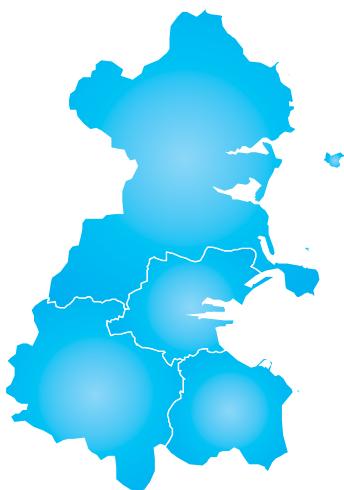




November 2005

WASTE MANAGEMENT PLAN FOR THE DUBLIN REGION



2005-2010

Made on
11th November 2005



WASTE MANAGEMENT PLAN
Working for the Dublin Region

TABLE OF CONTENTS

ABBREVIATIONS.....	IX
FOREWORD	XI
STRUCTURE OF REPORT	XII
EXECUTIVE SUMMARY.....	XIII
PART 1 - BACKGROUND	
1 INTRODUCTION	1
1.1 Managing Waste in Dublin	1
1.2 Purpose of the Plan.....	1
1.3 Context of the Waste Management Plan	2
1.4 European Context	6
2 STUDY AREA.....	9
2.1 Description of the Dublin Region	9
3 CONSULTATION	23
3.1 Pre draft consultation	23
3.2 Consultation Process	23
3.3 Key Issues Raised	24
3.4 Draft Plan Consultation	27
PART 2 - PRESENT POSITION	
4 WASTE GENERATION.....	30
4.1 Dublin Regional Waste Quantities	30
4.2 Hazardous Component of Waste Arisings in the Dublin Region	36
4.3 Non-Hazardous Waste Movements to & from Dublin Region.....	37
4.4 Waste Composition in Dublin Region	38
4.5 Priority Waste Streams	38
4.6 Deficiencies in Waste Statistics	38
5 WASTE PREVENTION AND MINIMISATION	40
5.1 Introduction	40
5.2 Progress to Date and Initiatives	40
5.3 Way Forward	47
6 COMMUNITY BASED WASTE MANAGEMENT PROJECTS	48
6.1 Introduction	48
6.2 Where to From Here?	50
7 HOUSEHOLD WASTE COLLECTION AND RECYCLING.....	53
7.1 Household Refuse Collection Service.....	53
7.2 Household Kerbside Recycling Collection	54
7.3 Recycling Centres	55
7.4 Bring Banks.....	56
7.5 Waste Charges	57
7.6 Hazardous Waste Recovery and Recycling.....	59
7.7 Bulky Waste Collection	60
7.8 Recognition of Recycling Achievements.....	60
8 COMMERCIAL & INDUSTRIAL WASTE COLLECTION AND RECYCLING, & PRIORITY WASTES	61
8.1 Commercial and Industrial Waste	61

8.2	Recovery of Specific Wastes	62
8.3	Commercial and Industrial Infrastructure	64
8.4	Case Studies of Commercial Waste Management	65
9	PACKAGING WASTE	66
9.1	Introduction	66
9.2	Legislative Environment.....	66
9.3	REPAK	67
9.4	Packaging Waste Arisings	67
9.5	Estimate of Packaging Waste Landfilled.....	68
9.6	Progress Against Targets	68
9.7	Future Direction.....	69
10	CONSTRUCTION AND DEMOLITION WASTE	70
10.1	Current Management Methods	70
10.2	Current Facilities in Place to Manage C&D Waste	72
10.3	Scope for Improvements in C&D Waste Management.....	74
11	WASTE RECYCLING AND RECOVERY INFRASTRUCTURE	77
11.1	Introduction	77
11.2	Waste Recycling, Materials Recovery	77
11.3	Biological Treatment Facilities	83
11.4	Waste Transfer/ Baling Facilities/Liquid Wastes.....	84
11.5	Energy Recovery.....	85
11.6	Recycling/Recovery Infrastructure Deficiencies	87
12	WASTE DISPOSAL	89
12.1	Introduction	89
12.2	Quantities of Waste Landfilled	89
12.3	Household Waste Disposal.....	90
12.4	Commercial and Industrial Waste Disposal	90
12.5	Current Principal Landfills in Operation	90
12.6	Former Waste Disposal Sites	91
12.7	Deficiencies in Landfill Disposal Capacity.....	94
12.8	Future Requirement for Residual Landfill in the Dublin Region.....	94
13	FINANCIAL PERFORMANCE	96
13.1	Expenditure at Present.....	96
13.2	Income at Present.....	97
13.3	Capital Investment Requirements.....	98
13.4	Projected Expenditure and Incomes for 2010.....	99
13.5	Conclusion	102
PART 3 - ANTICIPATED DEVELOPMENTS		
14	POLICY AND LEGISLATIVE CHANGES	103
14.1	Introduction	103
14.2	Waste Management Initiatives at Government Level	103
14.3	Energy Policies and Waste Management	106
14.4	Legislation and Policy at EU and National Level	106
14.5	Recent National Legislation	107
14.6	Pending Waste Policy and Legislation	108
14.7	Other Relevant EU Legislation.....	109
14.8	Other Environmental Legislation.....	109
15	RELEVANT DEVELOPMENTS	111
15.1	National Developments	111
15.2	International Developments	111
15.3	National Developments - Trendsetters	113
16	WASTE PROJECTIONS	117
16.1	Recent Trends in Waste Generation.....	117

