



# Waste Data Digest 4

## WDD4

2002 and 2002/2003 data



# Contents

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Introduction	2
Waste Arisings	4
Local Authority Waste Arisings	5
Composition of Household Waste	8
Non-Municipal Waste Arisings	9
Packaging and packaging waste	9
Hazardous and special wastes	10
Household hazardous waste	12
Waste batteries	12
Waste oils	13
Waste Recovery	14
Local Authority Waste Recovery	15
Local authority recycling	17
Local authority recycling initiatives	19
Local authority composting	21
Local authority composting initiatives	22
Home Composting	23
Non-Municipal Waste Recovery	23
Packaging and packaging waste	23
Hazardous and special wastes	26
Imports and exports of hazardous waste	28
Waste batteries	29
Waste oils	29
Waste Disposal	30
Local Authority Waste Disposals	31
Local Authority Energy Recovery	33
Incineration and Thermal Treatment Plants	33
Waste Management Licence Facility Disposals	34

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<b>Waste Related Operational Activities</b>	<b>39</b>
<b>Waste Management Authorisations</b>	<b>40</b>
Registered brokers and carriers	40
Waste management licences by activity	40
Waste management licences related to special waste	41
Waste management licences related to recycling activity	41
Waste management licences related to disposal activity	41
Post-closure landfill sites	43
Landfill site gas and leachate operational controls	43
<b>Waste Management Regulation</b>	<b>44</b>
Inspections of licensed waste management facilities	44
Enforcement	44
Fly-tipping	44
<b>Conclusions</b>	<b>45</b>
Local Authority Waste Collection	46
Disposal of Waste to Landfill	48
<b>Appendices</b>	<b>50</b>
Appendix I - Glossary	51
Appendix II - Acronyms and Abbreviations	53
Appendix III - Accredited Reprocessors and Exporters of Packaging Waste 2002	54
Appendix IV - Licensed Sites in Scotland in 2002	56
Appendix V - Waste Strategy Area Map	68

# Introduction



## CHP01



## Introduction

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The Scottish Environment Protection Agency (SEPA) is committed to promoting sustainable waste management practices throughout Scotland. Accurate, up-to-date waste management data are required to aid policy development, to monitor change and policy impact, to monitor regulatory activity, to implement the National Waste Strategy, and to meet internal and external reporting requirements.

This, the fourth Waste Data Digest published by SEPA, details data collected by, or on behalf of, SEPA on controlled waste in Scotland. Data are reported, as far as possible, for the 2002 calendar year. However, in some instances, only financial year information is available and this is reported for 2002/2003. The data are presented in five chapters dealing with arisings, recovery, disposal, waste related operational activities and conclusions.

The Local Authority Waste Arisings Survey (LAWAS) is the main source of data on municipal waste for SEPA. The LAWAS is a voluntary, annual survey completed by the 32 Scottish local authorities at the request of SEPA. It is a key tool for determining local authority waste arisings in Scotland and for collating information on the waste management activities carried out by, or on behalf of, Scottish local authorities.

SEPA has also taken several steps to improve data collection systems for waste handled in Scotland by organisations other than local authorities. Currently, details of waste handled by all licensed waste management sites are reported quarterly by operators, using SEPA's waste management licence site return form. Data from the form are entered into SEPA's waste data strategy database.

Information from special waste consignment notes received by SEPA is recorded in the special waste database. Special waste consignment notes are required whenever special wastes are moved.

It is SEPA's intention to carry out a national survey of commercial and industrial waste producers in 2004. This survey will seek data on waste arisings, recycling and recovery and disposal and provide, for the first time, a comprehensive picture of commercial and industrial waste in Scotland. The findings will be published in the next Data Digest.

The data collection stages of SEPA's priority waste stream programme continue to tackle the specific needs identified in National Waste Strategy: Scotland. The data collection projects on household hazardous wastes, waste oils and waste batteries will report on 2002 or 2002/2003 data. This programme of projects will be replaced in 2004/2005 by Non-Municipal Waste Best Practice Projects.

Waste data information is available on SEPA's website at [www.sepa.org.uk/nws/data/index.htm](http://www.sepa.org.uk/nws/data/index.htm)

A glossary of technical terms and explanation of acronyms and abbreviations used in this Data Digest can be found in Appendices I and II, respectively.

The next Data Digest, Waste Data Digest 5, reporting on 2003 and 2003/2004 waste data, will be published in summer 2005.

We hope readers find this report informative and useful.



# Waste Arisings

Local Authority Waste Arisings

Composition of Household Waste

Non-Municipal Waste Arisings

Packaging and packaging waste

Hazardous and special wastes

Household hazardous waste

Waste batteries

Waste oils

## CHP02



# Waste Arisings

## Local Authority Waste Arisings

The data presented in this section are based on the returns provided for the Local Authority Waste Arisings Survey (LAWAS) 2002/2003. All 32 Scottish local authorities responded to SEPA's 2002/2003 LAWAS.

In 2002/2003, a total of 3.35 million tonnes of controlled wastes was collected by, or on behalf of, local authorities in Scotland. A breakdown of this total by waste type is shown in Table 1 and by individual local authority in Figure 1 and in Table 2.

**Table 1 – Total controlled waste collected by, or on behalf of, Scottish local authorities 2002/2003**

Waste type	Tonnes	%
<b>Waste collected for disposal</b>		
Household*	2,094,872	62.62
Civic amenity sites	381,868	11.41
Commercial sources	494,830	14.79
Industrial sources	77,164	2.31
Other non-household sources <sup>†</sup>	30,130	0.90
<b>Total</b>	<b>3,078,864</b>	<b>92.03</b>
<b>Waste collected for recycling and composting</b>		
Household	206,166	6.16
Non-household <sup>‡</sup>	60,428	1.81
<b>Total</b>	<b>266,594</b>	<b>7.97</b>
<b>Total arisings<sup>§</sup></b>	<b>3,345,458</b>	<b>100.00</b>

\* For many local authorities, the mainstream household waste collection service is a mixed collection which includes household, commercial and industrial wastes. For the purpose of the LAWAS, local authorities provided the data for household, commercial and industrial waste from this collection round separately. In some cases the percentage breakdown was estimated by the local authority

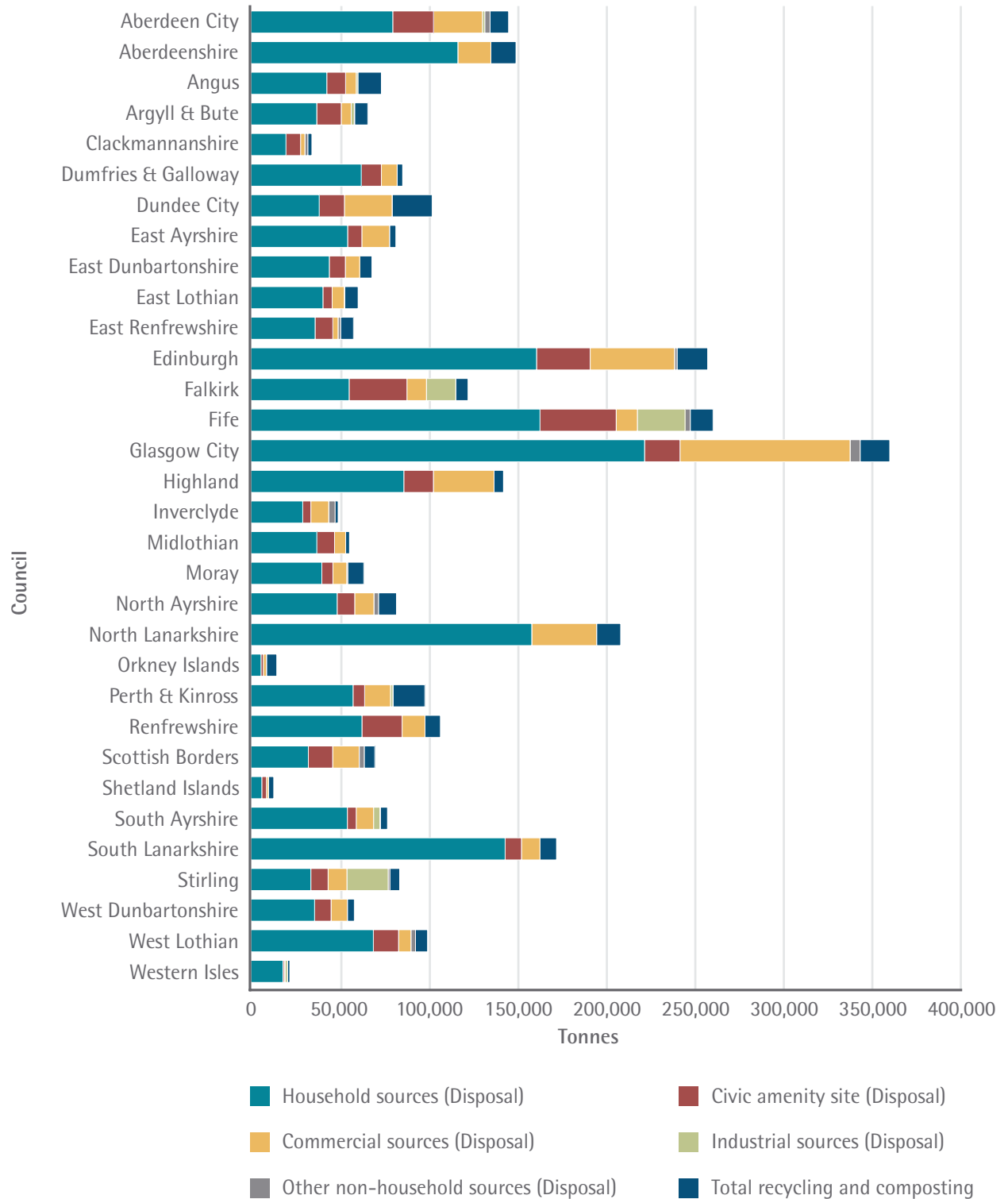
† Other non-household waste includes: local authority parks and garden waste; beach cleaning waste; clearance of fly-tipped waste; abandoned vehicles and other waste not otherwise specified

‡ Includes incinerator residue

§ Waste arisings do not include home composting tonnages

# Waste Arisings

Figure 1 – Controlled waste collected by, or on behalf of, individual Scottish local authorities 2002/2003





# Waste Arisings

Table 2 – Controlled waste collected by, or on behalf of, individual Scottish local authorities 2002/2003

Local authority	Number of households*	Total local authority waste arisings (tonnes)	Waste collected for disposal (tonnes)					Waste collected for recycling and composting (tonnes)		Household waste produced per household (tonnes)
			Household	Civic amenity site	Commercial	Industrial	Other non-household	Household	Non-household†	
Aberdeen	105,675	145,430	80,070	23,000	27,584	1,350	3,000	7,378	3,047	1.05
Aberdeenshire	99,233	149,626	116,801	0	18,634	0	0	12,209	1,982	1.30
Angus	49,504	73,650	42,839	10,595	6,006	924	0	10,131	3,155	1.28
Argyll & Bute	44,857	65,975	37,179	13,804	5,635	1,717	220	4,532	2,889	1.24
Clackmannanshire	22,068	34,423	19,779	8,248	2,435	0	1,659	1,936	366	1.36
Dumfries & Galloway	67,890	85,653	62,295	11,363	8,880	0	0	2,857	258	1.13
Dundee	74,311	102,291	38,569	14,210	26,903	0	0	6,596	16,014	0.80
East Ayrshire	53,388	81,804	54,605	8,012	15,608	0	0	2,044	1,535	1.21
East Dunbartonshire	42,936	68,302	44,254	9,048	8,090	0	0	6,192	717	1.39
East Lothian	40,564	60,517	40,659	5,206	6,852	323	0	6,695	783	1.30
East Renfrewshire	37,059	57,889	36,230	10,006	2,931	0	1,459	7,063	200	1.44
Edinburgh	219,018	257,796	161,228	30,269	47,601	0	1,443	13,416	3,839	0.94
Falkirk	62,598	122,537	55,441	32,636	10,996	16,531	0	4,907	2,026	1.49
Fife	161,602	260,837	163,165	43,007	11,952	26,908	2,956	11,848	1,000	1.35
Glasgow	288,615	360,576	222,190	20,000	95,988	0	5,690	13,990	2,718	0.89
Highland	102,089	142,559	86,323	16,678	34,257	0	0	3,659	1,642	1.04
Inverclyde	39,468	49,231	29,257	4,575	10,072	0	3,605	1,684	38	0.90
Midlothian	33,548	55,650	37,205	10,000	6,291	0	0	2,154	0	1.47
Moray	40,035	63,708	40,051	6,253	7,767	0	661	4,228	4,748	1.26
North Ayrshire	64,146	82,171	48,675	9,913	10,827	0	2,600	9,944	213	1.07
North Lanarkshire	139,053	208,706	158,503	0	36,604	0	0	12,533	1,066	1.23
Orkney Islands	9,413	14,590	5,707	1,305	1,725	0	49	1,617	4,187	0.92
Perth & Kinross	63,845	98,172	57,653	6,527	14,611	1,322	22	15,177	2,860	1.24
Renfrewshire	80,781	106,956	62,678	22,668	12,915	0	0	8,695	0	1.16
Scottish Borders	52,051	69,919	32,428	13,726	14,994	0	2,811	5,780	180	1.00
Shetland Islands	10,047	12,886	6,152	2,623	1,077	0	75	2,666	293	1.14
South Ayrshire	51,933	77,100	54,438	5,000	9,802	3,559	280	3,078	943	1.20
South Lanarkshire	132,995	172,512	143,489	9,226	10,425	0	0	9,371	0	1.22
Stirling	37,416	83,959	33,840	9,723	10,631	23,269	1,013	4,251	1,233	1.28
West Dunbartonshire	43,335	58,375	35,943	9,310	9,188	0	0	3,211	724	1.12
West Lothian	67,942	99,696	69,117	14,232	6,973	0	2,587	6,076	711	1.32
Western Isles	12,833	21,962	18,108	705	577	1,261	0	247	1,064	1.49
<b>Total</b>	<b>2,350,248</b>	<b>3,345,458</b>	<b>2,094,872</b>	<b>381,868</b>	<b>494,830</b>	<b>77,164</b>	<b>30,130</b>	<b>206,166</b>	<b>60,428</b>	<b>1.14</b>

\* Provided by Audit Scotland

† Includes incinerator residue

# Waste Arisings

## Composition of Household Waste

To develop an effective strategy for household waste, it is important to gather accurate information and to identify trends in the changes in its composition. Household waste composition can change according to demographic, geographic and socio-economic factors in each local authority and these changes can be both seasonal and long term.

The LAWAS 2002/2003 asked local authorities if they had conducted a compositional analysis of household waste during 2002/2003 and the methods used to carry out this analysis. Seven of the 32 local authorities reported that they had carried out an analysis of household waste and provided their results. Six of the seven local authorities reported their results according to the breakdown suggested in the LAWAS. The results from the analyses carried out by the six local authorities are reported in Table 3.

**Table 3 – Waste composition – LAWAS survey 2002/2003**

Waste Category	Range of analyses (%)	Average (%)
Paper and card	16.59–32.40	24.26
Plastic film	1.84–6.08	4.37
Dense plastic	6.00–9.87	7.09
Textiles	1.54–4.90	3.48
Other combustible	2.20–17.21	8.93
Other non-combustibles	0.09–3.62	1.96
Glass	4.12–8.79	6.59
Putrescibles	17.00–45.30	31.91
Ferrous metals	2.50–4.83	3.91
Non-ferrous metals	0.51–2.56	1.21
WEEE*	0.00–2.65	0.98
Potentially hazardous household waste	0.00–3.60	0.55
Fines	0.50–9.30	4.21
Liquid from containers†	1.04	
Composites†	3.50	

\* Waste electrical and electronic equipment

† Additional categories supplied by two of the local authorities

A national municipal waste analysis methodology has been produced by SEPA in response to requests from a number of the Scottish local authorities for guidance in conducting analysis of municipal waste. It has been written in conjunction with a study group, comprising members drawn from the Convention of Scottish Local Authorities (COSLA), the Scottish Executive, private industry and academia. Consultation on the methodology will take place in 2004.

