

APPENDICES

Appendix A – Indicators

Indicator	2007	2008	2009	2010	2011	2012
Municipal waste						
Municipal waste generated (t) ⁸⁸	3,397,683	3,224,279	2,952,977	2,846,115	2,823,242	2,692,537
Municipal waste generated/person (t) ⁸⁹	0.780	0.729	0.662	0.621	0.615	0.587
Municipal waste managed (t)	3,174,565	3,103,820	2,824,977	2,580,435	2,558,345 ⁹⁰	2,478,337
Municipal waste managed/person (t)	0.730	0.702	0.634	0.563	0.558	0.540
Disposal of managed municipal waste to landfill (t)	2,014,797	1,938,712	1,723,705	1,495,565	1,344,008	1,027,577
Disposal rate for managed municipal waste	64%	63%	61%	58%	53%	41%
Recovery of municipal waste (t)	1,159,767	1,165,108	1,101,272	1,084,870	1,202,569	1,450,711
Recovery rate for municipal waste	37%	38%	39%	42%	47%	59%
Number landfills accepting municipal waste for disposal	29	31	28	28	21	18
Number of bring banks	1,960	1,989	1,962	1,922	1,891	1,826
Number of civic amenity sites	90	96	107	107	113	118
Household waste						
Household waste generated (t)	1,761,167	1,677,338	1,626,469	1,686,387	1,683,241	1,577,100
Household waste generated/person (t)	0.410	0.379	0.365	0.368	0.367	0.344
Household waste managed (t)	1,625,490	1,556,879	1,498,469	1,420,706	1,406,576	1,362,900
Household waste managed/person (t)	0.370	0.352	0.336	0.310	0.307	0.297
Disposal of household waste to landfill (t)	1,200,980	1,155,567	1,056,267	843,842	750,066	589,863
Residual household waste disposal/person (landfill) (t)	0.277	0.261	0.237	0.184	0.163	0.129
Disposal rate for household waste	74%	74%	71%	59%	53%	43%
Recovery of household waste (t)	424,510	401,312	442,202	576,864	656,510	773,037
Recovery rate for household waste	26%	26%	30%	41%	47%	57%

88 Generated municipal waste includes estimated uncollected household waste.

89 Per person calculations based on CSO census data (April 2012 population estimate=4,585,400, as published September 2012).

90 Amended from that reported in National Waste Report 2011.

Indicator	2007	2008	2009	2010	2011	2012
Non-household municipal waste						
Non-household municipal waste managed	1,549,075	1,477,395	1,299,807	1,141,015	1,114,829	1,115,437
Non-household municipal waste managed per person	0.360	0.330	0.291	0.249	0.243	0.243
Non-household municipal waste disposed to landfill	813,817	758,176	640,737	633,010	568,770	437,714
Disposal rate for non-household municipal waste managed	53%	51%	49%	55%	51%	39%
Non-household municipal waste recovered	735,257	719,219	659,070	508,005	546,059	677,723
Recovery rate for non-household waste managed	47%	49%	51%	45%	49%	61%
Packaging waste						
Best estimate of total quantity managed (t)	1,055,952	1,026,759	972,430	863,714	863,597	809,501
Packaging waste managed/person (t)	0.240	0.232	0.218	0.189	0.188	0.177
Best estimate of packaging waste recovered (t)	671,630	664,043	679,535	636,933	682,280	700,737
Packaging waste recovered/person (t)	0.150	0.150	0.150	0.139	0.149	0.153
National recovery rate	64%	65%	70%	74%	79%	87%
Other waste stream indicators						
WEEE recovery (% of total treated)	82%	84%	85%	84%	85%	87%
Collection rate for portable batteries and accumulators (%)	-	-	17%	14%	29%	28%

Appendix B – Household waste collected and brought

Local authority	Mixed/residual collection (black bins) (t)	Mixed dry recyclables collection (green bin) (t)	Organics collection (brown bins) (t)	Segregated glass collection (t)	Bring banks (t)	Civic amenity sites ⁹¹ (t)	Household waste delivered directly to landfill face by householders (t)	Total collected and brought waste (t)
Dublin City	84,170	28,956	15,164	33	11,531	3,036	0	142,889
Dun Laoghaire-Rathdown	32,110	19,907	3,834	81	1,696	8,824	0	66,453
Fingal	44,181	19,907	19,594	51	4,740	7,421	0	95,849
South Dublin	37,299	19,331	6,199	69	4,954	13,753	0	81,604
Meath	38,587	8,486	119	0	1,924	3,286	0	52,403
Louth	25,808	6,520	1,921	3	2,001	9,471	0	45,723
Kildare	41,560	13,722	5,963	124	3,153	3,883	0	68,404
Wicklow	24,411	5,771	109	250	1,911	4,053	0	36,506
Laois	12,549	3,441	942	4	1,138	1,491	3,087	22,652
Offaly	11,301	2,810	333	0	1,017	1,894	0	17,355
Longford	5,659	1,655	338	0	663	1,275	0	9,591
Westmeath	13,513	3,860	176	0	1,364	3,734	0	22,647
Eastern and Midlands Region	371,148	134,366	54,691	615	36,092	62,156	3,087	662,075

⁹¹ Includes WEEE collected by compliance schemes at civic amenity sites.