16.2	Factors Influencing Waste Growth	117
16.3	Approach to Projections	118
16.4	Growth in Construction/Demolition Waste	120
16.5	Future Waste Movements	121
PART 4 - POLICY		
17	WASTE MANAGEMENT POLICY.....	122
17.1	Background to Policy Development	122
17.2	Policies of the Dublin Waste Strategy (1997) and Initial Waste Management Plan (1998/2001).....	122
17.3	Overview of the Review Process (2004/2005).....	124
17.4	Issues Considered in the Review.....	125
17.5	Outcome of the Review Process.....	128
17.6	Policy Statement	128
17.7	Targets	129
17.8	Implementing the Polluter Pays Principle	130
18	POLICIES AND OBJECTIVES FOR MUNICIPAL & INDUSTRIAL WASTE	131
18.1	Waste Prevention and Minimisation.....	131
18.2	Community and Voluntary Sector Involvement.....	133
18.3	Reuse and Repair	133
18.4	Household Waste Collection and Recycling	133
18.5	Commercial/Industrial Waste Collection and Recycling	140
18.6	Materials Recovery Capacity/Waste Transfer	142
18.7	Biological Treatment Capacity	142
18.8	Energy Recovery.....	144
18.9	Landfill Disposal Capacity	144
18.10	Policy on Self Reliance	145
18.11	Policy on Inter-Regional Waste Movement.....	145
18.12	Policy on Cost Recovery	146
18.13	Producer Responsibility Policies	147
18.14	Reprocessing and Recycling Capacity	147
18.15	Directing Waste to Meet Plan Objectives.....	147
18.16	Summary of Infrastructure Requirements	148
18.17	Infrastructure Siting	148
19	POLICIES AND OBJECTIVES FOR OTHER WASTE STREAMS	151
19.1	Hazardous Waste from Households and Small Business	151
19.2	Construction/Demolition Waste.....	152
19.3	WEEE.....	153
19.4	End of Life Vehicles	154
19.5	Packaging Waste	155
19.6	Policy for Biodegradable Waste	156
19.7	Policy on Former Waste Disposal Sites.....	158
19.8	Register of Former Hazardous Waste Disposal/Recovery Sites	159
19.9	Policy on Hazardous Waste Disposal Requirement	160
PART 5 - IMPLEMENTATION		
20	IMPLEMENTATION PLAN FOR THE DUBLIN LOCAL AUTHORITIES	161
20.1	Introduction	161
20.2	Prevention/Minimisation and Waste Awareness Priorities	162
20.3	Collection and Recycling Priorities.....	162
20.4	Infrastructure Development Priorities.....	163
20.5	Regulation and Enforcement	164
20.6	Role of the Steering Group	167
20.7	Role of the Planning Department of Local Authorities	167
21	ROLES AND RESPONSIBILITIES.....	168
21.1	General Public.....	168

21.2	Voluntary and Community Sector	168
21.3	Business and Industry.....	168
21.4	Private Waste Sector	169
21.5	Environmental Protection Agency.....	169
21.6	Department of Environment Heritage & Local Government	170
22	MONITORING IMPLEMENTATION, & ONGOING STAKEHOLDER INVOLVEMENT	171
22.1	Annual Report	171
22.2	Consultation Forum as part of Annual Report	171
22.3	Targets and Indicators	172
22.4	Targets and Secondary Indicators	174