The methodology has primarily been developed to consider household kerbside waste and to give a reasonably robust and quantitative approach to this; however, information to guide local authorities on the collection and analysis of waste from other parts of the municipal waste stream has also been included.

# Waste Arisings

## Non-Municipal Waste Arisings

Non-municipal waste covers a broad spectrum of waste types generated by individual producers, ranging from sole traders and small commercial businesses to large industrial complexes.

Gathering data on non-local authority waste arisings is difficult. SEPA intends to carry out a national survey of commercial and industrial waste producers in 2004. This survey will seek data on waste arisings, recycling and recovery and disposal and provide, for the first time, a picture of commercial and industrial waste and its management in Scotland.

Although it is not possible to report a total commercial and industrial waste arisings figure for Scotland for 2002, waste arisings data are available for packaging and packaging waste, hazardous and special wastes, household hazardous waste, waste batteries and waste oils.

As from April 2004, the Priority Waste Stream Projects will be replaced with Non-Municipal Waste Best Practice Projects. The aim of the best practice projects is to obtain data on waste produced in specific industrial sectors and to help waste producers identify and develop the most sustainable option for wastes produced by their business. In partnership with other key stakeholders, including industry and the waste management sector, SEPA will undertake technical studies into the specific waste types, using an industry sector approach. High-, medium- and low-priority wastes have been identified based on, for example, the quantity of waste, hazardous material content, recovery value and legislation requirements.

### Packaging and packaging waste

As a result of the Producer Responsibility Obligations (Packaging Waste) Regulations 1997, SEPA handles considerable data relating to packaging and packaging waste.

In 2002, it was estimated that approximately 9.92 million tonnes of packaging waste was produced in the UK. Of this, it was estimated that approximately 1 million tonnes arose in Scotland. Table 4 provides a breakdown of packaging flowing into the UK waste stream in 2002.

**Table 4 – Total tonnage of packaging flowing into the UK waste stream 2002**

Material	Tonnes
Paper	3,725,652
Glass	2,190,665
Plastic	1,740,000
Steel	690,000
Wood	1,417,379
Aluminium	128,000
Other	25,000
<b>Total</b>	<b>9,916,696</b>

# Waste Arisings

## Hazardous and special wastes

The Hazardous Waste Directive (91/689/EC) provides the framework for the control of hazardous or 'special' waste. The Annexes to the Directive include descriptions of categories or generic types of hazardous waste according to their nature or the activity by which they are generated, and the properties that render them hazardous. Subsequently, a European Commission Decision (94/904/EC) established the Hazardous Waste List. This was repealed by Council Decision 2000/532/EC from 1 January 2002. This decision established a single Community list which integrated the list of hazardous waste laid down in Decision 94/904/EC and the list of waste laid down in Decision 94/3/EC. Certain wastes on the list are classified as hazardous because they display one or more hazardous characteristics or properties such as being explosive, highly flammable, toxic or carcinogenic.

The aim of the Hazardous Waste Directive is to provide a European-wide hazardous waste definition and to ensure the correct management and regulation of such waste. The Special Waste Regulations 1996 (as amended) implement the Hazardous Waste Directive into UK legislation.

SEPA, the Environment Agency (EA) and the Northern Ireland Environment and Heritage Service (NIEHS) have produced a technical guidance document for interpreting the definition and classification of hazardous waste in the UK<sup>1</sup>. It is intended that this will be a reference document for all legislation concerning hazardous waste and its management, and will provide guidance in the assessment of waste for all involved in the production, management and control of hazardous substances.

During 2002, approximately 468,000 tonnes of special waste was consigned within Scotland and 73,000 tonnes was exported to England and Wales. The exported total may include wastes already consigned within Scotland. A breakdown by destination type is given in Table 5 and by a European Waste Catalogue (EWC) short code in Table 6. More detailed information on special waste sent to treatment plants and landfills is given in Chapters 3 and 4, respectively. Data on special waste are derived from SEPA's special waste consignment note database and the Environment Agency's Hazardous Waste Interrogator.

**Table 5 – Special waste consigned in Scotland by destination type in 2002**

Destination type	Tonnes
Landfill	105,482
Transfer station	84,497
Treatment plant	255,093
Incinerator	16,945
Scrapyard	4,711
Unallocated	863
<b>Total</b>	<b>467,591</b>

<sup>1</sup>Technical Guidance WM2 Hazardous waste: Interpretation of the Definition and Classification of Hazardous Waste 2003

## Waste Arisings

**Table 6 – Special waste consigned in Scotland by European Waste Catalogue code 2002**

EWC Code	Description	Tonnes
01	Mining and minerals	121,979
02	Agricultural and food production	1,357
03	Wood and paper production	1,367
04	Leather and textile production	32
05	Petrol, gas and coal refining/treatment	27,287
06	Inorganic chemical processes	17,733
07	Organic chemical processes	23,342
08	MFSU paints, varnish, adhesive and inks	4,517
09	Photographic industry	1,417
10	Thermal process waste (inorganic)	2,726
11	Metal treatment and coating processes	4,151
12	Shaping/treatment of metals and plastics	1,480
13	Oil and oil/water mixtures	132,734
14	Solvents	3,877
15	Packaging, cloths, filter materials	5,246
16	Not otherwise specified	42,869
17	Construction and demolition waste and asbestos	59,351
18	Healthcare	2,295
19	Waste/water treatment and water industry	6,777
20	Municipal and similar commercial wastes	6,655
Uncoded	Unclassified	397
<b>Total</b>		<b>467,589</b>

During 2002/2003, SEPA issued a total of 96,499 special waste consignment notes. A breakdown of this total by special waste consignment code prefix is detailed in Table 7.

**Table 7 – Number and type of special waste consignment notes issued by SEPA 2002/2003**

Total number	SA prefix*		SB prefix†		SC prefix‡	
	Number	%	Number	%	Number	%
96,499	56,112	58.1	1,131	1.2	39,256	40.7

\* SA prefix applies to special waste not consigned using SB and SC prefixed codes

† SB prefixed codes are used solely for consignments of special waste comprising entirely of lead-acid motor vehicle batteries

‡ SC prefixed codes are restricted to the second or subsequent removal of waste within a succession of small volume/extended carrier's collection rounds, the return of out-of-specification materials, which are wastes to the original manufacturer, and the removal of waste from a ship to a conveyance or reception facility

# Waste Arisings

## Household hazardous waste

The baseline review of the Household Hazardous Waste (HHW) priority waste stream project was completed in August 2003. The study was undertaken as a partnership between SEPA, the Recycling Advisory Group Scotland (RAGS) and Save Waste and Prosper Ltd (SWAP). The main aims of the study were to establish baseline data for HHW arisings in Scotland and to assess householder habits on the storage, use and disposal of products in the household which have the potential to become HHW. The findings of the baseline review will help to establish the development of HHW collection schemes. For the purpose of the study, the National Household Hazardous Waste Forum definition of HHW was applied. This is *'any material discarded by a household which is difficult to dispose of, or which puts human health or the environment at risk because of its chemical or biological nature.'*

Data on products in the home with the potential to become HHW were gathered by means of 63 household audits undertaken in 2002/2003 in the three stakeholder local authority areas of Aberdeenshire, Argyll and Bute, and Midlothian. Modelled data from the household audits provided estimates of HHW arisings in Scotland of between 15,400 and 24,100 tonnes for 2002/2003. These tonnages account for approximately 0.7% and 1.0%, respectively, of the total amount of household waste generated in Scotland. The modelled data also identified that, by weight, the single largest category of HHW entering the waste stream was paint and paint-related products.

Questionnaire surveys were undertaken in 751 households within the three stakeholder local authority areas in 2002 to assess householder attitudes to HHW. Analysis of the survey results identified several important householder habits concerning the generation and management of HHW, concluding that any HHW awareness campaign in Scotland should focus on the 'cash rich, time poor' as opposed to the 'time rich, cash poor'. The report identified the typical 'cash rich, time poor' person as:

- under 45, female, in full-time employment and with children living at home; they are high users of products and have a lot in store. They have a high awareness of disposal facilities in comparison with other respondents.

The typical 'time rich, cash poor' person was:

- retired and over 60, no gender differences, living on their own or as a couple, and in a flat. They have low usage and storage of products and a low awareness of disposal facilities.

## Waste batteries

The phase 1 (baseline review) study for the priority waste stream project on waste batteries will be finalised in the autumn of 2004 and will report on post-consumer batteries, waste automotive batteries and waste industrial batteries. Based on models that used a combination of sales data, average expected lifetimes and average unit weights, it is estimated that a total of 11,124 tonnes of waste batteries arose in Scotland in 2002. Of this total amount, it is estimated that:

- 1,828 tonnes is attributable to post-consumer batteries;
- 6,035 tonnes is attributable to waste automotive batteries; and
- 3,261 tonnes is attributable to waste industrial batteries (3,197 tonnes of lead-acid batteries and 64 tonnes of NiCd batteries).

# Waste Arisings

## Waste oils

The phase 1 (baseline review) study for the priority waste stream project on waste oils will be finalised in the autumn of 2004 and will report separately on used cooking oils and on waste mineral oils and oily wastes. Arisings data will be reported for household, and commercial and industrial sectors.

Used cooking oils:

- For the purpose of this study, used cooking oils are vegetable or nut-based cooking oils no longer viable for use in food production. They are liquid at room temperature.
- Based on a combination of consumption data, census data and ratios of cooking oil consumed to waste generated, it is estimated that an average 1,990 tonnes of used cooking oil arises in households in Scotland each year.
- Using a combination of UK consumption data (apportioned to Scotland based on population and Gross Domestic Product (GDP)) and ratios of cooking oil consumed to waste generated, it is estimated that an average 6,789 tonnes of used cooking oils from commercial and industrial sources arises in Scotland each year (an estimated 5,516 tonnes from the catering industry and 1,273 tonnes from the food processing industry).

Waste mineral oils and oily wastes:

- For the purpose of this study, waste mineral oils are oils derived from mineral sources that have become unfit for the use for which they were originally intended either through contamination and/or loss of original properties. In the study, waste lubricating oils are considered a significant subset of waste mineral oils because of their suitability for re-refining into lubricant base oils. Data on waste lubricating oils are reported separately where possible.
- The majority of waste mineral oils arising from the household sector are used motor oils generated from the servicing of private motor vehicles. Applying the percentage recovery rate indicator for diesel and gasoline engine oils to motor oils sales data, it is estimated that 5,850 tonnes of used motor oils arose from household sources in Scotland in 2002. Using percentage service location indicators, it is estimated that of this total, 4,510 tonnes arose at commercial garages and dealerships and 1,340 tonnes at domestic properties. It is estimated that 469 tonnes of the 5,850 tonnes of used motor oil estimated to have arisen from the servicing of private motor vehicles in Scotland in 2002 will have been retained within spent oil filters.
- Using percentage recovery rate indicators for lubricating oils, it is estimated that 9,728 tonnes of waste lubricating oils arose in Scotland from lubricating oils sold to the commercial and industrial sector in Scotland in 2001.
- For the purpose of this study, oily wastes are non-oil wastes that have become contaminated by mineral oil. It is not possible to determine quantities of oily wastes arising from oils sales data because the proportion of waste oils in oily wastes is small compared with the non-oil component. However, an analysis of special waste consignment note data held by SEPA indicates that 207,291 tonnes of oily wastes was consigned as special waste to waste management facilities in Scotland in 2003.

# Waste Recovery

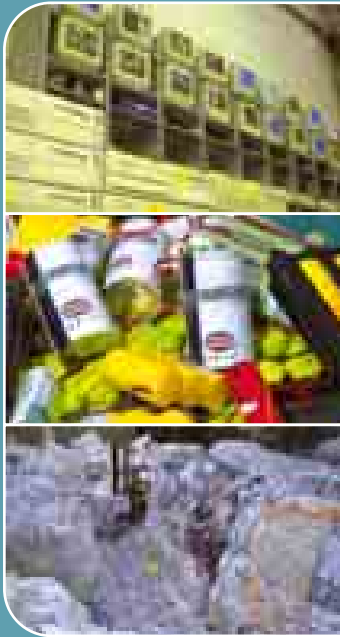
## Local Authority Waste Recovery

- Local authority recycling
- Local authority recycling initiatives
- Local authority composting
- Local authority composting initiatives

## Home Composting

## Non-Municipal Waste Recovery

- Packaging and packaging waste
- Hazardous and special waste
- Imports and exports of hazardous waste
- Waste batteries
- Waste oils



## CHP03





# Waste Recovery

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## Local Authority Waste Recovery

Recovery is considered as the sum of recycling, composting and energy from waste.

There were two municipal waste incinerators recovering energy from waste operating in Scotland in 2002. These are, however, classified as disposal activities and details of them are included in the Waste Disposal chapter of the Data Digest.

There was an increase of approximately 34% between the combined recycling and composting figure for 2001/2002 (174,399 tonnes) and that for 2002/2003 (266,594 tonnes).

The combined recycling and composting rate for 2002/2003 was 7.97% of the total waste collected by, or on behalf of, Scottish local authorities and is less than that obtained by the Audit Commission. This difference has been investigated and it appears that some local authorities are providing different data to the two organisations. A mechanism has been put in place that should ensure consistency between the two figures in future years. Table 8 gives a breakdown of the recycling and composting rates for each local authority.

## Waste Recovery

Table 8 – Recycling and composting rates for Scottish local authorities, 2002/2003

Local authority	Total local authority waste arisings (tonnes)	% of waste recycled	% of waste composted	% of waste composted or recycled
Aberdeen	145,430	5.79	1.38	7.17
Aberdeenshire	149,626	4.74	4.74	9.48
Angus	73,650	12.32	5.72	18.04
Argyll & Bute	65,975	11.23	0.02	11.25
Clackmannanshire	34,423	6.25	0.44	6.69
Dumfries & Galloway	85,653	3.64	0.00	3.64
Dundee	102,291	17.99	4.12	22.10
East Ayrshire	81,804	4.38	0.00	4.38
East Dunbartonshire	68,302	7.47	2.64	10.12
East Lothian	60,517	8.56	3.80	12.36
East Renfrewshire	57,889	9.70	2.85	12.55
Edinburgh	257,796	5.18	1.51	6.69
Falkirk	122,537	3.91	1.75	5.66
Fife	260,837	3.97	0.95	4.93
Glasgow	360,576	3.24	1.40	4.63
Highland	142,559	3.53	0.19	3.72
Inverclyde	49,231	3.50	0.00	3.50
Midlothian	55,650	3.87	0.00	3.87
Moray	63,708	9.60	4.49	14.09
North Ayrshire	82,171	3.30	9.06	12.36
North Lanarkshire	208,706	6.04	0.48	6.52
Orkney Islands	14,590	34.00	5.78	39.78
Perth & Kinross	98,172	10.38	7.99	18.37
Renfrewshire	106,956	5.96	2.17	8.13
Scottish Borders	69,919	8.52	0.00	8.52
Shetland Islands	12,886	22.96	0.00	22.96
South Ayrshire	77,100	4.12	1.10	5.22
South Lanarkshire	172,512	2.86	2.57	5.43
Stirling	83,959	5.12	1.41	6.53
West Dunbartonshire	58,375	6.74	0.00	6.74
West Lothian	99,696	5.12	1.69	6.81
Western Isles	21,962	5.97	0.00	5.97
<b>Total</b>	<b>3,345,458</b>	<b>5.94</b>	<b>2.03</b>	<b>7.97</b>

# Waste Recovery

## Local authority recycling

During 2002/2003, a total of 198,839 tonnes of waste was collected for recycling by, or on behalf of, Scottish local authorities. A very small percentage (0.21%) of waste collected for recycling had to be sent for disposal either due to lack of a market for the recyclate or to contamination making the waste unfit for recycling.

A total of 123,545 tonnes of material was sent for recycling outside the local authority within which it was collected and 75,297 tonnes was recycled within the authority.