Local authority	Mixed/residual collection (black bins) (t)	Mixed dry recyclables collection (green bin) (t)	Organics collection (brown bins) (t)	Segregated glass collection (t)	Bring banks (t)	Civic amenity sites ⁹¹ (t)	Household waste delivered directly to landfill face by householders (t)	Total collected and brought household waste (t)
Cavan	10,417	3,345	187	0	2,126	3,203	0	19,279
Monaghan	9,398	3,842	870	0	1,084	1,894	0	17,086
Galway County	29,266	10,710	2,439	315	3,021	1,664	0	47,415
Galway City	9,813	4,969	5,254	69	1,681	1,333	0	23,120
Leitrim	4,415	1,024	1	0	563	474	0	6,477
Mayo	23,426	7,853	1,064	3	2,361	4,927	0	39,633
Donegal	14,073	3,761	0	0	2,708	685	75	21,302
Roscommon	8,753	2,377	427	0	862	2,239	0	14,658
Sligo	9,807	1,990	109	0	1,283	1,020	0	14,209
Connacht Ulster Region	119,368	39,870	10,351	387	15,688	17,472	75	203,179

Local authority	Mixed/residual collection (black bins) (t)	Mixed dry recyclables collection (green bin) (t)	Organics collection (brown bins) (t)	Segregated glass collection (t)	Bring banks (t)	Civic amenity sites ⁹¹ (t)	Household waste delivered directly to landfill face by householders (t)	Total collected and brought in (t)
Clare	13,492	5,604	1,882	109	1,651	6,184	0	28,921
Kerry	16,946	6,633	603	58	2,788	6,181	337	33,545
Limerick County	18,392	6,554	1,811	12	1,729	222	0	34,414
Limerick City	10,909	3,655	1,033	59	949	5,919	0	16,826
Cork City	27,055	9,831	0	1,285	1,352	2,422	0	41,945
Cork County	52,952	23,344	1	2,416	6,451	17,387	0	102,551
Carlow	11,671	2,655	798	65	842	1,291	818	18,141
Kilkenny	11,350	4,087	313	0	1,512	3,177	0	20,439
South Tipperary	13,810	4,463	930	28	1,648	1,384	0	22,194
North Tipperary	11,228	4,480	826	0	1,079	1,315	0	18,997
Waterford County	10,862	3,726	2,479	68	1,346	925	0	18,520
Waterford City	8,601	2,339	2,988	0	1,067	985	0	16,867
Wexford County	26,460	8,922	1,384	0	2,849	2,830	0	42,445
Southern Region	233,727	86,292	15,045	4,100	25,263	50,234	1,155	415,805
Portable batteries collected by compliance schemes at civic amenity sites, retail premises and one-off collection days								
Household WEEE collected by compliance schemes at retail premises, one-off collection days								
Bulky household waste (EWC 20 03 07) reported in waste collection permit returns								
Estimated household waste collected at pay-to-use units (PTUs)								
National total	724,244	260,528	80,046	5,101	77,041	129,897	4,317	1,362,900

92 This tonnage does not include lead acid batteries as this is not considered household waste.

Appendix C Household waste collected at bring banks

Local authority area	Paper & cardboard (t)	Glass (t)	Aluminium cans (t)	Steel cans (t)	Plastic (t)	Composite packaging (t)	Other ⁹³ (t)	Total (t)
Dublin City	1,592	8,689	28	5	0	0	1,217	11,531
Dun-Laoghaire-Rathdown	0	1,671	18	0	0	0	8	1,696
Fingal	0	4,567	17	0	0	0	156	4,740
South Dublin	0	4,736	22	0	0	0	196	4,954
Meath	0	1,893	31	0	0	0	0	1,924
Louth	0	1,658	76	0	268	0	0	2,001
Kildare	0	3,103	34	0	0	0	17	3,153
Wicklow	0	1,773	40	15	0	0	83	1,911
Laois	0	1,100	15	23	0	0	0	1,138
Offaly	0	956	19	42	0	0	0	1,017
Longford	0	639	6	9	0	0	9	663
Westmeath	0	1,292	15	30	0	0	27	1,364
Eastern and Midlands Region								36,092
Cavan	91	1,364	40	80	543	9	0	2,126
Monaghan	0	1,034	20	30	0	0	0	1,084
Galway City	0	1,681	0	0	0	0	0	1,681
Galway County	0	2,875	102	0	0	0	44	3,021
Leitrim	0	536	27	0	0	0	0	563

93 Other = mixed plastic & paper, waste oils, green waste (including Christmas trees), bulky waste, textiles and household hazardous waste. These waste types are generally collected at temporary bring centres rather than traditional bring banks.

Local authority area	Paper & cardboard (t)	Glass (t)	Aluminium cans (t)	Steel cans (t)	Plastic (t)	Composite packaging (t)	Other ⁹³ (t)	Total (t)
Mayo	0	2,250	106	0	0	0	5	2,361
Donegal	0	2,595	36	58	0	0	19	2,708
Roscommon	0	809	46	0	0	0	7	862
Sligo	0	1,223	60	0	0	0	0	1,283
Connacht-Ulster Region								15,688
Clare	63	1,457	0	0	117	0	14	1,651
Kerry	0	2,543	63	172	10	0	0	2,788
Limerick City	0	820	42	0	72	0	15	949
Limerick County	0	1,613	34	81	0	0	0	1,729
Cork City	0	1,278	13	0	0	0	61	1,352
Cork County	0	5,378	128	163	0	0	783	6,451
Carlow	41	777	24	0	0	0	0	842
Kilkenny	0	1,422	72	0	0	0	18	1,512
South Tipperary	77	1,515	56	0	0	0	0	1,648
North Tipperary	0	1,036	22	0	0	0	21	1,079
Waterford City	0	1,042	25	0	0	0	0	1,067
Waterford County	0	1,346	0	0	0	0	0	1,346
Wexford County	0	2,758	70	0	0	0	21	2,849
Southern Region								25,262
National total	1,864	69,428	1,304	708	1,008	9	2,721	77,041

