of waste infrastructure necessary to implement the policies and to achieve the targets of this Plan.

It is the policy of the local authorities to act jointly to develop (or to facilitate the development) on a phased basis of required waste infrastructure (i.e. residual landfill) so as to minimise redundancy in the waste system. In respect of local authority owned/procured facilities, this may necessitate the sharing of existing facilities and/or the co-ordination of delivery of proposed/future facilities.

It is the policy of the local authorities to act jointly in sharing the procurement and/or financial risk in managing and/or developing the waste infrastructure necessary for the region.

Each local authority undertakes not to facilitate, procure, develop and/or manage any waste facility, if by so doing, the procurement and/or the development of regional waste infrastructure required under this plan is compromised or made non viable.

8.13. Location of Waste Management Facilities

It is the policy of the Region to provide adequately for waste management facilities, notwithstanding the zoning of land for the use solely or primarily of particular areas for particular purposes in development plans, or the absence of zoning provisions, approval for waste management facilities necessary for the proper implementation of the Plan shall be considered open for consideration in all areas, in addition disposal sites shall have regard to the Landfill Site Selection Manual (EPA 1996).

In some areas public infrastructure such as roads, sewers, water supply etc. may not be of the required standard. However if the need for the facility so requires and if the infrastructure will be provided by or on behalf of the developer/local authority by the time the facility is fully operational or within a reasonable time thereafter, deficiency of infrastructure shall not prejudice the achievement of the objectives of this Plan.

In the siting of future waste facilities, consideration will be given to the following environmental protection areas:

• Special Areas of Conservation	• Refuge for Fauna
• Special Protection Areas	• Ramsar Site
• Statutory Nature Reserve	• Biogenetic Reserve
• National Park	• UNESCO Biosphere Reserve
• Wildfowl Sanctuary	• Salmonid Water
• Sensitive Areas for Urban Wastewater	• Sensitive Areas for Fisheries and Forestry
• Areas of Special Control in County Development Plans	• Protected Areas as listed in Annex IV of the Water Framework Directive

8.14. Complaints Management

The Region will have regard to the guidelines from the Complaints Working Group established under the Enforcement Network, co-ordinated by the OEE.

9. WISER WAYS' PUBLIC AWARENESS & INFORMATION CAMPAIGN

9.1. Public Awareness and Information Strategy

The awareness strategy will continue the "W.I.S.E.R WAYS" - Waste Initiative for the South East Region theme and will complement the national "Race Against Waste" and "Waste Prevention Minimisation" campaigns. The Public Awareness and Information Strategy can be set out under four headings:

- targets –key objectives/targets set by European and National legislation and policy
- key Issues – focusing on local and regional issues
- strategy and implementation – the broad messages, communications routes and techniques to be used to meet these objectives
- delivery – this will involve the development of the key messages, raising awareness and educating key stakeholders

The public awareness/campaign will lay the communications foundations for important events around which the plan will be delivered. These include:

- roll-out of new collection schemes and methods
- increasing and maintaining public participation in recycling initiatives
- establishment of the necessary waste management infrastructure

10. IMPLEMENTATION – PROGRAMME & MONITORING

10.1. Introduction

With respect to the implementation of the plans the national policy document “Taking Stock – Moving Forward” requires that *“In order to ensure a sharper focus on the implementation of waste management plans, local authorities will be required to:*

- *Set out in their plan the key actions that are to be delivered in each of the plan’s five years, and*
- *Prepare, within 3 months of the end of each year, an annual report on implementation “*

10.2. Implementation Programme

The implementation programme for the each year of the plan is outlined in Figure 10.1 and summarised below. The implementation of the major infrastructure will extend beyond the scope of this particular plan.

The implementation programme for the each year of the plan is outlined in Figure 10.1 and summarised below. The implementation of the major infrastructure will extend beyond the scope of this particular plan.

Year	Task
2006	<ul style="list-style-type: none"> • adoption of the Plan • public awareness strategy (DoEHLG Funding) • introduction of producer responsibility initiatives (PRI) • implementation of Pay-by-Use • upgrading of existing bring banks • implementation of phased development of 4 recycling centres • provision of receptacles for household hazardous, WEEE and other priority waste streams at recycling centres throughout the region • encourage provision of a mobile C&D facility for the region • enforcement of Waste Permits (collection and disposal/recovery) • implementation of restoration and aftercare programmes for existing landfills • analysis of methodology used to collate waste arisings data • procurement process of an integrated waste management facility – ongoing • Commencement of Section 22 and 26 registers. • regulation of all end-of-life vehicle facilities throughout the region • promotion of home composting • promotion of the provision of large scale dry MRF's and biological waste treatment facilities by the private sector • procurement of an integrated waste management facility <p>ongoing implementation of 2-bin system throughout the region for all waste sectors</p>