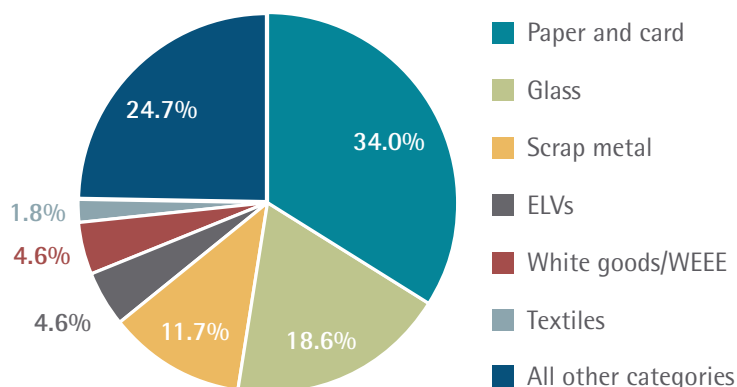
The collection of recyclables was mainly carried out through bring (drop-off) collection schemes; this includes the 161 civic amenity waste sites reported by local authorities as operating across Scotland.

The recycling figures only relate to waste collected for recycling by, or on behalf of, Scottish local authorities. This covers waste collected by the local authority itself and organisations in the private and voluntary sector that have a contract agreement with the local authority to collect recyclables.

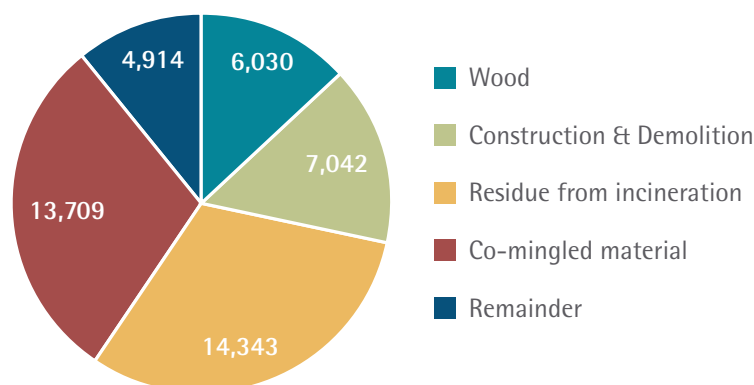
Figure 2a shows the percentage breakdown of Scottish local authority recycling by material in 2002/2003. The range of materials recycled by local authorities is increasing. In 2002/2003, just over 46,000 tonnes of 'other' materials, materials not specifically listed by name in the LAWAS 2002/2003, was recycled. Figure 2b gives a breakdown of this total. The quantities of the materials recycled by, or on behalf of, Scottish local authorities and the councils' recycling rates expressed as a percentage of total waste collected, are detailed in Table 9.

Figure 2 – Scottish local authority recycling 2002/2003

### (a) By material recycled (percentage by weight)



### (b) Breakdown of 'other' materials recycled (tonnes)



## Waste Recovery

Table 9 – Breakdown by material of waste collected for recycling by, or on behalf of, Scottish local authorities 2002/2003

Local authority	Tonnes													% Recycled	
	Glass	Paper and card	Steel cans	Aluminium cans	Mixed cans	Plastic	Textiles	Oils	ELVs*	Scrap Metal	White goods/WEEE	Batteries	Other Materials†		Total
Aberdeen	2,103	5,051	0	0	0	0	47	15	419	590	142	43	6	8,415	5.79
Aberdeenshire	2,723	2,690	0	0	97	37	133	49	337	932	0	99	0	7,096	4.74
Angus	1,228	2,559	0	0	0	54	107	19	0	2,255	135	17	2,696	9,070	12.32
Argyll & Bute	1,459	2,734	45	11	0	24	136	57	1,518	1,267	103	34	19	7,407	11.23
Clackmannanshire	545	922	0	1	53	0	16	10	240	137	69	15	144	2,152	6.25
Dumfries & Galloway	999	788	0	14	0	10	25	79	258	818	100	0	24	3,115	3.64
Dundee	1,969	2,532	0	10	0	0	112	1	0	3,456	0	9	10,310	18,399	17.99
East Ayrshire	829	1,261	0	0	39	0	108	26	519	360	408	18	12	3,579	4.38
East Dunbartonshire	1,612	2,311	0	1	0	0	66	1	0	0	179	1	933	5,104	7.47
East Lothian	684	1,932	0	0	35	0	74	9	783	553	216	16	877	5,179	8.56
East Renfrewshire	506	2,256	0	4	0	8	74	5	39	640	0	21	2,060	5,613	9.70
Edinburgh	440	7,821	120	21	0	54	354	17	1,226	895	1,263	53	1,089	13,353	5.18
Falkirk	766	2,513	0	0	32	0	63	4	595	0	508	1	308	4,790	3.91
Fife	2,423	2,167	6	7	0	24	242	67	83	1,801	399	18	3,120	10,359	3.97
Glasgow	3,728	4,755	151	128	0	39	152	24	748	757	1,142	46	4	11,674	3.24
Highland	2,594	607	0	16	6	0	76	47	1,120	95	429	36	11	5,036	3.53
Inverclyde	234	932	0	8	12	24	56	0	38	417	0	0	0	1,722	3.50
Midlothian	458	743	0	0	19	0	57	11	0	684	137	42	4	2,154	3.87
Moray	1,194	1,667	7	0	22	0	65	18	0	585	998	22	1,537	6,115	9.60
North Ayrshire	571	953	0	0	0	0	138	16	85	134	251	0	562	2,710	3.30
North Lanarkshire	1,009	3,125	30	6	13	0	859	109	0	990	488	60	5,909	12,598	6.04
Orkney Islands	344	30	9	0	0	0	0	66	0	189	179	9	4,135	4,961	34.00
Perth & Kinross	1,375	2,832	0	16	0	14	74	10	564	966	212	47	4,080	10,190	10.38
Renfrewshire	1,014	540	0	0	0	0	41	11	0	829	271	29	3,637	6,372	5.96
Scottish Borders	1,502	3,599	0	0	29	0	156	16	0	441	173	30	14	5,960	8.52
Shetland Islands	453	0	0	4	0	0	0	0	0	319	0	3	2,180	2,959	22.96
South Ayrshire	763	1,468	0	0	12	0	0	42	162	630	95	3	0	3,175	4.12
South Lanarkshire	876	1,309	0	0	18	0	218	58	0	1,398	0	7	1,049	4,932	2.86
Stirling	1,519	1,876	0	0	55	1	47	5	0	287	398	30	83	4,301	5.12
West Dunbartonshire	503	2,252	7	3	0	30	18	0	229	0	282	0	610	3,934	6.74
West Lothian	439	3,351	0	0	29	49	68	9	0	0	516	18	625	5,104	5.12
Western Isles	86	84	0	0	0	0	0	80	207	843	11	0	0	1,311	5.97
<b>Total</b>	<b>36,950</b>	<b>67,660</b>	<b>376</b>	<b>249</b>	<b>471</b>	<b>367</b>	<b>3,583</b>	<b>880</b>	<b>9,169</b>	<b>23,267</b>	<b>9,102</b>	<b>726</b>	<b>46,038</b>	<b>198,839</b>	<b>5.94</b>

\* SEPA believes there may be underreporting in this category. Future LAWAS surveys will identify, more clearly, the need to report these figures

† Other materials include: co-mingled material, construction and demolition waste, residue from incineration and wood

## Waste Recovery

### Local authority recycling initiatives

Since the establishment of the National Waste Strategy for Scotland in 1999, local authorities have increased the number of recycling activities. In 2002/2003, all local authorities had a bring (drop off) recycling collection scheme operating in their area. Twenty-seven local authorities (84% of the total) reported that they had a kerbside recycling collection scheme for household waste, and 24 (75% of the total) reported that they had a kerbside recycling collection scheme for commercial/industrial waste. A total of 988,281 households were offered a separate kerbside recycling collection, this is equivalent to 42% of all households in Scotland. Table 10 gives a breakdown of this by local authority. Only one local authority did not have a kerbside recycling collection scheme of any type. Thirteen (41% of the total) reported that they sent some materials to a material reclamation facility (MRF) for sorting and recycling.

**Table 10 – Scottish households offered a kerbside recycling collection 2002/2003**

Local authority	Number of households offered kerbside recycling collections	Percentage of total households
Aberdeen	84,540	80
Aberdeenshire	0	0
Angus	1,095	3
Argyll & Bute	8,000	18
Clackmannanshire	12,000	54
Dumfries & Galloway	4,000	6
Dundee	49,471	67
East Ayrshire	3,551	7
East Dunbartonshire	40,789	95
East Lothian	24,000	59
East Renfrewshire	5,400	15
Edinburgh	103,245	47
Falkirk	52,000	83
Fife	39,108	24
Glasgow	48,000	17
Highland	200	<1
Inverclyde	39,468	100
Midlothian	0	0
Moray	0	0
North Ayrshire	64,146*	100
North Lanarkshire	85,000	61
Orkney Islands	8,000	85
Perth & Kinross	35,009	55
Renfrewshire	8,500	11
Scottish Borders	31,200	60
Shetland Islands	0	0
South Ayrshire	2,965	6
South Lanarkshire	132,971	100
Stirling	6,223	17
West Dunbartonshire	32,000	74
West Lothian	67,400	99
Western Isles	0	0
<b>Total</b>	<b>988,281</b>	<b>42</b>

\* All households were offered a kerbside recycling collection for fridges

## Waste Recovery

The success of a recycling scheme is often dependent on the resources available and on the response of the public to its promotion. Some local authorities have an arrangement with voluntary organisations for the collection of recyclable materials or have a contract with a private organisation for the collection and sometimes processing of the materials. Issues such as transport costs and market demand can influence local authority choices on recycling, making it difficult to compare the activities carried out by the individual local authorities. For the purpose of this Data Digest, a list of activities available in each local authority is reported without consideration of the factors influencing the choice of one method over another. Table 11 details the recycling initiatives available in each Scottish local authority in 2002/2003.

**Table 11 – Local authority recycling initiatives in Scotland 2002/2003**

Local authority	Kerbside recycling collection		Bring (drop-off) recycling	Materials sent to MRF	Other recycling
	Household waste	Commercial/ industrial waste			
Aberdeen	Yes	Yes	Yes	No	No
Aberdeenshire	No	Yes	Yes	No	Yes
Angus	Yes	Yes	Yes	Yes	No
Argyll & Bute	Yes	Yes	Yes	No	No
Clackmannanshire	Yes	No	Yes	No	No
Dumfries & Galloway	Yes	No	Yes	No	No
Dundee	Yes	Yes	Yes	Yes	Yes
East Ayrshire	Yes	Yes	Yes	Yes	No
East Dunbartonshire	Yes	Yes	Yes	Yes	No
East Lothian	Yes	No	Yes	No	No
East Renfrewshire	Yes	Yes	Yes	No	Yes
Edinburgh	Yes	Yes	Yes	Yes	No
Falkirk	Yes	Yes	Yes	No	No
Fife	Yes	Yes	Yes	No	No
Glasgow	Yes	Yes	Yes	Yes	No
Highland	Yes	Yes	Yes	No	No
Inverclyde	Yes	No	Yes	No	No
Midlothian	No	No	Yes	No	No
Moray	No	Yes	Yes	No	No
North Ayrshire	Yes	No	Yes	No	Yes
North Lanarkshire	Yes	Yes	Yes	Yes	No
Orkney Islands	Yes	Yes	Yes	No	Yes
Perth & Kinross	Yes	Yes	Yes	Yes	Yes
Renfrewshire	Yes	No	Yes	Yes	No
Scottish Borders	Yes	Yes	Yes	Yes	No
Shetland Islands	No	Yes	Yes	Yes	No
South Ayrshire	Yes	Yes	Yes	No	No
South Lanarkshire	Yes	No	Yes	Yes	No
Stirling	Yes	Yes	Yes	No	No
West Dunbartonshire	Yes	Yes	Yes	No	No
West Lothian	Yes	Yes	Yes	Yes	No
Western Isles	No	Yes	Yes	No	Yes
<b>Total yes</b>	<b>27</b>	<b>24</b>	<b>32</b>	<b>13</b>	<b>7</b>

## Waste Recovery

### Local authority composting

In 2002/2003, a total of 67,756 tonnes of waste collected by, or on behalf of, Scottish local authorities was composted. The great majority of the waste sent for composting was green waste (52,518 tonnes) and the remainder was mixed organic waste (15,236 tonnes). Most of the waste sent for composting originated from local authority parks and gardens, civic amenity sites and commercial premises. Table 12 details the tonnages of the waste collected for composting by, or on behalf of, local authorities according to its source and the councils' composting rates expressed as a percentage of total waste collected. Some local authorities sent waste for composting outside their area. A total of 9,673 tonnes (14.3% of the total waste composted) was composted outside the local authority in which it was collected.

Composting can involve a weight loss. The tonnages in this section refer to the weight of the waste that was composted as opposed to the weight of material resulting from the composting process. The composting process itself can reduce the weight of the material. Any waste that was disposed of instead of composted has been deducted from the figures.

**Table 12 – Waste collected for composting by, or on behalf of, Scottish local authorities 2002/2003**

Local authority	Tonnes			% Composted
	Household	Commercial	Total	
Aberdeen	541	1,469	2,010	1.38
Aberdeenshire*	7,094	0	7,094	4.74
Angus	3,373	843	4,216	5.72
Argyll & Bute	12	2	14	0.02
Clackmannanshire	150	0	150	0.44
Dumfries & Galloway	0	0	0	0.00
Dundee	1,910	2,301	4,211	4.12
East Ayrshire	0	0	0	0.00
East Dunbartonshire	1,320	486	1,806	2.64
East Lothian	2,298	0	2,298	3.80
East Renfrewshire	1,650	0	1,650	2.85
Edinburgh	2,095	1,807	3,902	1.51
Falkirk	1,500	643	2,143	1.75
Fife	2,489	0	2,489	0.95
Glasgow	5,034	0	5,034	1.40
Highland	265	0	265	0.19
Inverclyde	0	0	0	0.00
Midlothian	0	0	0	0.00
Moray	1,116	1,745	2,861	4.49
North Ayrshire	7,337	111	7,447	9.06
North Lanarkshire	1,001	0	1,001	0.48
Orkney Islands	791	52	843	5.78
Perth & Kinross	6,240	1,607	7,847	7.99
Renfrewshire	2,323	0	2,323	2.17
Scottish Borders	0	0	0	0.00
Shetland Islands	0	0	0	0.00
South Ayrshire	846	0	846	1.10
South Lanarkshire	4,439	0	4,439	2.57
Stirling	887	296	1,182	1.41
West Dunbartonshire	0	0	0	0.00
West Lothian	1,683	0	1,683	1.69
Western Isles	0	0	0	0.00
<b>Total</b>	<b>56,395</b>	<b>11,361</b>	<b>67,756</b>	<b>2.03</b>

\* Aberdeenshire Council composted 5,301 tonnes of waste that was used for landfill daily cover. This is not regarded as recycling and has not been included in the total above

## Waste Recovery

### Local authority composting initiatives

In 2002/2003, there were 17 local authorities (53% of the total) operating centralised composting schemes. Twenty two (69%) of the local authorities had a bring (drop-off) recycling collection scheme operating in their area and 12 (38%) had a kerbside collection scheme for waste for composting.

Table 13 details the composting initiatives in each Scottish local authority in 2002/2003.