Appendix D – Household waste collected at civic amenity sites

Local authority area	Mixed residual waste (t)	Organic waste (food & garden) (t)	Mixed dry recyclables (t)	Paper, card & magazines (t)	Glass (t)	Metals (t)	Plastic (t)	Composites (eg tetrapak) (t)	C&D (DIY) (t)	Wood (t)	Waste mineral oils & filters (t)	Waste cooking or veg. oils (t)	Paint & varnish (t)	WEEE ⁹⁴ (t)	Bulky waste (t)	Household hazardous waste (t)	Other ⁹⁵ (t)	Total (t)
Dublin City	93	126	176	57	177	35	32	0	477	164	2	2	283	460	944	7	0	3,036
Dun Laoghaire-Rathdown	217	4,236	0	748	412	277	137	14	298	492	15	6	113	611	1,232	15	1.38	8,824
Fingal	0	1,141	0	460	518	349	91	9	1,077	973	28	6	158	1,204	1,400	7	1.64	7,421
South Dublin	3,419	2,145	0	356	114	334	31	0	699	270	33	1	34	730	5,582	0	3.19	13,753
Meath	41	750	0	500	245	214	124	15	153	277	7	1	26	703	227	3	0	3,286
Louth	914	2,665	0	1,430	573	512	505	0	945	1,120	6	3	0	772	0	3	25	9,471
Kildare	2,359	214	334	57	90	90	9	0	0	102	4	0	15	367	239	0	3	3,882
Wicklow	11	0	0	1,623	889	170	389	42	0	0	15	5	27	867	0	3	11	4,053
Laois	174	92	0	356	166	168	199	6	0	28	12	0	6	268	0	17	0	1,491
Offaly	375	294	0	311	71	141	96	13	15	157	5	12	34	248	123	0	0	1,894
Longford	350	210	93	113	27	52	24	4	5	22	3	0	0	200	140	0	0	1,275
Westmeath	1,671	535	0	467	145	136	83	20	0	252	8	2	0	321	84	9	0.96	3,734
Eastern and Midlands Region	9,624	12,408	603	6,479	3,427	2,476	1,719	122	3,668	3,890	138	39	696	6,752	9,971	64	44	62,120

94 Compliance scheme data for household WEEE collected at civic amenity sites.

95 Other = mainly textiles, books, bric-a-brac, toner cartridges and filament bulbs

Local authority area	Mixed residual waste (t)	Organic waste (food & garden) (t)	Mixed dry recyclables (t)	Paper, card & magazines (t)	Glass (t)	Metals (t)	Plastic (t)	Composites (eg tetrapak) (t)	C&D (DIY) (t)	Wood (t)	Waste mineral oils & filters (t)	Waste cooking or veg. oils (t)	Paint & varnish (t)	WEEE ⁹⁴ (t)	Bulky waste (t)	Household hazardous waste (t)	Other ⁹⁵ (t)	Total (t)
Cavan	1,190	329	0	342	52	112	30	4	223	196	1	0	1	480	244	0	0.14	3,203
Monaghan	234	146	0	653	77	102	88	1	190	103	4	0	0	212	82	1	0	1,893
Galway County	170	44	2	364	256	224	213	0	0	0	10	0	21	350	8	1	2	1,664
Galway City	0	0	0	0	31	156	49	0	0	250	1	0	86	698	59	0	3	1,333
Leitrim	0	10	0	65	60	27	24	2	0	0	1	0	17	71	196	0	0	474
Mayo	3,131	38	0	565	162	249	139	6	26	159	9	1	25	402	10	4	1	4,927
Donegal	0	2	240	0	0	51	74	0	0	0	0	0	0	319	0	0	0	685
Roscommon	958	2	0	506	111	93	83	0	46	163	0	0	27	249	0	0	0	2,239
Sligo	0	358	0	125	85	50	61	12	33	29	0	3	6	256	0	1	2	1,020
Connacht-Ulster Region	5,682	929	242	2,620	835	1,064	759	24	517	900	26	4	184	3,037	598	7	8	17,439

Local authority area	Mixed residual waste (t)	Organic waste (food & garden) (t)	Mixed dry recyclables (t)	Paper, card & magazines (t)	Glass (t)	Metals (t)	Plastic (t)	Composites (eg tetrapak) (t)	C&D (DfV) (t)	Wood (t)	Waste mineral oils & filters (t)	Waste cooking or veg. oils (t)	Paint & varnish (t)	WEEE ⁹⁴ (t)	Bulky waste (t)	Household hazardous waste (t)	Other ⁹⁵ (t)	Total (t)
Clare	1,956	400	0	539	1,462	345	310	9	37	481	19	3	39	546	23	0	14	6,184
Kerry	3,597	40	204	889	311	222	186	0	67	94	5	1	4	486	66	0	9	6,181
Limerick County	1,496	800	0	465	158	288	280	8	819	554	7	4	109	682	226	3	18	2,222
Limerick City	0	0	0	128	0	0	0	0	0	0	0	0	0	94	0	0	0	5,917
Cork City	1,141	188	0	153	31	67	46	0	0	133	7	0	19	637	0	1	0	2,422
Cork County	4,196	1,528	345	1,491	855	847	297	0	2,381	1,526	40	16	94	1,614	2,141	2	14	17,387
Carlow	0	312	0	235	128	108	64	7	12	187	8	1	15	213	0	0	1.8	1,291
Kilkenny	2,020	111	0	269	71	65	61	9	0	26	4	0	3	205	332	1	0	3,177
South Tipperary	216	35	75	107	66	94	4	0	47	319	3	0	6	311	21	0	12	1,315
North Tipperary	25	0	9	390	217	86	100	5	0	146	8	0	0	392	0	0	5	1,384
Waterford County	249	429	0	22	16	13	0	0	0	0	3	2	1	198	0	0	0	985
Waterford City	134	223	0	142	21	26	0	0	99	77	1	0	3	192	61	0	0	925
Wexford County	1,264	0	17	404	206	227	136	9	0	80	16	2	0	460	0	0	9	2,830
Southern Region	16,294	4,066	649	5,233	3,541	2,386	1,484	46	3,462	3,623	121	30	294	6,030	2,870	7	84	50,220
Portable batteries collected by compliance schemes at civic amenity sites nationally.																		
National total (t)	31,600	17,404	1,494	14,332	7,804	5,926	3,962	193	7,647	8,412	285	73	1,174	15,819	13,439	78	137	129,898