LIST OF FIGURES

Figure 1.1	Overview of Dublin Waste Policy Development	2
Figure 2.1	Population of the Four Local Authorities, 1996 and 2003	9
Figure 2.2	Employment by Sector	12
Figure 4.1	Summary of Municipal Waste Growth, 1997 – 2003*.....	31
Figure 4.2	Hazardous Waste Flow to and from the Dublin Region 2003.....	37
Figure 7.1	Recycling Tonnages for Household Waste: 1997 and 2003.....	53
Figure 7.2	Recyclables Collected by the ‘Green Bin’ Service 2002-2004 (Tonnes/Annum).....	54
Figure 8.1	Municipal (Household & C/I) Recycling Rate – 1997 and 2003.....	62
Figure 10.1	Recycling, Recovery and Disposal of C&D Waste in Dublin Region 2003.....	70
Figure 10.2	Material Flows for C&D Waste 2003 (Tonnes).....	71
Figure 11.1	Summary Dublin Waste to Energy Project Development (Oct. 2005).....	87
Figure 12.1	Landfill Tonnages 1997 and 2003	89
Figure 15.1	Waste Management in the European Union 2001*.....	112
Figure 16.1	Municipal Waste Growth in the Dublin Region.....	117
Figure 16.2	Growth in Household Numbers Predicted from the RPGs	119
Figure 16.3	National GDP Forecasts (ESRI)	119
Figure 16.4	GDP Growth Compared with Construction Industry Turnover Growth.....	121
Figure 17.1	Cost Assessment of Strategy Options.....	123
Figure 17.2	Integrated Local Authority Development of Facilities for Municipal Waste.....	124
Figure 17.3	Overview of the Review Process	125
Figure 18.1	Redefining the Functions in each Local Authority	131
Figure 18.2	Communication Flows within the Local Authorities	132
Figure 18.3	Overview of Household Waste Collection	139
Figure 19.1	National Colour Coding for Waste Collection Containers (left), and for Dublin Colour Coding for Waste Collection Containers (right).....	157
Figure 19.2	Development of Section 26 Register.....	160
Figure 20.1	Overview of Local Authority Services.....	161
Figure 20.2	Collection Bye-Laws Implementation	163
Figure 20.3	Model for Regulation/ Enforcement Units	165
Figure 20.4	Regional Co-ordination of Regulation and Enforcement.....	166
Figure 22.1	Monitoring Recycling and Recovery Targets	175
Figure 22.2	Biodegradable Waste Landfilled – Targets for Reduction	175

LIST OF TABLES

Table 2.1	Change in Population Figures 1996-2002.....	9
Table 2.2	Change in Number of Households for the Region 1996-2002.....	10
Table 2.3	Urban/Rural Population Distribution in the Region	10
Table 2.4	Number of Employees in the Region in 2004.....	12
Table 2.5	National Heritage Areas, Special Areas of Conservation and Special Protection Areas	20
Table 4.1	Waste Arisings in the Dublin Region, 2003.....	30
Table 4.2	Growth in Household Waste Arisings* 1997 – 2003.....	31
Table 4.3	Breakdown of Household Waste by Category, 2003.....	31
Table 4.4	Commercial/Industrial Waste Arisings 2003 (Tonnes).....	32
Table 4.5	Agricultural Waste Quantities Generated in the Dublin Region, 2003	33
Table 4.6	Sludge Quantities Generated (Tonnes, 2003)	33
Table 4.7	Estimated Packaging Waste Arisings Tonnes for the Region 2003 (Tonnes).....	34
Table 4.8	Ash/Incinerator Residues for the Dublin Region 2003.....	34
Table 4.9(a)	Contaminated Soil Arisings in the Dublin Region 2003 – TFS Forms	35
Table 4.9(b)	Contaminated Soil Arisings in the Dublin Region 2003 – C1 Forms	35
Table 4.10	Estimated Healthcare Waste Generated in the Dublin Region 2003 (Tonnes)....	36
Table 4.11	Hazardous Component of Wastes Arising in the Region (Tonnes 2003)	36
Table 4.12(a) (2003)	Estimated Non-Hazardous Waste Movements to & from the Dublin Region 37	
Table 4.12(b)	Hazardous Component of Waste Moving to and from the Dublin Region (2003)* 37	
Table 4.13	Dublin Region Waste Composition (RPS-MCOS 2004)	38
Table 4.14	Estimated Quantities of Priority Waste Arising in the Dublin Region, 2003	38
Table 5.1	Green School Registrations and Green Flags Awarded (2004)	41
Table 5.2	Number of Compost Bins Sold through each Local Authority (2001-2004)*	41
Table 5.3	Local Agenda 21 Environment Fund 2004 Projects and Funding	42
Table 5.4	Local Authority Achievements in SME Waste Prevention.....	43
Table 5.5	EMS Progress in Local Authorities.....	43
Table 7.2	Number of Households provided with a waste collection service (2005).....	54
Table 7.3	Kerbside Recyclables Collected per Local Authority 2003	54
Table 7.5	Number of Bring Banks and Tonnes Collected in each Local Authority Area.....	57
Table 7.6	Household Waste Use-Related Charging Schemes (2005).....	58
Table 7.7	Waste Acceptance and Treatment through Cara ChemCar	59
Table 7.8	Number of Mobile Collections and Tonnages of Household Hazardous Waste 2003 59	
Table 7.9	Household hazardous waste collected via Recycling Centres (2004)	59
Table 8.1	Commercial/Industrial Waste Recycling in the Region in 2003	61
Table 8.2	Materials Recovered from Commercial/Industrial Waste (Tonnes/Annum 2003) ...	61
Table 8.3	WEEE Arisings* at Recycling Centres in the Region 2003.....	63
Table 9.1	European Packaging Waste Directive Targets	66
Table 9.2	Estimated Packaging Waste Arisings for the Dublin Region 2003 (Tonnes)	68
Table 9.3	Packaging Factors for Landfilled Household and C&I Waste	68
Table 9.4	Quantity of Packaging Waste Landfilled in Dublin Region in 2003	68
Table 11.1	Permitted Facilities in the Region in 2003	77
Table 12.1	Waste Disposal to Landfill in the Dublin Region 1997 – 2003	89
Table 12.2	Remaining Municipal Capacity from January 2005 for Landfills Serving the Dublin Region.....	91
Table 12.3	Former Waste Disposal/Recovery Sites Operated by or Owned by the Local Authorities	93
Table 13.1	Waste Management Expenditure, 2004.....	96
Table 13.2	Waste Management Service Costs - 2004.....	97
Table 13.3	Waste Arisings Managed by Local Authorities 2003 (Tonnes).....	97
Table 13.4	Waste Management Income, 2004	97
Table 13.5	Capital Investment Requirements and Repayment Schedule – Local Authorities 98	