**Table 13 – Local authority composting initiatives in Scotland 2002/2003**

Local authority	Centralised composting operated	Home composting containers distributed to households	Kerbside collection* of household waste for composting	Bring (drop-off) composting collection
Aberdeen	Yes	Yes	Yes	Yes
Aberdeenshire	Yes	Yes	No	Yes
Angus	Yes	Yes	No	Yes
Argyll & Bute	No	Yes	No	Yes
Clackmannanshire	No	Yes	No	Yes
Dumfries & Galloway	No	Yes	No	No
Dundee	Yes	No	Yes	Yes
East Ayrshire	No	Yes	No	No
East Dunbartonshire	No	Yes	No	Yes
East Lothian	Yes	Yes	Yes	Yes
East Renfrewshire	No	Yes	No	Yes
Edinburgh	No	Yes	No	Yes
Falkirk	Yes	Yes	No	Yes
Fife	Yes	No	Yes	Yes
Glasgow	Yes	No	Yes	Yes
Highland	Yes	Yes	No	Yes
Inverclyde	No	Yes	No	No
Midlothian	No	No	No	No
Moray	Yes	No	No	Yes
North Ayrshire	Yes	No	Yes	Yes
North Lanarkshire	Yes	Yes	Yes	No
Orkney Islands	Yes	No	Yes	Yes
Perth & Kinross	Yes	Yes	Yes	Yes
Renfrewshire	Yes	No	Yes	Yes
Scottish Borders	No	No	No	No
Shetland Islands	No	Yes	No	No
South Ayrshire	No	Yes	No	Yes
South Lanarkshire	Yes	No	Yes	No
Stirling	Yes	Yes	No	Yes
West Dunbartonshire	No	Yes	No	No
West Lothian	No	No	Yes	Yes
Western Isles	No	No	No	No
<b>Total yes</b>	<b>17</b>	<b>20</b>	<b>12</b>	<b>22</b>

\* No kerbside collections of commercial waste for composting were operated by local authorities



# Waste Recovery

## Home Composting

Twenty local authorities (63%) reported that they had distributed containers for home composting to the public during 2002/2003. A total of 19,102 composters, six wormeries and three digesters, were distributed. Most of these were provided either free of charge or on a subsidised basis. Local authorities have now distributed a total of 79,000 composters since council reorganisation in 1996.

Home composting is an important activity for waste prevention, but it is difficult to quantify the tonnage of waste diverted from the waste stream. Local authorities were asked if they had carried out a survey to estimate the quantity of waste composted by residents at home. Five authorities reported data; however, different survey methods were used to estimate the quantities composted, and therefore diverted, making the collation of results difficult. SEPA is developing a standard methodology for calculating home composting as part of the monitoring of the National Waste Plan.

## Non-Municipal Waste Recovery

### Packaging and packaging waste

The Producer Responsibility Obligations (Packaging Waste) Regulations ('the Regulations') were introduced in 1997 as part of the UK implementation of EC Directive 94/62/EC on Packaging and Packaging Waste. One of the key objectives of the Directive is to reduce the impact of packaging on the environment by requiring that specific proportions of packaging waste are to be recovered and recycled. The Directive was amended in 2002 and the following Common Position reached:

By 31 December 2008 all Member States should achieve:

- a minimum of 60% recovery;
- recycling of between 55% and 80%; and
- differentiated material-specific recycling targets of: paper 60%; glass 60%; metals 50%; plastic 22.5% and wood 15%.

The UK has implemented the recovery and recycling element of the Directive through the Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (as amended). These Regulations place recovery and recycling obligations on most companies who have a turnover exceeding £2 million and who handle more than 50 tonnes of packaging and packaging materials per annum. Businesses who meet both thresholds are required to:

- register annually with SEPA (or the appropriate agency) and submit data on packaging handled by the company in the previous year. Data should also include a statement of the company's recovery and recycling obligations as calculated using formulae given in the regulations. An operational plan should be submitted if the company turnover is greater than £5 million;
- take reasonable steps to meet specific recovery and recycling obligations;
- submit a Certificate of Compliance and support this with evidence of compliance (i.e. evidence that the appropriate recovery and recycling has been carried out); and
- meet certain 'consumer information obligations' if the main activity of the company is 'seller'.

Alternatively they may join, and supply their data to, a compliance scheme that will meet the company obligations on their behalf.

The Regulations are enforced in Scotland by SEPA, in England and Wales by the EA and in Northern Ireland by the NIEHS. In 1999 and 2000, Wastepak was the only compliance scheme registered with SEPA, although it should be noted that less than 10% of the scheme members were Scottish companies. In 2001, SEPA also registered the Ecopak, Integra, Recyclepak and Valpak Scotland compliance schemes. In 2002, all five compliance schemes were still registered with SEPA. Table 14 gives a breakdown of organisations registered with SEPA.

## Waste Recovery

Table 14 – Registrations with SEPA 2002

Organisation	Number of registrations
Companies registered with SEPA	104
Members of SEPA registered schemes	750
<b>Total registrations</b>	<b>854</b>

All data on packaging handled that is submitted by producers and schemes is aggregated to give total business recovery and recycling obligations for the UK. It is intended that the business recovery and recycling obligations are sufficient to enable the UK to meet the overall Directive target, i.e. the UK must establish the amount of recovery that needs to take place to meet Directive targets and ensure that the aggregate recovery and recycling obligations placed on producers and schemes is greater than or equal to that figure. Although the Directive targets did not take effect until June 2001, the relatively poor packaging recovery that has taken place in the UK prior to the Regulations coming into force resulted in the UK introducing interim targets during 1998, 1999 and 2000 to provide for a smooth build up to Directive targets.

Reprocessors or exporters of UK packaging waste carry out recovery and recycling of packaging waste. Most of these companies are accredited and monitored by SEPA or the EA. Accredited reprocessors and exporters generate approved evidence of recovery and recycling in the form of Packaging Waste Recovery Notes or Packaging Waste Export Recovery Notes (PRNs or PERNs). These are generated in respect of each tonne of packaging waste that is recovered or recycled. Obligated companies (producers) and compliance schemes can meet their recovery and recycling obligations by buying or obtaining the correct amount and material type of recovery notes.

The data that are held by SEPA consists of:

- Packaging handled by companies registered with SEPA together with respective recovery and recycling obligations.
- Packaging handled by SEPA-registered compliance schemes together with respective recovery and recycling obligations.
- Packaging waste reprocessed, PRNs/PERNs issued and PRN/PERN revenue received by SEPA accredited reprocessors and exporters.

The nature of the regulatory regime means that it is not possible to report separately on Scottish data. Depending on the extent of a company's operations, packaging handled in Scotland, England and Wales is often the subject of a single data report that cannot be disaggregated into each nation. Similarly, data on packaging waste reprocessed in Scotland may include packaging waste that has arisen in England and Wales. Much of the data given below relates to UK figures. Scottish figures are also provided with respect to packaging waste reprocessed in Scotland.

Table 15 gives the UK's recovery and recycling targets for 2002 and Table 16 details the recovery and recycling actually achieved in the UK in 2002. Table 17 shows the amounts of packaging waste reprocessed by SEPA-accredited companies in 2002.

## Waste Recovery

**Table 15 – UK recovery and recycling targets 2002**

Material	Tonnes	
	Recovery	Recycling
Paper	2,198,135	707,874
Glass	1,292,492	416,226
Aluminium	75,520	24,320
Steel	407,100	131,100
Plastic	1,026,600	330,600
Wood*	836,254	269,302
Other*	14,750	4,740
<b>Total</b>	<b>5,850,851</b>	<b>1,610,120</b>

\* There is no material-specific recycling target for wood and other packaging materials hence these are not included in the total recycling target

**Table 16 – UK recovery and recycling achieved 2002**

Material	Tonnes
Paper*	2,209,000
Glass†	747,415
Aluminium	31,279
Steel	290,462
Plastic‡	330,608
Wood§	767,230
<b>Total recycling</b>	<b>4,375,994</b>
Energy from waste	584,340
<b>Total recovery</b>	<b>4,960,334</b>
<b>Specific waste stream</b>	<b>9,916,696</b>
<b>Recovery %</b>	<b>50.02%</b>
<b>Recycling %</b>	<b>44.13%</b>

\* Includes 1,158 tonnes of composting

† Includes 35,241 tonnes alternative evidence-glass recycled that fell out with the PRN system

‡ Initially reported figure in 2002 has been reduced by 21,964 tonnes (on exporting) and by 42,636 tonnes (on domestic recycling)

§ Provisional figures adjusted after a fact-finding mission looking at inappropriate issue of PRNs in 2002. Figure reduced by 76,400 tonnes

## Waste Recovery

Table 17 – Packaging waste reprocessed by SEPA-accredited reprocessors and exporters in Scotland 2002

Material	Tonnes		Total PRN/PERNs issued
	Accepted	Reprocessed /exported	
<b>Reprocessed</b>			
Paper	238,723	238,139	236,260
Plastic	6,783	6,649	6,172
Glass	99,615	99,562	97,246
Energy from waste - MSW	17,455	17,452	13,964
Wood	89,645	89,645	89,163
Wood composting	528	527	527
Paper composting	437	437	354
<b>Total reprocessed</b>	<b>453,186</b>	<b>452,412</b>	<b>443,686</b>
<b>Exported</b>			
Paper	60,490	60,490	32,663
Plastic	9,015	9,015	6,495
Steel	12,350	12,350	10,907
Aluminium	135	135	3
<b>Total exported</b>	<b>81,990</b>	<b>81,990</b>	<b>50,068</b>
<b>Total reprocessed/exported</b>	<b>535,175</b>	<b>534,402</b>	<b>493,754</b>

### Hazardous and special wastes

In 2002/2003, 30 waste management sites were licensed to treat special waste in Scotland. In addition, two sites permitted under the IPC Regulations treated special waste. A total of 198,000 tonnes of special waste was consigned to treatment plants in Scotland in 2002. A breakdown of the waste by EWC short code and waste strategy area (WSA) is given in Table 18.

## Waste Recovery

Table 18 – Special waste consigned to treatment plants in Scotland 2002

Waste strategy area*	Waste type by EWC code† (Tonnes)										
	01	02	03	04	05	06	07	08	09	10	11
1	40,093	2	6	0	99	2	0	20	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	56,169	7	32	0	1,199	905	71	143	59	47	7
5	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0
8	0	48	0	0	26	49	11,773	207	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	57	0	591	42	2,526	555	11	268	111
11	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>96,262</b>	<b>57</b>	<b>96</b>	<b>0</b>	<b>1,915</b>	<b>998</b>	<b>14,370</b>	<b>925</b>	<b>70</b>	<b>315</b>	<b>118</b>

Waste strategy area*	Waste type by EWC code† (Tonnes)										Total
	12	13	14	15	16	17	18	19	20		
1	0	2,444	2	1	173	4	38	7	22	42,913	
2	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	0	0	0	0	0	
4	53	18,511	313	2,350	20,075	225	129	38	1,001	101,335	
5	0	6,598	0	0	0	0	33	0	0	6,631	
6	0	1	0	0	0	0	0	0	0	1	
7	0	0	0	0	0	0	0	0	0	0	
8	0	0	52	0	45	1	0	0	265	12,465	
9	0	0	0	0	0	0	0	0	0	0	
10	393	27,851	115	6	1,092	12	313	102	653	34,700	
11	0	0	0	0	0	0	0	0	0	0	
Unknown	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	<b>446</b>	<b>55,405</b>	<b>482</b>	<b>2,358</b>	<b>21,385</b>	<b>242</b>	<b>514</b>	<b>147</b>	<b>1,941</b>	<b>198,045</b>	

\* A map showing WSAs and their constituent local authorities is presented in Appendix V

† EWC codes:

01 Mining and minerals

02 Agricultural and food production

03 Wood and paper production

04 Leather and textile production

05 Petrol, gas and coal refining/  
treatment

06 Inorganic chemical processes

07 Organic chemical processes

08 MFSU paints, varnish

09 Photographic industry

10 Thermal process waste (inorganic)

11 Metal treatment and coating processes

12 Shaping/treatment of metals and plastics

13 Oil and oil/water mixtures

14 Solvents

15 Packaging, cloths

16 Not otherwise specified

17 Construction and demolition  
waste and asbestos

18 Healthcare

19 Waste/water treatment and water industry

20 Municipal and similar commercial  
wastes

# Waste Recovery

## Imports and exports of hazardous waste

Council Regulation (EEC) No. 259/93, the Waste Shipments Regulation, governs the supervision and control of shipments of waste within the EU, imports to and exports from the EU and transit shipments through the EU<sup>2</sup>. SEPA is the competent authority for transfrontier shipments of waste into and out of Scotland.

Different requirements apply in relation to the destination of the waste shipment and whether the waste is destined for recovery or disposal. The degree of hazard associated with the waste is also significant with respect to shipments destined for recovery. In general terms, red and amber list wastes are considered hazardous and green list wastes are considered non-hazardous. Annexes III and IV of Council Regulation (EEC) No. 259/93 provide details of substances designated as either amber or red list wastes.

The data presented in this section relate to transfrontier shipment of amber list wastes imported into and exported from Scotland for recovery. From transfrontier shipment movements notified to SEPA in 2002, 8,597 tonnes of amber list wastes was imported into Scotland for recovery and 1,597 tonnes was exported from Scotland for recovery. No red list waste transfrontier shipment movements were notified to SEPA during 2002.

Breakdowns of the total quantity of amber list wastes imported into Scotland in 2002 by waste type and recovery code are presented in Tables 19 and 20, respectively. The corresponding data for amber list wastes exported from Scotland in 2002 are presented in Tables 21 and 22.

**Table 19 – Amber list wastes imported into Scotland for recovery 2002**

Waste type	Tonnes	%
Halogenated solvents	45	0.5
Non-halogenated solvents	8,452	98.3
Toluene/Kerosene	60	0.7
Sulphuric acid	40	0.5
Total	8,597	100.0

**Table 20 – Recovery codes for amber list wastes imported into Scotland 2002**

Recovery code*	Tonnes	%
R2 <sup>†</sup>	4,361	50.7
R13 <sup>‡</sup>	40	0.8
R13 <sup>†</sup> , R2 <sup>†</sup> , R1 <sup>§</sup>	4,196	48.5
Total	8,597	100.0

\* Recovery codes from Annex II.B to Council Directive 75/442/EEC

† R2 = solvent reclamation/regeneration

‡ R13 = accumulation of material intended for any operation numbered R1 to R12

§ R1 = used principally as a fuel or other means to generate energy

**Table 21 – Amber list wastes exported from Scotland for recovery 2002**

Recovery type	Tonnes	%
CFC equipment	1,586	99.3
Vented cathode ray tubes	11	0.7
Total	1,597	100.0

<sup>2</sup>The provisions of Council Regulation (EEC) No. 259/93 requiring transposition into national legislation are implemented by the Transfrontier Shipment of Waste Regulations 1994 (S. I. No. 1137) in the UK

## Waste Recovery

Table 22 – Recovery codes for amber list wastes exported from Scotland 2002

Recovery code*	Tonnes	%
R4 <sup>†</sup>	1,475	92.4
R5 <sup>‡</sup> , R12 <sup>§</sup>	11	0.7
R12 <sup>§</sup> , R3 <sup>¶</sup> , R4 <sup>†</sup>	111	6.9
<b>Total</b>	<b>1,597</b>	<b>100.0</b>

\* Recovery codes from Annex II.B to Council Directive 75/442/EEC

† R4 = recycling/reclamation of metals and metal compounds

‡ R5 = recycling/reclamation of other inorganic materials

§ R12 = exchange of wastes for submission to any of the operations numbered R1 to R11

¶ R3 = recycling/reclamation of organic substances which are not used as solvents

### Waste batteries

The phase 1 (baseline review) report for the priority waste stream project on waste batteries will be finalised in the autumn of 2004 and will report on post-consumer batteries, waste automotive batteries and waste industrial batteries. By quantifying all of the different management methods for waste batteries, it is estimated that of the 11,124 tonnes estimated to have arisen in Scotland in 2002, 8,377 tonnes (75%) was recovered. The rates of recovery were much greater for waste automotive and industrial batteries than for post-consumer batteries.

#### Post-consumer batteries:

- The collection of post-consumer batteries in Scotland is not well established and this is reflected in the fact that only a small amount (0.3%) appears to have been recovered through take-back initiatives. The best established take-back initiatives are for mobile phone batteries and silver oxide batteries.

#### Waste automotive and industrial batteries:

- Automotive batteries are lead-acid batteries and industrial batteries mainly comprise lead-acid and nickel cadmium (NiCd) batteries. An established network exists for the collection of waste automotive and industrial batteries arising in Scotland with approximately 90% collected for recovery.
- Based on estimates of the quantities of waste automotive and industrial batteries arising in Scotland in 2002 and a recovery rate of 90%, it is estimated that 5,431 tonnes of waste automotive batteries and 2,941 tonnes of waste industrial batteries arising in Scotland in 2002 was recycled.
- The majority of waste lead-acid batteries arising in Scotland are transported to facilities located in England for recovery.

No waste battery reprocessing facilities were located in Scotland in 2002. However, in 2003 it was announced that AEA Technology is to build a £2 million facility in Sutherland in the north of Scotland for the recycling of lithium-ion (Li-ion) batteries.