Appendix E – Landfills in operation in 2012

Local Authority / Operator	Facility Name	Waste Planning Region	Waste Licence Reg No.	Total waste accepted in 2011 (t)	Total waste accepted in 2012 (t)	Disposal			Recovery		
						Municipal waste (t)	Industrial Waste (t)	C & D Waste (t)	Municipal waste (t)	Industrial Waste (t)	C&D (t)
Donegal County Council	Ballynacarrick Landfill	Connacht-Ulster Region	W0024-04	16,170	20,181	19,022	1,159	0	0	0	0
Mayo County Council	Derrinnumera Landfill	Connacht-Ulster Region	W0021-02	33,859	11,652	11,232	3	0	55	0	362
Mayo County Council	Rathroeen Landfill	Connacht-Ulster Region	W0067-02	1,354	45,238	40,501	1,404	0	1,129	0	2,204
Monaghan County Council	Scotch Corner Landfill	Connacht-Ulster Region	W0020-02	27,430	16,343	13,298	1,022	0	0	0	2,023
Fingal County Council	Balleally Landfill	Eastern & Midlands Region	W0009-03	89,503	238,362	12,117	123	0	0	0	226,122
Laois County Council	Kyletalesha Landfill	Eastern & Midlands Region	W0026-03	43,720	40,830	37,143	0	802	2,886	0	0
Louth County Council	Whiteriver	Eastern & Midlands Region	W0060-03	120,381	143,291	47,382	41,932	41	580	0	53,356
South Dublin County Council	Arthurstown Landfill	Eastern & Midlands Region	W0004-04	33,438	27,703	0	0	0	0	0	27,703
Wicklow County Council	Rampere Landfill	Eastern & Midlands Region	W0066-03	38,825	20,354	15,508	0	163	0	0	4,684
Carlow County Council	Powerstown Landfill	Southern Region	W0025-03	10,146	10,046	5,119	696	180	800	27	3,224
Cork County Council	Youghal Landfill	Southern Region	W0068-03	25,911	4,784	1,828	0	0	1,381	0	1,575
Kerry County Council	North Kerry Landfill	Southern Region	W0001-04	16,504	71,078	70,920	0	158	0	0	0
Limerick County Council	Gortadroma	Southern Region	W0017-04	135,487	141,603	129,103	288	0	2,065	929	9,218
South Tipperary County Council	Donohill Landfill	Southern Region	W0074-03	17,281	17,666	11,151	0	0	2,968	3,386	161
Wexford County Council	Holmestown Landfill	Southern Region	W0191-02	24,120	4,466	4,236	7	0	0	216	7

Local authority landfills

Local Authority / Operator	Facility Name	Waste Planning Region	Waste Licence Reg No.	Total waste accepted in 2011 (t)	Total waste accepted in 2012 (t)	Disposal			Recovery		
						Municipal waste (t)	Industrial Waste (t)	C & D Waste (t)	Municipal waste (t)	Industrial Waste (t)	C&D (t)
Greenstar Holdings Ltd.	East Galway Residual Landfill	Connacht-Ulster Region	W0178-02	110,019	134,146	94,476	11,039	0	5,183	1,323	22,125
Bord Na Móna	Srahmore	Connacht-Ulster Region	W0199-02	16,185	57,794	0	0	0	0	0	57,794
Bord Na Móna	Drehid Waste Management Facility	Eastern & Midlands Region	W0201-03	415,583	415,554	290,717	3,147	1,225	15,865	65	104,536
Greenstar Holdings Ltd.	Knockharley Landfill	Eastern & Midlands Region	W0146-02	126,128	132,744	85,008	3,480	0	0	7,027	37,229
Greenstar Holdings Ltd.	Ballynagran Residual Landfill	Eastern & Midlands Region	W0165-02	212,192	231,257	138,819	10,251	4,953	6,027	5,152	66,054
Bord Na Móna	Clonbullogue Ash Repository	Eastern & Midlands Region	W0049-02	34,663	31,422	0	31,422	0	0	0	0
Murphy Concrete Manufacturing Ltd.	Murphy Environmental Hollywood Ltd	Eastern & Midlands Region	W0129-02	27,378	41,565	0	7,452	34,113	0	0	0
Murphy Concrete Manufacturing Ltd.	Murphy Concrete Manufacturing Ltd	Eastern & Midlands Region	W0151-01	60,427	11,176	0	0	0	0	0	11,176
Private sector landfills						1,027,577	113,425	41,634	38,939	18,125	629,554
Green shaded landfills are those that accepted municipal waste for disposal in 2012						1,869,254	1,182,635	1,182,635	Total waste disposal	Total waste recovery	686,618
						1,636,703	1,182,635	1,182,635	38,939	18,125	686,618

Appendix F – Open and recently closed landfills with associated waste infrastructure