Table 13.6	Private Sector Investments Estimates	99
Table 13.7	Waste Arisings Managed by the Dublin Local Authorities to 2010.....	99
Table 13.8	Waste Management Expenditure, 2010.....	101
Table 13.9	Waste Management Service Costs – 2010.....	101
Table 13.10	Waste Management Income, 2010	102
Table 15.1	Landfill Disposal Availability in Neighbouring Regions	111
Table 16.1	Factors Influencing Household Waste Generation.....	118
Table 16.2	Commercial/Industrial Waste Projections	120
Table 16.3	Summary of Projected Waste Arisings in Dublin for the Period 2003 – 2020....	120
Table 16.4	Factors Influencing C&D Waste Generation	121
Table 17.1	Alternative Waste Management Scenarios of the Dublin Waste Strategy	122
Table 17.2	Targets Adopted in the Dublin Waste Strategy and Plan.....	123
Table 17.3	Waste Stream Targets for 2013.....	129
Table 18.1	Summary of Bring Bank targets	135
Table 18.3	Proposed Recycling Facilities for SME's and Business	141
Table 18.4	Expected Landfill Demand for Waste Generated in the Dublin Region (Generalised Assumptions and Data).....	145
Table 19.2	Compliance with Indicative Target Capacity of the Draft National Strategy for Biodegradable Waste	157
Table 20.1	Priority Action Areas for Local Authority Recycling Collections	162
Table 20.2	Priority Action Areas for Infrastructure Development	163
Table 20.3	Implementation of Former Waste Disposal and Section 26 Policies.....	164
Table 22.1	Headline Indicators	173
Table 22.2	Headline Indicator Targets	174

LIST OF MAPS

MAP 1	Dublin Region Spatial Planning Map
MAP 2	Dublin Region Location and Topographic Map
MAP 3	Dublin Region Population Map
MAP 4	Dublin Region IPPC Sector Industries
MAP 5	Dublin Region Transport Network
MAP 6	Dublin Region Environment Map
MAP 7	Dublin Region C&D Facilities Map
MAP 8	Dublin Region Waste Licensed Facilities
MAP 9	Dublin Region Waste Permitted Facilities
MAP 10	Existing/ Proposed Licensed Facilities outside Dublin Region
MAP 11	Existing and Proposed Recycling Facilities
MAP 12	Proposed Local Authority Waste Facilities

APPENDICES

APPENDIX A	Glossary of Terms
APPENDIX B	List of Relevant Legislation
APPENDIX C	Storage Guidelines for Household and C & I Waste
APPENDIX D	Waste Management Facilities Additional Information
APPENDIX E	Consultation – Advertisements & Lists of submissions
APPENDIX F	Waste to Energy Facility - Background Documents
APPENDIX G	Fingal Landfill – Summary of Siting Study Information
APPENDIX H	Recycling Centre Locations
APPENDIX I	Siting Guidelines for Waste Facilities