### Waste oils

The Phase 1 (baseline review) study for the priority waste stream project on waste oils will be finalised in the autumn of 2004 and will report separately on used cooking oils and on waste mineral oils and oily wastes.

#### Used cooking oils:

- It is considered likely that very little, if any, of the 1,990 tonnes of used cooking oils estimated to have arisen in households in Scotland in 2002 was collected for recovery.
- An established network exists in Scotland for the collection of used cooking oils from commercial and industrial sources. It is estimated that the majority of used cooking oils arising from commercial and industrial sectors in Scotland in 2002 was collected for recovery.
- The main end market for commercial and industrial used cooking oils arising in Scotland in 2002 was for use in animal feed. However, this end market will largely disappear after 31 October 2004 with the implementation of the Animal By-Products (Scotland) Regulations 2003.

#### Waste mineral oils and oily wastes:

- By quantifying all of the different management methods for waste mineral oils and oily wastes consigned as special waste to waste management facilities in Scotland in 2003, it is estimated that between 122,262 and 155,428 tonnes was consigned for treatment or recovery.
- The main end market for waste mineral oils and oily wastes consigned to facilities in Scotland in 2003 for treatment or recovery was the production of recovered fuel oil (RFO).

# Waste Disposal

Local Authority Waste Disposals

Local Authority Energy Recovery

Incineration and Thermal Treatment Plants

Waste Management Licence Facility Disposals



## CHP04



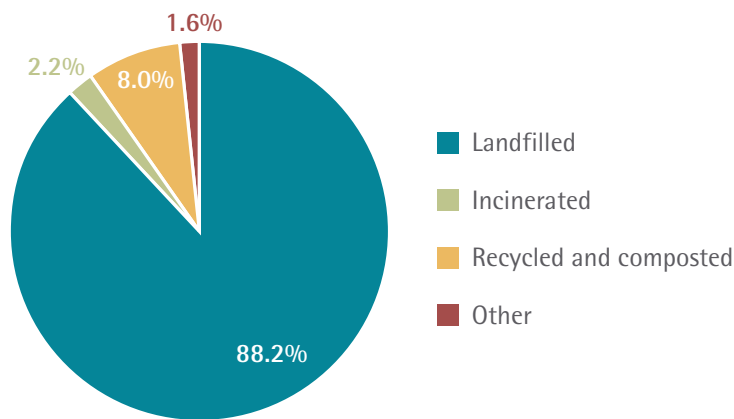


# Waste Disposal

## Local Authority Waste Disposals

In 2002/2003, 2.95 million tonnes (88%) of all waste collected by, or on behalf of, Scottish local authorities was disposed of to landfill. Based on SEPA's estimate that 60% of landfilled municipal waste is biodegradable, this equates to 1.77 million tonnes of biodegradable waste. However, the percentage of biodegradable municipal waste which is being used to calculate baseline figures for the landfill allowance scheme is 63%. If this is used then the amount of biodegradable waste landfilled was 1.86 million tonnes. The interim target established by the Scottish Executive in the National Waste Plan 2003 is that the quantity of biodegradable municipal waste disposed of to landfill in 2006 should reduce below 1.5 million tonnes. Figure 3 shows the fate of waste collected by Scottish local authorities in 2002/2003. Consideration of the trends in waste disposal is contained in the Conclusions chapter of the Data Digest.

**Figure 3 – Recovery and disposal of waste collected by, of on behalf of, Scottish local authorities 2002/2003 (percentage by weight)**



In the LAWAS 2002/2003, local authorities were asked to identify the disposal methods used for waste collected, the quantities disposed of, and whether the waste was disposed of within their boundaries or not. Local authorities disposed of a total of 3.08 million tonnes of waste. Almost 45% (1.36 million tonnes) of the waste landfilled was disposed of outside the local authority in which it was collected.

Table 23 gives a breakdown of disposal methods and quantities for each local authority.

## Waste Disposal

Table 23 – Total controlled waste disposed of by, or on behalf of, Scottish local authorities 2002/2003

Local authority	Total Waste Disposed	Landfill (with methane recovery)		Landfill (without methane recovery)		Incineration with energy recovery		Other treatment methods	
		Within	Outwith	Within	Outwith	Within	Outwith	Within	Outwith
Aberdeen	135,004	0	0	0	135,004	0	0	0	0
Aberdeenshire	135,435	130,083	0	0	5,078	0	0	274	0
Angus	60,365	0	0	37,171	0	0	19,731	0	3,463
Argyll and Bute	58,554	0	17,992	40,562	0	0	0	0	0
Clackmannanshire	32,121	0	0	32,121	0	0	0	0	0
Dumfries and Galloway	82,538	0	0	82,538	0	0	0	0	0
Dundee	79,681	0	0	0	37,634	42,047	0	0	0
East Ayrshire	78,225	78,225	0	0	0	0	0	0	0
East Dunbartonshire	61,392	0	61,392	0	0	0	0	0	0
East Lothian	53,040	52,839	201	0	0	0	0	0	0
East Renfrewshire	50,626	0	44,644	0	5,982	0	0	0	0
Edinburgh	240,541	0	0	0	240,541	0	0	0	0
Falkirk	115,604	99,073	0	16,531	0	0	0	0	0
Fife	247,989	0	0	247,989	0	0	0	0	0
Glasgow	343,868	15,842	0	0	328,026	0	0	0	0
Highland	137,258	0	0	137,258	0	0	0	0	0
Inverclyde	47,509	0	47,509	0	0	0	0	0	0
Midlothian	53,496	0	0	53,495	0	0	0	0	0
Moray	54,732	0	0	54,732	0	0	0	0	0
North Ayrshire	72,014	0	0	72,014	0	0	0	0	0
North Lanarkshire	195,107	195,107	0	0	0	0	0	0	0
Orkney Islands	8,786	0	0	1,756	1,682	0	5,348	0	0
Perth and Kinross	80,135	0	0	75,112	1,788	0	1,245	1,990	0
Renfrewshire	98,261	0	88,758	5,986	3,518	0	0	0	0
Scottish Borders	63,959	0	0	43,490	20,469	0	0	0	0
Shetland Islands	9,927	0	171	3,795	0	5,962	0	0	0
South Ayrshire	73,079	0	58,718	14,361	0	0	0	0	0
South Lanarkshire	163,140	0	53,793	0	109,347	0	0	0	0
Stirling	78,476	0	0	78,476	0	0	0	0	0
West Dunbartonshire	54,441	54,441	0	0	0	0	0	0	0
West Lothian	92,909	0	92,909	0	0	0	0	0	0
Western Isles	20,651	0	0	20,651	0	0	0	0	0
<b>Total</b>	<b>3,078,864</b>	<b>625,612</b>	<b>466,087</b>	<b>1,018,038</b>	<b>889,069</b>	<b>48,009</b>	<b>26,324</b>	<b>2,264</b>	<b>3,463</b>

# Waste Disposal

## Local Authority Energy Recovery

There were two municipal waste incinerators recovering energy from waste operating in Scotland in 2002: one in Dundee and the other on the Shetland Islands. The Dundee facility was licensed to accept 150,000 tonnes of waste per year, including municipal waste, commercial and industrial waste, clinical waste and certain industrial combustible liquid waste. Clinical waste was limited to 15% of the total waste burned in any 12-month period and liquid wastes were limited to 5,000 tonnes in the same period. Energy in the form of electricity was produced by the plant and sold into the National Grid.

The Shetland facility was licensed to deal with a maximum of 26,000 tonnes of waste per year, including municipal waste, commercial and industrial waste, clinical waste and certain types of sewage sludge. Clinical waste was limited to 200 tonnes. Waste heat was used in a district heating scheme.

Five local authorities reported that they sent a total of 74,333 tonnes of waste for incineration with energy recovery to these facilities in 2002/2003. A breakdown of this figure is provided in Table 24.

**Table 24 – Scottish local authority waste sent for incineration with energy recovery 2002/2003**

Local authority	Tonnes sent for incineration with energy recovery	
	Within authority	Outwith authority
Angus	0	19,731
Dundee	42,047	0
Orkney Islands	0	5,348
Perth and Kinross	0	1,245
Shetland Islands	5,962	0
Total	48,009	26,324

## Incineration and Thermal Treatment Plants

Many incinerators are not subject to the Waste Management Licensing Regulations 1994 (as amended) as they are regulated either under Integrated Pollution Control (under Part 1 of the Environmental Protection Act 1990) or the Pollution Prevention and Control (Scotland) Regulations 2000.

In addition to the two municipal waste incinerators, there were a number of other operational incinerators and thermal treatment plants that dealt with commercial and industrial wastes during 2002. Many only handled waste arising on site and were designed to handle specific waste streams such as clinical waste, animal carcasses and other industrial wastes.

## Waste Disposal

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### Waste Management Licence Facility Disposals

Under the Waste Management Licensing Regulations 1994, as amended, waste management licence holders are obligated to make available information regarding the wastes handled on their site. In April 2001, SEPA introduced a standardised quarterly return form requesting information from waste management licence site operators in a nationally consistent format. This included requesting that European Waste Catalogue – Substance Aggregated (EWC–SA) codes were used when recording details of wastes handled on site. These codes have been widely accepted by the licence holders and, in 2002, more than 96% of waste was coded using them.

The total amount of controlled waste sent to Scottish landfills in 2002 was 8.22 million tonnes. This is a reduction of about 8% on the 2001 total (8.91 million tonnes). Consideration of the trends in waste disposal is contained in the Conclusions chapter of the Data Digest.

A breakdown of the total landfill tonnage, by EWC–SA code, for each waste strategy area (WSA) is detailed in Table 25. Table 26 shows the amounts of household (EWC–SA code 10.1) and construction and demolition wastes (EWC–SA code 12.1) disposed of in each WSA.

# Waste Disposal

Table 25 – Controlled waste disposed of to landfill in Scotland 2002

Waste strategy area*	Waste type by EWC-SA code (Tonnes)							
	1 Chemical compound waste	2 Chemical preparation waste	3 Chemical and physical process wastes	4 Radio-active wastes	5 Healthcare and biological wastes	6 Metallic wastes	7 Non-metallic wastes	8 Discarded equipment
Orkney and Shetland	0	12	119	0	14	297	397	0
Western Isles	0	0	0	0	18	3	38	335
Highland	0	0	0	0	20	318	1,570	280
North East	0	0	53,978	0	304	0	17,777	2,185
Tayside	0	0	1,748	0	483	312	27,566	5,053
Forth Valley	385	665	10,063	0	528	31	7,496	9,997
Fife	0	0	0	0	0	0	3	0
Lothians and Borders	0	61	7,989	0	1,598	2	47,015	8,099
Ayrshire, Dumfries and Galloway	14	4,781	3,605	0	0	416	11,415	4,079
Glasgow and Clyde Valley	49	802	58,505	0	4,621	2,995	6,013	97
Argyll and Bute	0	0	0	0	0	892	1,012	524
<b>Scotland</b>	<b>448</b>	<b>6,321</b>	<b>136,007</b>	<b>0</b>	<b>7,586</b>	<b>5,266</b>	<b>120,302</b>	<b>30,649</b>

Waste strategy area*	Waste type by EWC-SA code (Tonnes)						
	9 Animal and vegetal matter	10 Mixed ordinary wastes†	11 Common sludges	12 Mineral wastes‡	13 Solidified stabilised or vitrified wastes	Uncoded	Total
Orkney and Shetland	3,450	8,811	407	41,517	0	2,018	57,042
Western Isles	1,253	17,737	557	8,992	0	3,648	32,581
Highland	107	185,956	388	157,958	10	0	346,607
North East	13,034	425,241	0	444,876	48,565	0	1,005,960
Tayside	11,044	236,803	1,027	364,993	0	0	649,029
Forth Valley	6,072	386,186	1,146	120,522	2	0	543,093
Fife	0	269,386	0	613,225	0	0	882,614
Lothians and Borders	13,257	546,331	7,117	604,654	0	0	1,236,123
Ayrshire, Dumfries and Galloway	26,888	356,368	1,541	512,806	0	0	921,913
Glasgow and Clyde Valley	16,329	1,550,261	8,382	832,879	3	0	2,480,936
Argyll and Bute	1,373	51,494	1,713	6,900	0	0	63,908
<b>Scotland</b>	<b>92,807</b>	<b>4,034,574</b>	<b>22,278</b>	<b>3,709,322</b>	<b>48,580</b>	<b>5,666</b>	<b>8,219,806</b>

\* A map showing WSAs and their constituent local authorities is presented in Appendix V

† Includes household and similar wastes (10.1)

‡ Includes construction and demolition wastes (12.1)

## Waste Disposal

Table 26 – Household and construction and demolition waste disposed of to landfill in Scotland 2002

Waste strategy area*	Waste type (Tonnes)	
	Household and similar wastes	Construction and demolition wastes
Orkney & Shetland	8,384	13,913
Western Isles	15,948	8,903
Highland	59,585	153,618
North East	133,376	128,037
Tayside	104,546	304,397
Forth Valley	216,261	100,813
Fife	44,146	25,280
Lothians & Borders	406,270	247,054
Ayrshire, Dumfries & Galloway	272,567	402,331
Glasgow & Clyde Valley	751,656	524,478
Argyll & Bute	45,696	4,747
<b>Scotland</b>	<b>2,058,435</b>	<b>1,913,571</b>

\* A map showing WSAs and their constituent local authorities is presented in Appendix V

In 2002, a total of 105,481 tonnes of special waste was consigned to landfill sites in Scotland. A breakdown of this by physical state is given in Table 27 and by consolidated EWC short code and WSA in Table 28.

Table 27 – Special waste disposed of to landfill in Scotland 2002

Physical state	Tonnes
Liquid	6,993
Sludge	13,351
Solid	82,772
Powder	1
Mixed	2,365
<b>Total</b>	<b>105,482</b>

# Waste Disposal

Table 28 – Special waste consigned to landfill in Scotland 2002

Waste strategy area*	Waste type by EWC code† (Tonnes)										
	01	02	03	04	05	06	07	08	09	10	11
1	302	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	3,003	0	0	0	3,405	5,018	0	14	7	19	0
5	0	0	0	0	40	22	8	45	0	5	0
6	33	987	21	0	740	6,397	354	44	0	605	13
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	22	0	0	0	0
9	1	0	0	0	21	177	259	185	0	16	12
10	5	0	14	0	456	191	365	445	0	47	10
11	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3,344</b>	<b>987</b>	<b>35</b>	<b>0</b>	<b>4,661</b>	<b>11,805</b>	<b>1,008</b>	<b>733</b>	<b>7</b>	<b>692</b>	<b>35</b>

Waste strategy area*	Waste type by EWC code† (Tonnes)									
	12	13	14	15	16	17	18	19	20	Total
1	4	10	0	6	6	114	0	0	2	445
2	0	0	0	0	0	120	0	0	0	120
3	0	0	0	0	1	1,441	0	0	0	1,442
4	0	9,371	29	813	2,954	877	11	402	33	25,956
5	42	5,267	5	121	0	3,812	0	3	25	9,395
6	10	773	12	20	20	9,397	1	68	21	19,516
7	0	0	0	0	0	143	0	0	0	143
8	0	10	0	0	19	4,275	2	0	0	4,328
9	7	438	23	242	59	4,493	7	213	77	6,230
10	148	5,012	52	155	89	28,864	4	820	932	37,608
11	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	298
<b>Total</b>	<b>211</b>	<b>20,881</b>	<b>121</b>	<b>1,357</b>	<b>3,148</b>	<b>53,536</b>	<b>25</b>	<b>1,506</b>	<b>1,090</b>	<b>105,481</b>

\* A map showing WSAs and their constituent local authorities is presented in Appendix V

† EWC codes:

01 Mining and minerals

02 Agricultural and food production

03 Wood and paper production

04 Leather and textile production

05 Petrol, gas and coal refining/  
treatment

06 Inorganic chemical processes

07 Organic chemical processes

08 MFSU paints, varnish

09 Photographic industry

10 Thermal process waste (inorganic)

11 Metal treatment and coating processes

12 Shaping/treatment of metals and plastics

13 Oil and oil/water mixtures

14 Solvents

15 Packaging, cloths

16 Not otherwise specified

17 Construction and demolition  
waste and asbestos

18 Healthcare

19 Waste/water treatment and water industry

20 Municipal and similar commercial  
wastes

## Waste Disposal

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The total quantity of household waste disposed of to landfill apparently fell, based on the quarterly returns, by nearly 500,000 tonnes from 2001 to 2002. The figures for household waste, disposed of to landfills by local authorities, reported in the LAWAS 2002/2003 do not support this reduction. The reduction appears to be due to coding issues at certain sites where household waste may have been classified with a different code number. This will be investigated to ascertain the reasons for the different codes being used.