Waste Planning Region	Local Authority / Private Operator	Facility Name	Waste Licence Reg. No.	Civic amenity site	Composting Facility	Waste Transfer Station
Eastern and Midlands Region	Drogheda Borough Council	Drogheda Landfill	W0033-01	✓		
	Dundalk Town Council	Dundalk Landfill / Civic Waste Facility	W0034-01	✓	✓	
	Dun Laoghaire-Rathdown	Ballyogan Recycling Park	W0015-01	✓		
	Kildare County Council	Silliot Hill Landfill	W0014-01	✓		✓
	Laois County Council	Kyletesha Landfill	W0026-03	✓		
	Offaly County Council	Derryclure Landfill	W0029-04	✓		✓
	Westmeath County Council	Ballydonagh Landfill	W0028-03	✓		
	Wicklow County Council	Ballymurtagh Landfill Facility	W0011-01	✓		
	Wicklow County Council	Rampere Landfill	W0066-03	✓		
	Bord Na Móna	Drehid Waste Management Facility	W0201-03		✓	
	Cavan County Council	Corranure Landfill	W0077-02	✓		
	Galway City Council	Carrowbrowne Landfill	W0013-01	✓	✓	
	Galway County Council	Pollboy Landfill	W0027-02	✓		
	Mayo County Council	Rathroen Landfill	W0067-02	✓		
Monaghan County Council	Scotch Corner Landfill	W0020-02	✓			
Connacht-Ulster Region						

Waste Planning Region	Local Authority / Private Operator	Facility Name	Waste Licence Reg. No.	Civic amenity site	Composting Facility	Waste Transfer Station
Southern Region	Clare County Council	Ballyluff Beg Central Waste Management Facility	W0109-01	✓	✓	
	Cork City Council	Kinsale Road Landfill	W0012-02	✓	✓	
	Cork County Council	East Cork Landfill Site	W0022-01	✓		
	Cork County Council	Raffeen Landfill	W0023-01	✓		
	Cork County Council	Youghal Landfill	W0068-03	✓		
	Cork County Council	Derryconnell Landfill Site	W0089-02	✓		
	Carlow County Council	Powerstown Landfill Site	W0025-02	✓		
	Kerry County Council	North Kerry Landfill Site	W0001-04	✓		
	Kilkenny County Council	Dunmore Landfill	W0030-02	✓		
	Limerick County Council	Gortadroma Landfill	W0017-04	✓		
	North Tipperary County Council	Ballaghaveny Landfill	W0078-03	✓		
	South Tipperary County Council	Donohill Landfill	W0074-03	✓		
	Waterford City Council	Kilbarry Landfill	W0018-01	✓		
	Waterford County Council	Dungarvan CAS and Transfer Station	W0032-02	✓		✓
	Wexford County Council	Holmestown Landfill	W0191-02	✓		

Appendix G – Recovery and disposal operations

Table G-1 Disposal and recovery operations as per Annex II A and B of Directive (2008/98/EC)⁹⁶ on waste

Code	Disposal operations	Code	Recovery operations
D1	Deposit into or onto land (eg landfill, etc.)	R1	Use principally as a fuel or other means to generate energy
D2	Land Treatment (eg biodegradation of liquid or sludgy discards in soils etc.)	R2	Solvent reclamation/regeneration
D3	Deep injection (eg injection of pumpable discards into wells, salt domes or naturally occurring repositories etc.)	R3	Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
D4	Surface impoundment (eg placement of liquid or sludgy discards into pits, ponds or lagoons etc.)	R4	Recycling / reclamation of metals and metal compounds
D5	Specially engineered landfill (eg placement into lined discrete cells which are capped and isolated from one another and the environment etc.)	R5	Recycling / reclamation of other inorganic materials
D6	Release into a water body except seas / oceans	R6	Regeneration of acids or bases
D7	Release into seas/oceans including sea-bed insertion	R7	Recovery of components used for pollution abatement
D8	Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D7 and D9 to D12	R8	Recovery of components from catalysts
D9	Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D8 and D10 to D12 (eg evaporation, drying, calcination etc.)	R9	Oil re-refining or other reuses of oil
D10	Incineration on land	R10	Land treatment resulting in benefit to agriculture or ecological improvement
D11	Incineration at sea	R11	Use of wastes obtained from any of the operations numbered R1 to R10
D12	Permanent storage (eg emplacement of containers in a mine, etc.)	R12	Exchange of wastes for submission to any of the operations numbered R1 to R11
D13	Blending or mixing prior to submission to any of the operations numbered D1 to D12	R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)
D14	Repackaging prior to submission to any of the operations numbered D1 to D13		
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)		

⁹⁶ As transposed into national legislation by European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011).

Appendix H – Waste composition & biodegradability factors

Table H-1: Collected household waste composition profile (% by weight)

Waste streams	Mixed residual waste (black bin) ⁹⁷	Mixed dry recyclables (green bin)	Mixed organics (brown bin)	Total	Biodegradability factor
BMW Content	61.6% ⁹⁸	72.9%	93.6%	65%	-
	Weight %	Weight %	Weight %	Weight %	-
Organic waste	24.0%	1.3%	28.5%	16.6%	1
Garden waste	6.5%	0.1%	50.8%	6.1%	1
Papers	12.5%	54.0%	9.8%	19.0%	1
Cardboards	3.6%	15.3%	0.5%	6.0%	1
Composites	1.0%	2.2%	0.1%	1.0%	0
Textiles	7.3%	1.1%	0.5%	5.6%	0.5
Nappies	8.4%	0.4%	0.8%	5.4%	0.5
Plastics	13.6%	15.5%	1.8%	12.4%	0
Glass	3.3%	2.3%	0.2%	8.5%	0
Metals	3.1%	4.0%	0.1%	3.7%	0
Wood	1.2%	0.3%	0.1%	1.9%	0.5
Hazardous waste	0.9%	0.5%	0.0%	0.9%	0
WEEE	0.3%	0.2%	0.0%	1.8%	0
Unclassified combustibles	1.4%	0.2%	0.7%	1.7%	0.5
Unclassified incombustibles	1.2%	0.2%	0.1%	1.6%	0
Fines smaller than 20mm	11.7%	2.4%	6.0%	7.8%	0.5
Total	100%	100%	100%	100%	-

(Source: EPA Municipal Waste Characterisation Report 2008 at www.epa.ie/pubs/reports/waste/wastecharacterisation/)

⁹⁷ This represents an average or composite of the residual bin from either a 1-bin, 2-bin or 3-bin collection service.