ABBREVIATIONS

AER	Annual Environmental Report
ANSWER	A New Solid Waste Environmental Response
BAT	Best Available Technologies
BATNEEC	Best Available Technologies Not Entailing Excessive Costs
BMW	Biodegradable Municipal Waste
BPEO	Best Practicable Environmental Option
C & D	Construction and Demolition
C & I	Commercial and Industrial
CCI	Chambers of Commerce of Ireland
CCN	Community Composting Network
CCRI	Clondalkin Community Recycling Initiative
CHP	Combined Heat and Power
CSO	Central Statistics Office
DCC	Dublin City Council
DED	District Electoral Division
DEHLG	Department of the Environment, Heritage and Local Government
DLRCC	Dun Laoghaire Rathdown County Council
DUMP	Disposal of Unused Medications Properly
EAO	Environmental Awareness Officer
ELVs	End of Life Vehicles
EPA	Environmental Protection Agency
ERTDI	Environmental Research Technological Development & Innovation
ESRI	Economic and Social Research Institute
EWC	European Waste Codes
FCC	Fingal County Council
FRN	Furniture Reuse Network
GDP	Gross Domestic Product
GNP	Gross National Product
GPS	Global Positioning System
IBEC	Irish Business and Employers Confederation
IFFPG	Irish Farm Film Producers Group
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention and Control
LA	Local Authority
LAPD	Local Authority Prevention Demonstration
MBT	Mechanical Biological Treatment

MRF	Materials Recovery Facility
NCDWC	National Construction and Demolition Waste Council
NGO	Non-Governmental Organisation
NHWMP	National Hazardous Waste Management Plan
NRA	National Roads Authority
NWPP	National Waste Prevention Programme
OEE	Office of Environmental Enforcement
PCB	Polychlorinated biphenyl
PPP	Public Private Partnership
PRIs	Producer Responsibility Initiatives
RAPID	Revitalising Areas through Planning Investment & Development
R & D	Research and Development
RPGs	Regional Planning Guidelines
SDCC	South Dublin County Council
SME	Small-to-Medium Enterprises
SMP	Sludge Management Plan
SWAHB	South Western Area Health Board
TFS	Trans-Frontier Shipments
TPA	Tonnes per annum (also tpa)
WEEE	Waste Electrical and Electronic Equipment
WTE	Waste To Energy

FOREWORD

The Waste Management Plan was prepared under the guidance of the Dublin Regional Waste Steering Group. The collaboration, assistance and provision of information from all involved is gratefully acknowledged, including the officers in the Environment and Waste Management Services departments of each Local Authority.

We would like to thank all stakeholders – including the members of the public, public representatives, other organisations and waste management companies - who made submissions and participated during the consultation process.

The members of the Dublin Regional Waste Steering Group are:

Mr. Matt Twomey, (Chairman), Assistant City Manager, Dublin City Council

Mr. John Singleton, Project Engineer, Dublin City Council

Mr. Con Coll, Executive Manager, Dublin City Council

Mr. Gilbert Power, Director of Environment, Fingal County Council

Ms. Mary Pyne, A/Director of Environment, South Dublin County Council

Mr. Frank Austin, Director of Environment, Dun Laoghaire-Rathdown County Council

The Plan was prepared by RPS Consulting Engineers with the assistance of COWI, Mazars, Clean Technology Centre and Mary Murphy Associates.

The Plan was made on November 11th, 2005 by Order of the Dublin City Manager, Fingal County Manager, South Dublin County Manager, and Acting County Manager of Dun Laoghaire Rathdown County Council



100% Recycled Post Consumer Waste Paper

Totally Chlorine Free. Approved by Environmentally Responsible Approach (UK)

STRUCTURE OF REPORT

The Waste Management Plan is divided into specific sections in accordance with the Waste Management (Planning) Regulations of 1997.

The structure is as follows:

Executive Summary	A Summary of the Plan content
Part 1	Preface - Background information on the Dublin Region (population, land-use, transport etc.)
Part 2	Present Position regarding waste management in the Dublin Region (arisings, recycling, disposal etc.)
Part 3	Anticipated Developments over the period of the Plan (growth in population and waste, emerging practices etc.)
Part 4	Waste management policy (options, details of the review of the previous plan, detailed policies and objectives etc.)
Part 5	Implementation of the plan (priorities, actions and ongoing consultation measures etc.)
Appendices	The appendices form part of the Plan and contain supporting information and other relevant details.