The Landfill Directive (1999/31/EC) was adopted by member states of the European Union on 16 July 1999. Its overall objective is defined in Article 1 as 'by way of stringent operational and technical requirements on the waste and landfills, to provide for measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment and, in particular the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, from landfilling of waste, during the whole lifecycle of the landfill'.

Under the Directive, landfill sites will be classified into hazardous, non-hazardous and inert. By July 2002, all existing landfill sites that would be operational after 16 July 2002 must have submitted a Site Conditioning Plan (SCP) to SEPA to provide details on how the site would meet the requirements of the Directive. This would include financial provision and technical competence, and also set out any corrective measures that the operator felt were necessary to comply with these requirements. The Directive also introduces a number of other requirements including:

- Landfills will only be able to take wastes that have been pre-treated.
- The Directive sets general principles and procedures for accepting waste at the various categories of landfill.
- Specific wastes are banned from landfill by the Directive, namely:
  - liquid waste;
  - explosive, corrosive, oxidising, highly flammable or flammable waste;
  - infectious hospital and other clinical waste from medical or veterinary establishments;
  - chemicals from research and development or teaching activities which are not identified and/or are new and whose effects are not known;
  - whole used tyres by 2003 and shredded used tyres by 2006; and
  - any other type of waste, which does not fulfil the waste acceptance criteria.

The Directive also sets out specific requirements for application, conditions and content of a permit, landfill costs, site engineering, control, monitoring, closure and aftercare of the site.



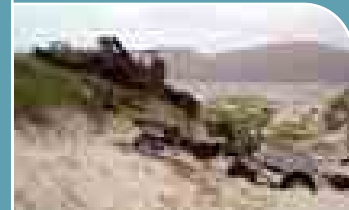
# Waste Related Operational Activities

## Waste Management Authorisations

- Registered brokers and carriers
- Waste management licences by activity
- Waste management licences related to special waste
- Waste management licences related to recycling activity
- Waste management licences related to disposal activity
- Post-closure landfill sites
- Landfill site gas and leachate operational controls

## Waste Management Regulation

- Inspections of licensed waste management facilities
- Enforcement
- Fly-tipping



# CHP05



# Waste Related Operational Activities

## Waste Management Authorisations

### Registered brokers and carriers

With a few exceptions, carriers and brokers of waste must register with SEPA or the EA. Once registered, carriers and brokers may operate throughout the UK. Registration must be renewed every 3 years.

During 2002/2003, the total number of registered carriers and brokers was 6,706. Of these, approximately 98% were registered solely as carriers of waste, 1.5% were jointly registered as carriers and brokers of waste and 0.5% were registered solely as brokers.

### Waste management licences by activity

Under Part II of the Environmental Protection Act 1990, waste management licences are required for keeping, treating and disposing of wastes. These are issued by SEPA in Scotland. Once a waste management licence has been issued by SEPA, the licence holder is responsible for the licensed activity and aftercare of the site until such time as SEPA accepts the surrender of the licence. In the case of landfill licences the period of aftercare could be many years.

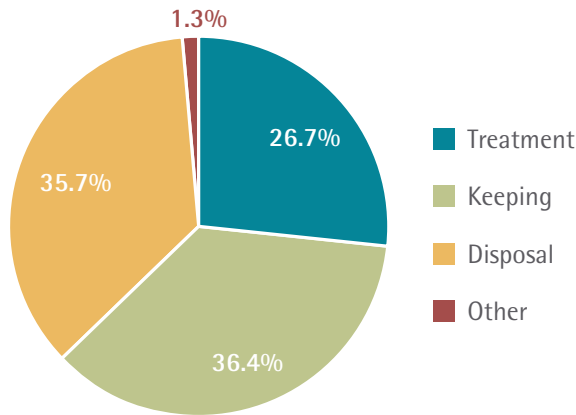
A total of 1,012 licences were in force during 2002/2003. A breakdown of these licences is given in Table 29 and Figure 4. This was obtained from the SEPA Waste Management Charging Scheme for the financial year 2002/2003. Details of the charging scheme can be found on SEPA's website at [www.sepa.org.uk/charging/index.htm](http://www.sepa.org.uk/charging/index.htm).

**Table 29 – Number of waste management licences by activity 2002**

Activity	Number of licences
<b>Treatment</b>	
Recycling	201
Other	69
<b>Keeping</b>	
At civic amenity sites	149
For recycling	36
Other	183
<b>Disposal</b>	
Disposal – operational	251
Post-closure sites	110
<b>Other</b>	
Incinerators	4
Mobile plants	9
<b>Total</b>	<b>1012</b>

# Waste Related Operational Activities

Figure 4 – Waste management licences by activity 2002/2003



## Waste management licences related to special waste

In 2002/2003, 120 sites were licensed to handle special waste. Table 30 provides a breakdown of this information.

Table 30 – Number of waste management licences authorising the handling of special wastes 2002/2003

Activity	Number of licences
Treating	30
Keeping	63
Disposal – operational	24
Disposal – post-closure	3
<b>Total</b>	<b>120</b>

## Waste management licences related to recycling activity

Table 31 shows that, in 2002/2003, there were 201 operations licensed to carry out recycling activities. The licensed capacity is the amount of waste that each site is licensed to handle annually.

Table 31 – Number of licensed recycling operations by charging band 2002/2003

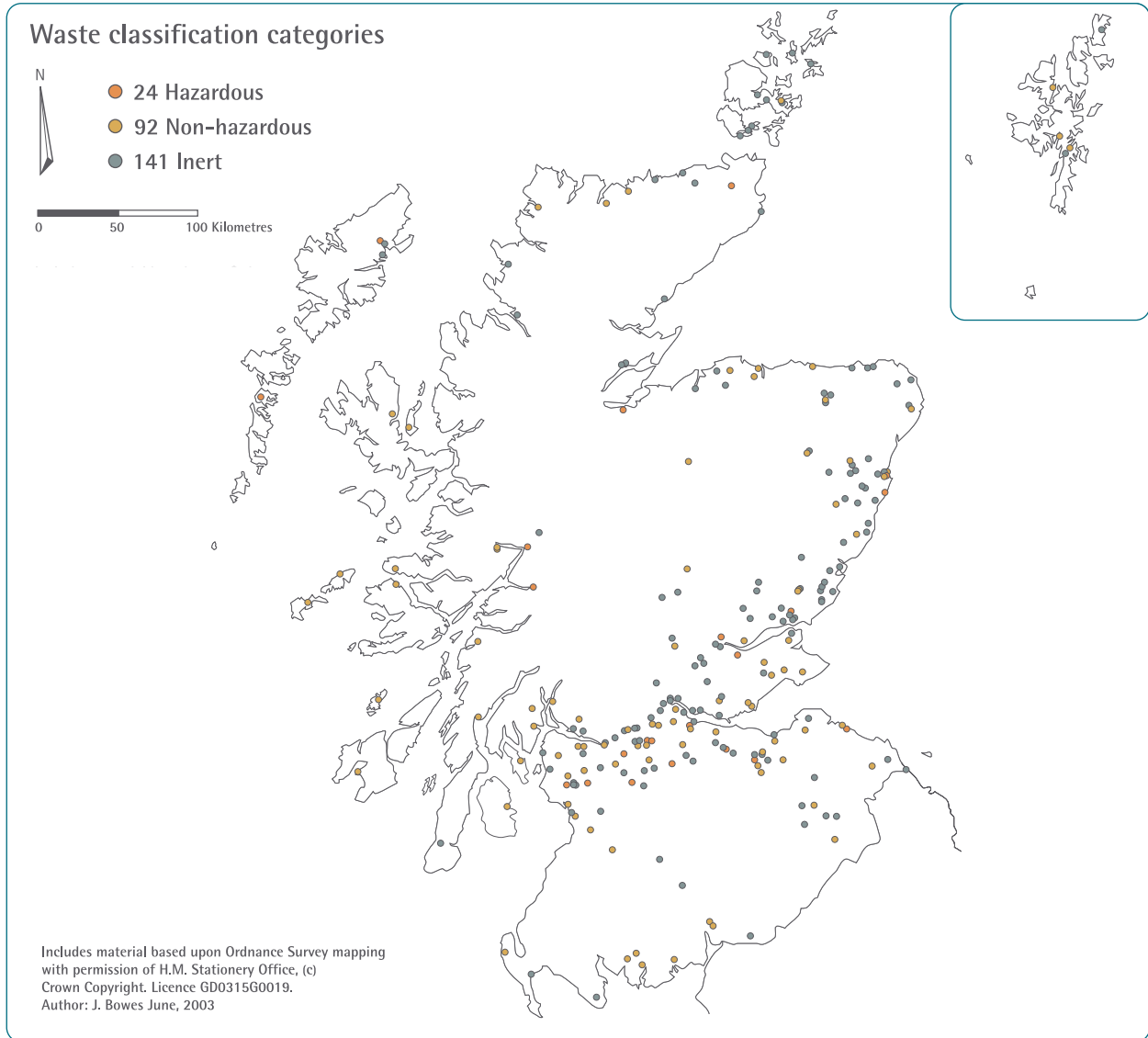
Licensed capacity (tonnes)	Number of licences
75,000 and above	18
25,000 to < 75,000	21
5,000 to < 25,000	39
0 to < 5,000	123
<b>Total</b>	<b>201</b>

## Waste management licences related to disposal activity

Landfill is by far the most common disposal route for municipal waste in Scotland, accounting for over 88% of the total waste disposed of in 2002/2003. The 251 landfill sites in operation during 2002/2003 form the principal network of disposal facilities and are shown on the map in Figure 5. A list of the landfill sites is provided in Appendix IV.

# Waste Related Operational Activities

Figure 5 – Landfill sites in Scotland 2002/2003



The 251 operational landfill sites in Scotland 2002/2003 are detailed in Table 32 according to waste management charging band annual throughput tonnage. This tonnage is the amount of waste that each site is licensed to handle annually.

Table 32 – Waste management licences for operational landfills by charging band 2002/2003

Licensed capacity (tonnes)	Number of licences
150,000 and above	16
75,000 to < 150,000	47
25,000 to < 75,000	37
0 to < 25,000	151
<b>Total</b>	<b>251</b>

## Waste Related Operational Activities

### Post-closure landfill sites

Table 33 shows that 110 licensed sites had ceased landfilling waste and were in their period of aftercare in 2002/2003. Post-closure landfill sites are categorised in SEPA's waste management licence charging scheme according to the total weight of waste deposited at the site during its lifetime.

**Table 33 – Number of waste management licences for post-closure landfill sites 2002/2003**

Total waste deposited (million tonnes)	Number of licences
2.5 and above	0
1 to < 2.5	10
0.25 to < 1	14
0 to < 0.25	86
<b>Total</b>	<b>110</b>

### Landfill site gas and leachate operational controls

At some of the larger landfill sites gas and/or leachate management is carried out. During 2002, 73 sites undertook some form of gas management; the most common method of which was venting. Flaring or energy production took place at 24 sites. Leachate management was carried out at 53 sites. Recirculation was the most common method of management. However, aerobic treatment, waste stabilisation and other methods were also used. Table 34 gives a breakdown of the operational controls in place.

**Table 34 – Gas and leachate operational controls at landfill sites 2002**

Operational controls*	Number
<b>Gas operational controls</b>	
Total number of sites where gas is managed	73
Energy production	5
Flaring	19
Venting	54
<b>Leachate operational controls</b>	
Total number of sites where leachate is managed	53
Recirculation	30
Aerobic treatment	17
Waste stabilisation	2
Other	17

\* Some sites employed more than one method of gas or leachate control

# Waste Related Operational Activities

## Waste Management Regulation

### Inspections of licensed waste management facilities

SEPA is required to undertake periodic inspections of all licensed facilities. In the year 2002/2003, SEPA staff made 8,679 planned inspections of waste management facilities. This is lower than in 2001/2002 (12,913 inspections) due to changes to the criteria used to undertake waste operator performance risk assessments.

### Enforcement

Enforcement tools are available under the various regulatory regimes that SEPA operates. These range from warning letters to referrals to the Procurator Fiscal. Table 35 records the formal enforcement proceedings with respect to waste instigated by SEPA during 2002/2003.

**Table 35 – Waste-related enforcement activities 2002/2003**

Nature of enforcement	Number
Final warning letters	56
Enforcement notices issued	25
Referrals to procurator fiscal	14
Convictions secured	8
<b>Total</b>	<b>103</b>

### Fly-tipping

The illegal dumping of waste is not only an eyesore but can also pose a potential risk to health, has the potential to harm the environment and is an expensive problem to resolve.

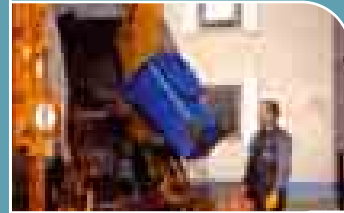
During 2002/2003, fly-tipping action plans were carried out in a number of areas, and partnerships with local authorities and other relevant parties were set up in many areas to tackle the issue. Known sites were targeted, and enforcement and licensing action taken where appropriate. As a result, a reduction in fly-tipping in certain areas was evident and remedial action was taken at several places.

In the LAWAS 2002/2003, local authorities were asked to provide, if known, separate tonnages for the clearance of fly-tipped material. Six out of the 32 local authorities were able to provide this information. The total amount of fly-tipped material separately cleared was 2,540 tonnes. However, as most local authorities collect fly-tipped material as part of their mainstream collection rounds, they were not able to provide separate tonnages. It is not possible, therefore, to accurately represent the level of the fly-tipping problem in Scotland from these data.

# Conclusions

Local Authority Waste Collection

Disposal of Waste to Landfill



## CHP06



# Conclusions

## Local Authority Waste Collection

Between 1997 and 2002/2003, there has been an increase of 11.5% in the total local authority waste arisings. This represents an average annual increase of approximately 2.3%.

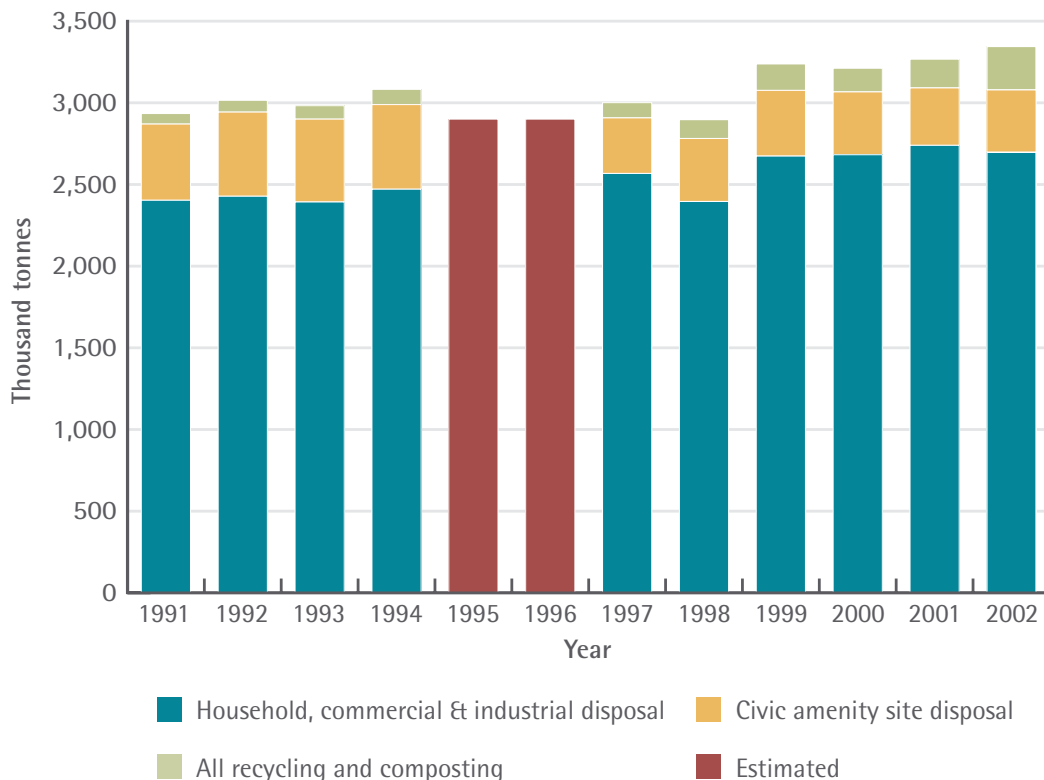
The amount of controlled waste disposed of by Scottish local authorities has shown a smaller percentage rise than the total waste arisings. Between 1997 and 2002/2003, there was an increase of 171,300 tonnes, equivalent to a rise of 5.9%. This compares with the 11.9% increase for the total waste arisings and indicates that local authorities are recycling an increasing proportion of the controlled waste collected.