⁹⁸ The residual bin from a 3-bin collection service has a BMW content of 47% (refer to EPA Waste Characterisation Report 2008).

Table H-2 Composition and biodegradability factors for commercial wastes

Waste streams	Mixed residual waste (black bin)	Mixed dry recyclables (green bin)	Total	Biodegradability factor
BMW content	75.00%	85.10% (est)	77.00%	-
	Weight %	Weight %	Weight %	-
Organic waste	42.20%	11.80%	27.40%	1
Garden waste	0.20%	0.00%	0.10%	1
Papers	25.50%	24.20%	24.80%	1
Cardboards	4.00%	48.60%	25.80%	1
Composites	3.40%	0.70%	2.10%	0
Textiles	4.90%	0.60%	2.80%	0.5
Nappies	0.00%	0.00%	0.00%	0.5
Plastics	10.80%	5.30%	8.10%	0
Glass	1.70%	6.80%	4.20%	0
Metals	2.10%	0.90%	1.50%	0
Wood	0.40%	0.00%	0.20%	0.5
Hazardous waste	3.00%	0.90%	1.90%	0
WEEE	0.20%	0.00%	0.10%	0
Unclassified combustibles	0.40%	0.10%	0.30%	0.5
Unclassified incombustibles	0.20%	0.00%	0.10%	0
Fines smaller than 20mm	1.00%	0.10%	0.60%	0.5
Total	100%	100%	100%	-

(Source: EPA Municipal Waste Characterisation Reports, www.epa.ie/whatwedo/resource/municipal/)

Table H-3 EPA approved factors to calculate the BMW content of municipal waste streams

Municipal waste stream	BMW factor
Untreated 1-bin household waste ^{Note 1}	0.65
2-bin residual household waste	0.63
3-bin residual household waste	0.47
Untreated 1-bin commercial waste ^{Note 1}	0.77
2-bin residual commercial waste	0.75
3-bin residual commercial waste	0.68
Untreated Municipal waste skip waste ^{Note 1}	0.35
Bulky waste from sorting of Municipal waste skips	0.50
Oversize residues from Municipal waste skips	0.43
Fines residues from Municipal waste skips	0.40
Oversize residues from Municipal waste bin collections (“wet waste”)	0.41
Fines residues from Municipal waste bin collections (“wet waste”)	0.95
Residues from source separated recyclable waste (“clean material recovery facility”)	0.47
Biostabilised residual waste	0
Untreated cleansing waste (fly-tipping, street bins, road sweepings etc.) ^{Note 1}	0.65
Residual Municipal waste from civic amenity facility	0.63
Ash residue from Municipal waste incineration	0

Note 1: Only waste that has been subject to treatment can be accepted for disposal at a landfill facility. (See EPA Approved Factors to Calculate the BMW Content of Municipal Waste Streams, Version 2.0, 10th June 2011 www.epa.ie/pubs/advice/waste/municipalwaste/).

Appendix I – Waste accepted for composting / digestion in 2012

EWC chapter sub-heading	Description	Tonnes
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing	3,610
02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin	5,229
02 03	Wastes from fruit, vegetables, cereal etc. preparation and processing	1,393
02 05	Wastes from the dairy products industry	15,008
02 06	Wastes from the baking and confectionery industry	736
02 07	Wastes from the production of alcoholic and non-alcoholic beverages (except, coffee, tea and cocoa)	27,644
03 01	Wastes from wood processing and the production of panels and furniture	3,771
03 03	Wastes from pulp, paper and cardboard production and processing	12
04 02	Wastes from the textile industry	170
07 01	Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals	20
07 05	Wastes from the MFSU of pharmaceuticals	3,642
07 06	Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics	839
15 01	Packaging (including separately collected municipal packaging wastes)	36
17 02	Construction and demolition wastes	30
17 08	Gypsum-based construction material	117
19 08	Wastes from waste water treatment plants not otherwise specified	55,583
19 05	Waste from aerobic treatment of solid wastes	516
19 09	Wastes from the preparation of water intended for human consumption or water for industrial use	5,948
20 01	Municipal wastes (separately collected fractions) except 15 01	94,289
20 02	Garden and parks wastes (including cemetery waste)	37,371
20 03	Other municipal wastes	5,339
TOTAL		261,303⁹⁹

⁹⁹ Biostabilisation of organic fines from residual waste is an activity carried out at a number of composting facilities but it is not reported on here as it is not a composting/digestion activity.

Appendix J – Household organic waste collections at kerbside and brought to civic amenity/temporary collection sites

Local authority area	2011	2012
	Separate kerbside collection of household organic waste (brown bins) (tonnes)	Separate kerbside collection of household organic waste (brown bins) (tonnes)
Dublin City	16,675	15,164
Dun Laoghaire Rathdown	2,408	3,834
Fingal	18,117	19,549
South Dublin	9,445	6,199
Kildare	4,167	5,963
Laois	546	942
Longford	326	338
Louth	2,435	1,921
Meath	144	119
Offaly	456	333
Wicklow	24	109
Westmeath	12	176
Total Eastern and Midlands Region	54,755	54,647
Cavan	36	187
Donegal	0	0
Galway City	5,004	5,254
Galway County	1,962	2,439
Leitrim	0	1
Mayo	865	1,064
Sligo	72	109
Roscommon	514	427
Monaghan	411	870
Total Connacht-Ulster Region	8,864	10,351
Carlow	376	798
Clare	1,069	1,882
Cork City	0	0
Cork County	1,354	1