2007	<ul style="list-style-type: none"> • upgrading existing bring banks • Public Awareness Campaign • promotion of Producer Responsibility Initiatives (PRI) • enforcement of Waste Permits (collection and disposal/recovery) • implementation of restoration and aftercare programmes for existing landfills • promotion of the provision of large scale dry MRF's and biological waste treatment facilities by the private sector • procurement of an integrated waste management facility – ongoing
2008	<ul style="list-style-type: none"> • Public Awareness Strategy • encourage the provision of a mobile C&D facility for the region • completion of the installation of the remaining recycling centres in the region • enforcement of waste permits (collection and disposal/recovery) • implementation of restoration and aftercare programmes for existing landfills • analysis of methodology for collating waste arisings data • promotion of the provision of large scale dry MRF's and biological waste treatment facilities by the private sector • procurement of an integrated waste management facility - ongoing • achievement of 80-85% coverage of all households in the region for domestic waste collection
2009	<ul style="list-style-type: none"> • Public Awareness Strategy • enforcement of Waste Permits (collection and disposal/recovery) • implementation of restoration and aftercare programmes for existing landfills • utilisation of large scale dry MRF's and biological waste treatment facilities
2010	<ul style="list-style-type: none"> • Public Awareness Strategy • enforcement of Waste Permits (collection and disposal/recovery) • implementation of restoration and aftercare programmes for existing landfills • utilisation of large scale dry MRF's and biological waste treatment facilities • construction of an integrated waste management facility
2011	<ul style="list-style-type: none"> • Public Awareness Strategy • enforcement of Waste Collection and Disposal Permits • implement restoration and aftercare programmes for existing landfills • utilisation of an integrated waste management facility

Table 10.1: Programme of Implementation of the Joint Waste Management Plan

ID	Task Name	2006	2007	2008	2009	2010	2011
1	Administration	[Solid black bar]					
2	Adoption of plan	[Red bar]					
3	Annual Implementation Review	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
9	Public Awareness	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
34	Plan Review					[Red bar]	
35							
36	Recovery and Recycling	[Solid black bar]					
37	Pay-by-Use	[Red bar]					
38	2-Bin system		[Red bar]				
39	3-Bin system		[Red bar]				
40	85% Coverage of Household	[Red bar]					
41	Home Composting	[Red bar]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
62	Bring Sites		[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
93	Civic Amenity Sites	[Red bar]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
114	C&D Recovery	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
139							
140	Treatment Facility	[Solid black bar]					
141	Biological Treatment	[Red bar]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
175	MRF Treatment	[Red bar]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
209	Thermal Procurement	[Red bar]					
210	Utilisation						[Red arrow]
211							
212	Disposal	[Solid black bar]					
213	Provide New Landfills	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]
250	Landfill Restoration	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]	[Red square]

10.3. Procurement (information purposes only)

The Outline Business Plan (2004) concluded that the implementation of the Plan either in whole or in part would most likely be through the use of one or more Public/Private Partnership (PPP) arrangements.

A preliminary PPP assessment was conducted and recommended that a full concession procurement structure was most likely to achieve the Regions objectives. It stressed that procurement processes should focus on attracting solutions which would address the waste management needs of the region.

In relation to implementation of the Plan it states that the future waste management system in the Region should be structured as follows:

- “Current collection arrangements should continue for the foreseeable future and the rollout of the two and three bin collection systems should be introduced in time for the relevant facilities coming on stream”
- Waste processing services should be procured as PPP’s on a full concession basis. These services are to be funded through gate fees payable by collector’s when delivering material to the facilities.
- Landfills should continue to be provided by the Local Authorities as a destination of last resort for residual waste not capable of being processed any further.

It considered that a lead authority would be the main contracting authority for the PPP and that the necessary arrangements would be established between the local authorities in the region to enable this. It further considered that these arrangements should include:

- “the pooling of assets and resources”
- “the establishment of a project management team”
- “the allocation of resources of personnel to provide the capacity to fulfil the roles and responsibility being assigned under such a structure”

10.3.1. Public/Private Partnership

The Local Authorities commenced the appointment process for a Client’s Representative for the procurement of integrated waste management services in the South East in March 2004 leading to the appointment of a Client’s Representative for the procurement of integrated waste management services.

The Client’s Representative implementation of the PPP programme is divided into four distinct stages as follows:

- project start-up
- phase 1 which covers the PPP approach development and will include options appraisal, waste market review, regional co-operation, definition memorandum and benchmarking
- phase 2 which includes procurement management, pre-qualification, bidding process, bid evaluation, negotiation and contract award
- phase 3 which includes contract and performance management including commissioning of facilities



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