The total waste collected for recycling and composting increased from 93,400 tonnes in 1997 to 266,600 tonnes in 2002/2003. This is an increase of 185%. The recycling and composting rate of 3.1% in 1997 increased to 7.97% in 2002/2003. The National Waste Plan 2003 identifies a target of 25% for the recycling and composting of total municipal waste arisings by 2006. Significant progress still needs to be made by local authorities to achieve this.

As stated in the Waste Recovery chapter of the Data Digest this rate is different from that obtained by the Audit Commission. A procedure has been put in place that should ensure consistency between the two figures in future years.

Table 36 and Figure 6 present the available data for controlled waste collected for recycling, composting and disposal by, or on behalf of, Scottish local authorities.

**Figure 6 – Controlled waste collected by, or on behalf of, Scottish local authorities in Scotland 1991–2002 (thousand tonnes)**





## Conclusions

Table 36 – Controlled waste collected by, or on behalf of, Scottish local authorities 1991–2002 (thousand tonnes)

Waste type	1991*	1992*	1993*	1994*	1995†	1996†
Waste collected for disposal, of which:						
Household, commercial and industrial	2,403.3	2,427.9	2,392.9	2471.0	n/k	n/k
Civic amenity	466.5	515.2	507.1	518.1	n/k	n/k
Total waste collected for disposal	2,869.9	2,943.1	2,899.9	2,989.1	n/k	n/k
Total waste collected for recycling and composting	64.5	72.2	82.3	93.2	n/k	n/k
Total local authority waste arisings	2934.4	3,015.2	2,982.3	3,082.3	n/k	n/k

Waste type	1997‡	1998‡	1999§	2000/2001¶	2001/2002¶	2002/2003¶
Waste collected for disposal, of which:						
Household, commercial and industrial	2,567.6	2,396.0	2,763.9	2,682.2	2,739.6	2,697.0
Civic amenity	340.0	385.7	402.1	384.6	351.6	381.7
Total waste collected for disposal	2,907.6	2,781.8	3,166.0	3,066.7	3,091.2	3,078.9
Total waste collected for recycling and composting	93.4	115.0	162.0	144.7	175.8	266.6
Total local authority waste arisings	3,001.0	2,896.8	3,328.0	3,211.4	3,267.0	3,345.5

\* 1991–1994 figures extracted from Table A1.2 of the Scottish Office Bulletin 1994 (refers to 1991–94 inclusive)

† 1995–1996 figures are not known (n/k)

‡ 1997–1998 figures are based on data reported in Databridge

§ 1999 figures are based on the National Waste Strategy Strategic Waste Management Baseline Assessments although further work was carried out to complete the dataset

¶ 2000/2001, 2001/2002 and 2002/2003 figures are from the respective Local Authority Waste Arisings Surveys

# Conclusions

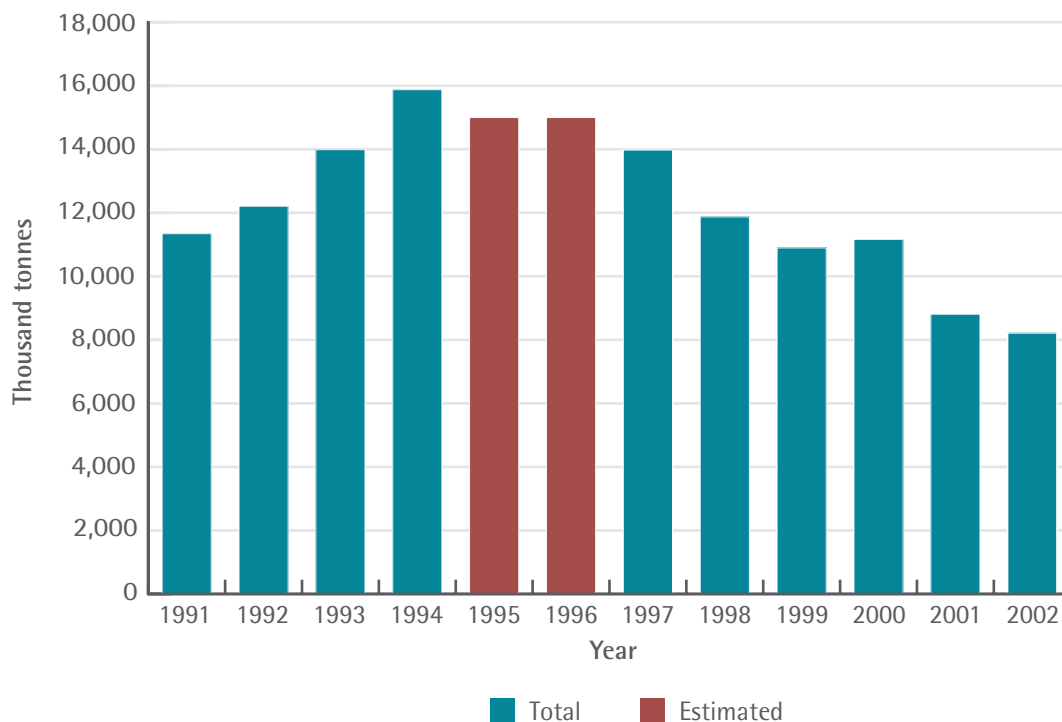
## Disposal of Waste to Landfill

The total amount of controlled waste sent to Scottish landfills in 2002 was 8.51 million tonnes. It appears that there is a clear downward trend in the quantity of waste being disposed of to landfill, starting in 1994, when 15.88 million tonnes of controlled waste was disposed of. The total reduction is over 48%; equivalent to 7.66 million tonnes. Most of this appears to result from the reduction in the amount of construction and demolition waste being disposed of over this period. This reduction may be due to a number of reasons, including a drop in waste being generated or a greater uptake of exemptions. SEPA intends to carry out a second priority waste stream project baseline assessment for construction and demolition wastes in 2005/2006. Identifying the reasons for the decrease in the amount of construction and demolition wastes being disposed of to landfill will form part of the study remit.

In 2001, the system for classifying the waste disposed of was changed and operators were asked to use the European Waste Catalogue – Substance Aggregated (EWC–SA) coding system. This is a more comprehensive system than the one previously used and gives a better breakdown of wastes deposited. However, the change from one system to another has resulted in direct comparison of individual categories of waste, before and after the change, to be invalid.

The total amounts of controlled wastes landfilled in Scotland from 1991 to 2002 are presented in Table 37 and Figure 7.

**Figure 7 – Controlled waste landfilled in Scotland 1991–2002 (thousand tonnes)**



## Conclusions

Table 37 – Controlled waste landfilled in Scotland 1991–2002 (thousand tonnes)

Waste type	1991*	1992*	1993*	1994*	1995†	1996†
Household	2,291.3	2,246.6	2,336.1	2,381.6	n/k‡	n/k
Commercial	1,667.5	1,733.8	1,790.6	1,873.5	n/k	n/k
Industrial (total)	7,384.5	8,229.4	9,862.1	11,622.3	n/k	n/k
Other	-	-	-	-	n/k	n/k
EWC-SA	-	-	-	-	n/k	n/k
<b>Total</b>	<b>11,343.3</b>	<b>12,209.8</b>	<b>13,998.8</b>	<b>15,877.4</b>	<b>15,000.0</b>	<b>15,000.0</b>
Industrial (C&D)	5,217.9	4,847.3	6,714.6	7,716.4	n/k	n/k
Industrial (other)	2,166.6	3,382.1	3,147.5	3,905.9	n/k	n/k
Industrial (total)	7,384.5	8,229.4	9,862.1	11,622.3	n/k	n/k

Waste type	1997†	1998†	1999¶	2000¶	2001¶	2002¶
Household	2,698.0	2,990.9	2,888.9	2,494.2	2,534.3	n/a**
Commercial	2,218.0	2,024.0	2,003.0	1,574.0	691.1	n/a
Industrial (total)	8,959.5	6,767.9	5,946.3	7,006.6	2,757.3	n/a
Other	103.1	90.7	57.9	90.9	499.1	n/a
EWC-SA	-	-	-	-	2,429.5	n/a
<b>Total</b>	<b>13,978.5</b>	<b>11,873.4</b>	<b>10,896.2</b>	<b>11,165.7</b>	<b>8,911.2</b>	<b>8,219.8</b>
Industrial (C&D)	7,007.5	5,096.9	4,277.0	3,952.6	2,175.9	n/a
Industrial (other)	1,951.9	1,671.1	1,669.3	3,054.0	581.4	n/a
Industrial (total)	8,959.4	6,767.9	5,946.3	7,006.6	2,757.3	n/a

\* 1991–1994 figures extracted from Table A1.2 of the Scottish Office Bulletin 1994 (refers to 1991–1994 inclusive)

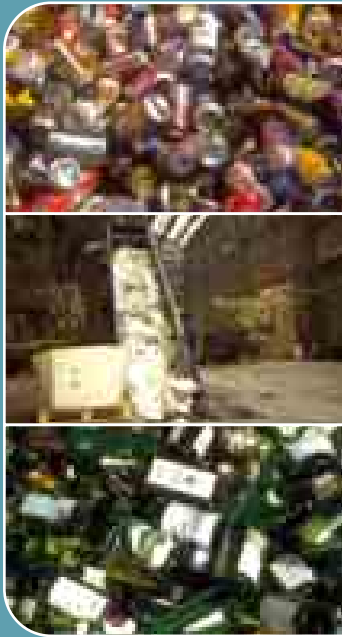
† 1995–1996 values are estimates. No specific data were available for these years

‡ 1997–1998 figures taken from the ERM study for SEPA and the Scottish Executive

§ n/k - not known

¶ 1999–2002 SEPA waste management licensed site returns

\*\*n/a – cannot be derived from new coding system



# Appendices

Appendix I - Glossary

Appendix II - Acronyms and Abbreviations

Appendix III - Accredited Reprocessors  
and Exporters of  
Packaging Waste

Appendix IV - Licensed Sites in Scotland

Appendix V - Waste Strategy Area Map

## CHP07



# Appendix I

## Glossary

Biodegradable waste	Waste that is capable of undergoing anaerobic or aerobic decomposition, such as food or garden waste and paper and cardboard, i.e. waste that rots
Civic amenity site	Facility provided under section 1 of the Refuse Disposal (Amenity) Act 1978
Commercial waste	Waste arising from premises that are used wholly or mainly for trade, business, sport, recreation or entertainment, excluding household and industrial waste (as defined in Environmental Protection Act 1990, Section 75)
Composting	The controlled biological decomposition and stabilisation of biodegradable materials (such as organic garden and kitchen wastes) under predominantly aerobic (oxygen-rich) conditions to produce a humus rich, sanitised and stabilised product that can be beneficial to soil
Construction and Demolition waste	Arising from the construction, repair, maintenance and demolition of buildings and structures. It mostly includes brick, concrete, hardcore, subsoil and topsoil, but it can also include quantities of timber, metal and plastics
Controlled waste	Household, industrial and commercial waste or any such wastes that require a waste management licence for treatment, transfer or disposal (as defined by Environmental Protection Act 1990, Section 75)
EC Directive	A European Community legal instruction which is binding on all Member States and must be implemented through the legislation of Member State governments within a prescribed timescale
Energy from waste (EfW)	The recovery of energy value from waste by burning the waste directly, or by burning a fuel produced from the waste
Gas controls	Methods to control the emission of methane from landfill sites
Green waste	'Green and wood waste' means vegetable waste from gardens and parks, tree cuttings, branches, grass, leaves (with the exception of street sweepings), sawdust, wood chips and other wood waste not treated with heavy metals or organic compounds
Home composting	Compost can be made at home using a traditional compost heap, a purpose designed container or a wormery
Household waste	Waste from domestic properties including waste from caravans, residential homes and premises forming part of an educational establishment and part of a hospital or nursing home
Incineration	The controlled burning of waste, either to reduce its volume, or its toxicity
Industrial waste	Waste from a factory (within the meaning of the Factories Act 1961) or from any premises used for, or in connection with: provision of public transport; public supply of gas, water, electricity or sewerage services; provision to the public of postal or communication services
Inert waste	'Waste that does not undergo any significant physical, chemical or biological transformations' as defined by the EU Landfill Directive (99/31/EEC)
Integrated Pollution Control	Integrated Pollution Control (IPC) is a system established, under Part I of the Environmental Protection Act 1990 to control pollution from industry
Kerbside collection	Any regular collection of recyclable or compostable materials from premises. Excludes collection services delivered on demand
Landfill sites	Areas of land in or on which waste is deposited
Leachate controls	Methods to control the emission and quality of leachate from landfill sites

## Appendix I

<b>Material Reclamation Facility (MRF)</b>	A facility to process wastes for the purpose of recovering useful materials using a variety of processes to separate out different materials, ranging from manual sorting to advanced mechanical separation techniques
<b>Mixed organic waste</b>	Waste for composting that includes both kitchen waste and garden waste
<b>Municipal waste</b>	Household waste and any other waste under the control of local authorities or their agents acting on their behalf
<b>National Waste Strategy</b>	Establishment of eleven Waste Strategy Groups across Scotland. The groups are charged with making the national strategy a reality at a local level, developing local solutions in response to local needs
<b>Packaging waste</b>	Comprises waste arising from "all products made of any materials of any nature to be used to the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the use or the consumer" as defined in Directive 94/62/EC on Packaging and Packaging Waste
<b>Recovery</b>	Generating value from wastes from a wide variety of activities such as recycling, composting and energy recovery
<b>Recyclables</b>	Materials that are capable of being recycled
<b>Recycling</b>	Using waste materials in manufacturing other products of an identical or similar nature, as defined by the Organisation for Economic Co-operation and Development in "Strategic Waste Prevention" (OECD, 2000)
<b>Registered waste broker</b>	Someone registered who make arrangements on behalf of others to handle, transport, dispose or recover controlled waste, but do not handle, transport or recover the waste themselves
<b>Registered waste carrier</b>	Someone registered to transport controlled waste by road, rail, air, sea or inland waterways
<b>Reprocessors</b>	A company that recycles materials, only 'accredited reprocessors' can issue PRNs
<b>Strategic Waste Management Baseline Assessment (SWMBA)</b>	An assessment and description of the existing waste management in an area. Examines wastes arisings, waste management facilities and capacities, imports and exports of waste, existing contract arrangements and demographics such as population and household numbers
<b>Sustainable development</b>	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This definition can be extended to address waste and resources, i.e., development that recognises the need to limit the use of resources and production of waste to levels that do not damage the ability of natural ecosystems to remain stable and healthy. This will involve efficient use of resources including the reuse and recovery of wastes and a move from resources whose supply is finite to renewable.
<b>Thermal Treatment</b>	A broad generic term covering processes that involve the use of heat to treat waste. Incineration is the most common thermal treatment process. Pyrolysis and gasification are other high temperature processes but there are also low temperature processes used, for example, in technologies producing RDF
<b>Wormery</b>	A system for converting ordinary kitchen waste into compost and concentrated liquid through the natural action of worms
<b>Waste</b>	Any substance or object in the categories set out in Annex 1 of the Waste Framework Directive (91/156/EEC), which the holder discards or intends or is required to discard
<b>Waste Arisings</b>	The amount of waste generated in a given locality over a given period of time
<b>Waste transfer station</b>	A site to which waste is derived for sorting or compacting prior to transfer to another place for recycling, treatment or disposal