Local authority area	2011	2012
	Separate kerbside collection of household organic waste (brown bins) (tonnes)	Separate kerbside collection of household organic waste (brown bins) (tonnes)
Kerry	549	603
Kilkenny	154	313
Limerick City	605	1,033
Limerick County	1,309	1,811
North Tipperary	442	826
South Tipperary	523	930
Waterford City	3,246	2,988
Waterford County	2,194	2,479
Wexford	2,055	1,384
Total Southern Region	13,876	15,048
National total separate kerbside collection (tonnes)	77,494	80,046
Household organic waste collected at civic amenity sites & temporary collection sites ¹⁰⁰ (tonnes)	18,539	19,118
National total kerbside collection plus civic amenity sites & bring centres (tonnes)	96,034	99,164

(Source: Local authority survey)

¹⁰⁰ Many civic amenity sites accept organic (green and/or food) waste. Also temporary collections are held by many local authorities to accept green waste including Christmas trees.

Appendix K – Type and distribution of household kerbside collection services

Waste management region	Local authority area	Service provider(s) (private sector = PS local authority = LA)	Kerbside service provided		
			Residual and mixed dry recyclables	Organics	Segregated glass
Eastern and Midlands Region	Dublin City	PS & LA	✓	✓	✓
	Dun Laoghaire Rathdown	PS & LA	✓	✓	✓
	Fingal	PS	✓	✓	✓
	South Dublin	PS	✓	✓	✓
	Meath	PS	✓	✓	
	Louth	PS	✓	✓	✓
	Kildare	PS	✓	✓	✓
	Wicklow	PS	✓	✓	✓
	Laois	PS	✓	✓	✓
	Offaly	PS	✓	✓	
	Longford	PS	✓	✓	
	Westmeath	PS	✓	✓	
Connacht-Ulster Region	Cavan	PS	✓	✓	
	Monaghan	PS	✓	✓	
	Galway City	PS & LA	✓	✓	✓
	Galway County	PS	✓	✓	✓
	Leitrim	PS	✓	✓	
	Mayo	PS	✓	✓	✓
	Donegal	PS	✓		
	Roscommon	PS	✓	✓	
	Sligo	PS	✓	✓	
Southern Region	Clare	PS	✓	✓	✓
	Kerry	PS & LA	✓	✓	✓
	Limerick County	PS	✓	✓	✓
	Limerick City	PS	✓	✓	✓
	Cork City	PS	✓		✓
	Cork County	PS	✓	✓	✓
	Carlow	PS	✓	✓	✓
	Kilkenny	PS & LA	✓	✓	
	South Tipperary	PS	✓	✓	✓
	North Tipperary	PS	✓	✓	
	Waterford County	PS & LA	✓	✓	✓
	Waterford City	PS	✓	✓	
	Wexford	PS & LA	✓	✓	

(Source: NWCPO, CSO)

Appendix L – Percentage of permanent private households on various kerbside collection services

Waste management region	Local authority area	Percentage of permanent private households on a household service that are serviced with:			
		Residual collection only	Residual and mixed dry recyclables collections	Organic collection	Glass collection
Eastern and Midlands Region	Dublin City	1%	99%	53%	2%
	Dun Laoghaire Rathdown	0%	100%	43%	6%
	Fingal	0%	100%	84%	1%
	South Dublin	0%	100%	64%	2%
	Meath	9%	91%	2%	0%
	Louth	9%	91%	24%	1%
	Kildare	0%	100%	46%	2%
	Wicklow	0%	100%	3%	7%
	Laois	0%	100%	31%	5%
	Offaly	2%	98%	23%	0%
	Longford	6%	94%	34%	0%
	Westmeath	4%	96%	8%	0%
Connacht-Ulster Region	Cavan	4%	96%	7%	0%
	Monaghan	3%	97%	11%	0%
	Galway City	1%	99%	83%	2%
	Galway County	4%	96%	19%	0%
	Leitrim	1%	99%	1%	0%
	Mayo	3%	97%	19%	0%
	Donegal	22%	78%	0%	0%
	Roscommon	2%	98%	15%	0%
Sligo	23%	77%	0%	0%	
Southern Region	Clare	4%	96%	70%	5%
	Kerry	0%	100%	18%	2%
	Limerick City	0%	100%	42%	5%
	Limerick County	0%	100%	46%	0%
	Cork City	8%	92%	0%	10%
	Cork County	1%	99%	0%	16%
	Carlow	0%	100%	26%	5%
	Kilkenny	1%	99%	10%	0%
	North Tipperary	0%	100%	47%	0%
	South Tipperary	0%	100%	30%	5%
	Waterford City	0%	100%	99%	0%
	Waterford County	0%	100%	62%	3%
Wexford	0%	100%	32%	0%	
National		2%	98%	37%	3%

Appendix M – Estimate of unmanaged household waste

This appendix sets out how the estimate of unmanaged household waste was determined for 2012, which estimates the tonnage of household waste generated by permanent private households that are not serviced with a kerbside collection, and then deducting household waste management routes available to householders that are not serviced with a kerbside service, or chose not to sign up to a kerbside collection service. The number of households on a kerbside collection service was assessed by first allowing a factor for bin-sharing (EPA allowed for 2% households bin-sharing) and then multiplying the percentage of remaining private permanent households without a kerbside waste collection by an average value of waste collected per household on a 2-bin service. This waste may still have been collected and entered the waste treatment chain. It may have been brought to civic amenity sites, to bring banks or directly to landfills; or it may have been fly-tipped and transferred to waste treatment facilities by local authority personnel. To work out the amount of unmanaged household waste, the amount of conventional 'bin-type' household residual and mixed dry recyclable waste brought to bring banks, as well as that brought to landfills (including fly-tipped) was subtracted from the amount of waste generated by households and not collected at kerbside. The estimate of unmanaged household waste in 2012 is 214,200 tonnes.

A	CSO census 2011 number of permanent private households (latest data available)	1,649,408
B	Number of households on a bin or bag service as reported in waste collection permit annual returns	1,181,029
C	Number of households on a collection service (allowing for 2% bin-share) $((A*0.01)+B)$ [i.e. an additional 1% of occupied houses included in 'serviced' households]	1,197,523
D	Number of houses not on a kerbside collection service (A-C)	451,885
E	Average tonnage waste collected per household served kerbside with a 2-bin system (residual and mixed dry recyclables)	0.65
F	Gross tonnage household waste estimated as uncollected at kerbside (D*E)	294,970
G	Household waste brought to civic amenity sites, bring banks, directly to landfill (NB not all material – only that material that would be equivalent to kerbside residual/mixed dry recyclable type streams)	78,417
H	Household waste reported as fly tipped and delivered to landfill	2,354
	Net tonnage household waste unmanaged (F-(G+H))	214,200

Tonnage for G is made up of the following household wastes:		
Household waste brought to:	Waste material	Tonnage
Civic amenity site/brought directly to landfill	Mixed residual waste	35,917
Civic Amenity Site	Mixed dry recyclables	1,494
	Paper & cardboard	14,332
	Metals	5,926
	Plastic	3,962
	Composites	193
	Wood (50% of that reported as not all expected to be possible to dispose to kerbside bin)	4,206
	Waste mineral oils	285
	Waste cooking oils	73
	Paint	1,174
	WEEE	124
	Bulky (portion of total 13,439 tonnes reported as not all would be possible to dispose to kerbside bin)	2,000
	Portable batteries	14
	Household hazardous waste	9
Other	16	
Bring Bank	Paper & Cardboard	1,864
	Aluminium cans	1,304
	Steel cans	708
	Plastic	1,008
	Composites	9
	Other	1,349
Estimate for PTU collections		2,396
Portable batteries other than collected at civic amenity sites		54
TOTAL		78,417

Appendix N: Treatment of hazardous waste on-site at IPPC licensed facilities in 2012

Facility name	IPPC Register No.	Principal class of IPPC activity	Waste type	Recovery/ disposal code ¹⁰¹	Quantity treated (t)
Arran Chemical Co Ltd	P0110-02	Chemicals	Solvents	R2	855
Astellas Ireland Co. Ltd	P0007-03	Chemicals	Solvents	D10	465
			Aqueous washing liquids and mother liquors (07__01*)	D10	1,279
Aughinish Alumina Ltd	P0035-04	Chemicals	Salts and salt cake	D1	15,808
BASF Ireland Limited	P0052-02	Chemicals	Other industrial hazardous waste	R1	5,106
Phillips 66 Bantry Bay Terminal	P0419-01	Fossil Fuels	Oil waste (mineral oil)	R9	180
Eli Lilly	P0009-03	Chemicals	Solvents	D10	5,676
			Solvents (halogenated where specified)	D10	123
Galmoy Mines Ltd	P0517-01	Minerals and other materials	Oily sludges	D1	45
Irish Industrial Explosives Ltd	P0055-01	Chemicals	Other industrial hazardous waste	D10	1
Mallinckrodt Medical Imaging Ireland	P0050-02	Chemicals	Solvents	R2	6299
			Solvents	D8	346
			Solvents (halogenated where specified)	D8	<0.1
			Solvents (halogenated where specified)	D9	140
MSD International GmbH	P0011-04	Chemicals	Solvents	D8	972
				R2	1,399
Merck Millipore Ltd	P0571-02	Surface coatings	Solvents	R2	1,072

¹⁰¹ See Appendix G for a descriptive list of recovery and disposal operations.

Facility name	IPPC Register No.	Principal class of IPPC activity	Waste type	Recovery/ disposal code ¹⁰¹	Quantity treated (t)
Novartis Ringaskiddy Ltd	P0006-03	Chemicals	Other industrial hazardous waste	D10	<0.1
			Packaging (contaminated or containing residues)	D10	26
			Sludges and filter cakes	D10	0.2
			Solvents	D10	0.027
				D8	251
				R1	2,926
				R2	5,566
			Absorbents, wiping cloths	D10	31
			Aqueous washing liquids and mother liquors (07__01*)	D10	421
			Solid wastes from MFSU of pharmaceuticals (07 05 13*)	D10	4
Laboratory and general chemical waste	D10	13			
Pfizer Ireland Pharmaceuticals	P0013-04	Chemicals	Solvents	R2	3,253
Pfizer Ireland Pharmaceuticals	P0136-04	Chemicals	Solvents	R1	280
Roche Ireland Ltd	P0012-04	Chemicals	Solvents	R1	2,624
			Solvents (halogenated where specified)	R1	50
Schering-Plough (Ireland) Company	P0015-05	Chemicals	Solvents	R1	2,124
Smithkline Beecham (Cork) Ltd	P0004-03	Chemicals	Solvents	D10	2,149
				R2	76
			Solvents (halogenated where specified)	D10	234
Swords Laboratories	P0014-04	Chemicals	Solvents	R2	776
			Solvents (halogenated where specified)	R2	296

Facility name	IPPC Register No.	Principal class of IPPC activity	Waste type	Recovery/ disposal code ¹⁰¹	Quantity treated (t)
Swords Laboratories trading as Bristol Myers Squibb Cruiserath	P0552-02	Chemicals	Solvents	R2	1,039
			Solvents (halogenated where specified)	D10	4,707
				D8	5.8
				R2	46
Temmler Ireland Ltd	P0813-02	Surface Coatings	Solvents	R2	1,147
			Solid wastes from MFSU of pharmaceuticals (07 05 13*)	R3	287
(Source: IPPC PRTR and Annual Environmental Reports)				Total	68,100