## Appendix II

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### Acronyms and Abbreviations

C&D	Construction & Demolition Waste
EA	Environment Agency
EC	European Commission
EEC	European Economic Community
ELVs	End-Of-Life Vehicles
ERM	Environmental Resource Management
EU	European Union
EWC	European Waste Catalogue
EWC- SA	European Waste Catalogue – Substance Aggregated
HHW	Household Hazardous Waste
IPC	Integrated Pollution Control
LA	Local Authority
LAWAS	Local Authority Waste Arisings Survey
MFSU	Maunufacture, formulation, supply and use
MRF	Materials Recycling Facility
NIEHS	Northern Ireland Environment and Heritage Service
NWS	National Waste Strategy
PERN	Packaging Waste Export Recovery Notes
PRN	Packaging Waste Recovery Notes
SE	Scottish Executive
SEPA	Scottish Environment Protection Agency
SI	Statutory Instument
UK	United Kingdom
WEEE	Waste Electronic and Electrical Equipment
WML	Waste Management Licence
WSA	Waste Strategy Area

## Appendix III

### Accredited reprocessors and exporters of packaging waste 2002

#### Reprocessors accredited in 2002

Name of company	Site	Principal operation
Adam Robertson & Co Ltd	Newcalder Paper Mill, West Lothian	Paper
Allglass Reprocessors Ltd	49 Burnbrae Road, Linwood	Glass
Armstrong Waste Management Ltd	Auchenlosh Landfill Site, Dumfries & Galloway	Paper Composting
Armstrong Waste Management Ltd	Auchenlosh Landfill Site, Dumfries & Galloway	Wood Composting
A W Jenkinson Woodwaste Ltd	Carriden Industrial Estate, Bo'ness	Wood
BPB Paperboard	Davidson Mill, Aberdeen	Paper
bpi.recycled products - Dumfries	College Road, Dumfries	Plastic
British Polythene Industries plc	96 Port Glasgow Road, Greenock	Plastic
Caledonian, Ferguson, Timpson	5 Atholl Avenue, Glasgow	Plastic
Caledonian Tree Company	Pathhead, Midlothian	Plastic
CK Polymers	Unit 20 Charlesfield Ind Est, St Boswells	Plastic
Comhairle Nan Eilean Siar	Council Offices, Stornaway	Glass
Decocrete	Cunningsburgh Industrial Estate, Shetland	Glass
Dobbies Garden Centres plc	Melville Nurseries, Lasswade	Energy from waste
Dundee Energy Recycling Ltd	Forties Road, Dundee	Energy from waste
Egger (Barony) Ltd	Former Barony Colliery, Auchinleck	Wood
Enviroscot Limited	Langmuir Way, Bargeddie, Glasgow	Wood
John W Hannay & Co Ltd	Linwood Avenue, East Kilbride	Paper
Lerwick Waste to Energy Plant	Shetland Island Council, Shetland	Energy from waste
M McKenzie	Old Pentland Sawmill, Midlothian	Wood
Mac-Glass Recycling	52 Easthouses Road, Dalkeith	Glass
Nexfor Limited	Station Road, Stirling	Wood
Norfrost Limited	Murrayfield, Caithness	Plastic
North East Pallet Services Ltd	East Tullos Industrial Estate, Aberdeen	Wood
Plastic Polymer Processors Ltd	12 Inchyra Road, Grangemouth	Plastic
Plastic Technology Services Limited	Garroch Business Park, Dumfries	Plastic
Robert Cullen & Sons Limited	10 Dawsholm Avenue, Glasgow	Paper
Rockware Glass Ltd	Portland Plant, Ayrshire	Glass
Smith Anderson & Sons Ltd	Fettykil Mills, Leslie, Fife	Paper
Snowie Ltd	Lambhill Farm, Blairingone	Paper Composting
Snowie Ltd	Lambhill Farm, Blairingone	Wood Composting
Tracey Timber Recycling Limited	Burnbrae Road, Linwood	Wood
United Glass Ltd	Glasshouse Loan, Alloa	Glass
Vencel Resil Ltd	160 East Wellington Street, Glasgow	Plastic



## Appendix III

### Accredited reprocessors and exporters of packaging waste 2002

#### Exporters accredited in 2002

Name of company	Site	Principal operation
bpi.recycled products (Heanor)	Heanor Gate, Derbyshire	Plastic Export
Bunzi Retail Supplies	Heanor Gate, Derbyshire	Plastic Export
CELL Glasgow	P O Box 8, Troon	Paper Export
Christie & Son (Metal Merchants) Ltd	Lobnitz Dock, Renfrew	Steel Export
Independent Waste Paper Producers Ltd	Daventry, Northhamptonshire	Paper Export
John Lawrie (Aberdeen) Ltd	Forties Road, Montrose	Steel Export
John R Adam & Sons Ltd	Riverside Berth, Glasgow	Steel Export
John R Adam & Sons Ltd	Riverside Berth, Renfrew Road, Glasgow	Aluminium Export
R M Supplies (Inverkeithing) Ltd	The Bay, Inverkeithing, Fife	Steel Export
Solway Recycling Ltd	Rigghead Farm, Dumfries	Plastic Export
Wastepack UK Limited	Pishiobury House, Hertfordshire	Plastic Export

## Appendix IV

### Licensed sites in Scotland in 2002

Licence Holder	Site	National grid reference
<b>Landfill Sites</b> *Licensed to accept special waste.		
*Aberdeen City Council	Ness Farm, Tullos Hill, Aberdeen	NJ968038
*Alcan	Alcan, Lochaber Works	NN125753
*Alcan	Alcan, Kinlochleven Disposal Site	NN180619
*Binn Landfill (Glenfarg) Ltd.	Binn Farm, Glenfarg	NO178142
*British Steel Plc	Secure Containment Facility	NS768578
*Comhairle nan Eilean Siar	Bennadrove, Stornoway, Isle of Lewis	NB386345
*Comhairle nan Eilean Siar	Rueval, Isle of Benbecula	NF811535
*Highland Council	Longman, Inverness	NH675469
*Highland Council	Seater Landfill Site, Bower, By Wick	ND248603
*I & H Brown (Plant) Ltd	Battleby, Redgorton, Perth	NO082295
*Levenseat Ltd	Muldron Quarry, near Fauldhouse	NS915575
*Patersons of Greenoakhill Ltd	Greenoakhill, Glasgow	NS666627
*Shanks Avondale Ltd	Avondale Quarry, Polmont	NS952787
*Shanks Ltd.	Tarbothill, Murcar, Aberdeen	NJ957138
*Shanks Ltd.	Greengairs, Airdrie	NS789698
*Shanks Northern Ltd.	Wester Hatton Landfill, Balmedie, Aberdeenshire	NJ954152
*Shanks Waste Services Ltd.	Hartloughill, Airdrie	NS770699
*Stirling Council	Lower Polmaise Landfill, Stirling	NS834931
*Tarmac Northern Ltd	Craignaught Quarry, Dunlop	NS444516
*UK Waste Management	Wellbank Quarry, Dundee	NO473378
*Viridor Ltd	South Quarry, Dunbar	NT720755
*Waste Recycling Group Ltd	Kaimes Quarry, Kirknewton	NT130665
*Waste Recycling Group Ltd	Oatslie(No 7) Sandpit, Roslin	NT258626
*William Tracey Ltd	Barkip Landfill	NS335505
A & M Smith	Bankhead, Portlethen	NO928996
Aberdeen City Council	Hill of Tramaud, Aberdeen	NJ949134
Aberdeenshire Council	Brandon Howe Landfill, Inverboyndie, Banff	NJ667638
Aberdeenshire Council	Crows Nest Landfill, Raemoir Road, Banchory	NO688973
Aberdeenshire Council	Pitdrichie Landfill, Drumlithie	NO798819
Aberdeenshire Council	Burnside Quarry, Leylodge, Kintore	NJ774127
Aberdeenshire Council	Govals Quarry, Lumsden	NJ477232
Aberdeenshire Council	Millmoss Landfill, Turriff	NJ728493
Aggregate Industries Plc	Upper Townhead Farm, Kintore	NJ782170
Aggregate Industries UK Ltd	Fledmyre, Montrose Rd, Forfar (Site 2)	NO487516
Alcan Chemicals Europe	Whinneyhall Landfill, Burntisland	NT248874
Alexander Sandison & Sons Ltd	Hagdale Quarry, Baltasound, Shetland	HP638101
Andrew Cook (Containers) Ltd	Belliston Quarry, Arncroach	NO498063
Andrew Cook (Containers) Ltd	Devon Quarry, Kennoway	NO337048
Angus Council	Restenneth Landfill Site, Montrose Road, Forfar	NO483515

## Appendix IV

Licence Holder	Site	National grid reference
Argyll and Bute Council	Glengorm Landfill Site, Tobermory, Isle of Mull	NM488558
Argyll and Bute Council	Larkhall/Westland Road, Rothesay	NS078648
Argyll and Bute Council	Moleigh Landfill Site, Ariogan, By Oban	NM869268
Argyll and Bute Council	Bonaveh Landfill Site, Isle of Colonsay	NR398955
Argyll and Bute Council	Cliad Landfill Site, Isle of Coll	NM204602
Argyll and Bute Council	Garetbreck Landfill Site, Bowmore, Isle of Islay	NR291579
Argyll and Bute Council	Gott Bay Landfill Site, Isle of Tiree	NM028462
Argyll and Bute Council	Lingerton Landfill Site, Lochgilphead	NR867853
Armstrong Waste Management Ltd	Auchenlosh Quarry, Dalbeattie (Phase II)	NX851612
Banchory Contractions Ltd	South Hirn, Crathes, Banchory	NJ737002
Bardon Aggregates Ltd.	West Quarry, Charlestown	NT065840
Barr Ltd	Garlaff Quarry, Cumnock	NS542176
Barr Ltd	Site 5, Mid Auchencarroch Farm, Jamestown	NS420813
Barr Ltd	Clayshant, Sandhead	NX110525
Blue Circle Industries plc	North Quarry, Dunbar	NT700775
Booth Plant & Equipment Ltd	Tarbolton Moss Landfill Site, Tarbolton	NS426283
Borderland Reclamation Ltd	Meigle Potts, Clovenfords, By Galashiels	NT453365
British Petroleum	Caldback Ness, Sullom Voe	HU403765
Bruce Plant Hire	Arnhall Quarry, Edzell	N0608697
Bruce Plant Hire	Lochburn Quarry, Stonehaven	N0854832
Bruce Plant Hire	Ury Quarry, Stonehaven	N0860874
Bruce Plant Hire	Bedentoy Landfill,Portlethen, Aberdeen	
Burnthills Demolition	Summerston Farm, Balmore Road, Glasgow	NS581725
C & S Smith	Drumsleed, Fordoun	N0733777
C A Duguid & Sons	Knapps of Thernie, Turriff	NJ738446
Chap Quarries (Aberdeen) Ltd	Park Quarry, Durriss	N0804979
Clackmannanshire Council	Black Devon Landfill Site, Bowhouse Road, Alloa	NS895913
D Geddes (Contractors) Ltd	Ardownie Quarry, Monifieth	N0493345
D Geddes (Contractors) Ltd	Border Quarry, Leysmill, Froikheim	N0600485
D Geddes (Contractors) Ltd	Kinnell, Friockheim	N0607503
D Geddes (Contractors) Ltd	Lochaber, Arbroath	N0604433
D Geddes (Contractors) Ltd	Prettycur, Hillside, Montrose	N0698608
D J Laing (Contractors) Ltd	Gallowflats, Errol	N0209213
D J Laing (Contracts) Ltd	Petterden Land Reclamation, Dundee	N0424398
Dumfries & Galloway Council	Galdenoch, Leswalt, Stranraer	NW988644
Dumfries & Galloway Council	Locharmoss Waste Disposal Site, Dumfries	NY007774
Dumfries & Galloway Council	Blacks Plantation Landfill Site, Whithorn	NX428406
Dumfries & Galloway Council	Gatelawbridge Waste Disposal Site, Thornhill	NX902965
Dumfries & Galloway Council	St Mary's Street Disposal Site, Sanquhar	NS782104
Dumfries & Galloway Council	Corsehill Waste Disposal Site, Annan	NY206697

## Appendix IV

Licence Holder	Site	National grid reference
Dumfries & Galloway Council	Aucheninnes Landfill Site, Dalbeattie	NX848609
Dundee City Council	Longhaugh Landfill, Pitkerro Road, Dundee	NO433329
Dundee City Council	Riverside Landfill, Wright Avenue, Dundee	NO360295
E W G Dickey & Co	Kingsdale, Firth, Orkney	HY378115
E. Bowman	Duisky-2, Kinlochiel	NN009767
East Ayrshire Council	Milton Landfill Site, Crookedholm, Kilmarnock	NS480376
East Coast Skips	Hope Quarry, Near Pathhead	NT403630
East Lothian Council	Carberry Landfill Site, Whitecraig, East Lothian	NT364701
East of Scotland Water Authority	Upperside Quarry, Near Temple	NT291559
East of Scotland Water Authority	Broadside Reservoir, Denny	NS769831
East of Scotland Water Authority	Craggans Hill, Glenturret	NN856243
Easter Hatton Environmental (Waste Away) Ltd	Easter Hatton Farm, Balmedie	NJ965157
Easter Hatton Environmental (Waste Away) Ltd	Site 3, Easter Hatton Farm, Balmedie	NJ967161
Edgar Allan Ltd	Balbarnie Works, Whitburn Road, Bathgate	NS974682
Falkirk Council	Kinneil Kerse Landfill Site, Bo'ness	NS975810
Fife Council	Lochhead Landfill Site, By Wellwood, Fife	NT080903
Fife Council	Lower Melville Wood , By Ladybank, Fife	NO300117
G & F Milne	Bodychell, Memsie, Fraserburgh	NJ954629
G S Brown Construction Ltd	North Ballo Quarry	NO247359
Glasgow City Council	Kilgarth Cartgill Road, Coatbridge	NS719675
Glasgow City Council	South Cathkin Landfill, East Kilbride	NS624574
Glasgow City Council	Summerston Landfill, Balmore Road, Glasgow	NS579718
GR Service Company	West Carron, Falkirk	NS875820
Henry Gilles Haulage Contractor	Drumshoreland Bing, Pumpherston	NT074700
Highland Council	Bettyhill Landfill, Bettyhill, Sutherland	NC737603
Highland Council	Granish Landfill, Aviemore	NH900148
Highland Council	Kilchoan Landfill, Kilchoan, Argyll	NM469649
Highland Council	Portree	NG471448
Highland Council	Raasay Waste Disposal Site, Creachan	NG554379
Highland Council	Rhiconich Landfill, Rhiconich, Sutherland	NC262526
Highland Council	Tongue Landfill, Tongue, Sutherland	NC612547
Highland Council	Ardachu Landfill Site, Ardachu, Brora	NC893047
Highland Council	Brackletter	NN190828
Highland Council	Melvich Landfill Site, Melvich, Sutherland	NC866645
Highland Council	South Head, Wick	ND372502
Highland Council	Stoneyfield, Invergordon	NH690713
Highland Council	Torbreck, Lochinver, Sutherland	NC097241
Highland Council	Ullapool Waste Transfer Station, Strathain, Ullapool	NH122964
Holt Drainage	Achscrabster Quarry, near Thurso	ND080633
Howegarden Ltd	Hospital Wood, Auchterless, Turriff	NJ735458

## Appendix IV

Licence Holder	Site	National grid reference
International Paper (UK) Ltd	Inverurie Paper Mills, Broomend, Inverurie	NJ770190
J & A Plant Services in liquidation	Beithglass Quarry, Skelmorlie	NS200672
J & S Mackie	South House, Tankerness, Orkney	HY507076
J H Connon Ltd	Greendams, Newmachar, Aberdeenshire	NJ868202
J Haig-Hamilton and Sons	West Fortune Landfill, North Berwick	NT534801
J M Kennie(Demolitions) Ltd	Auldcaithie, Winchburgh	NT075755
J M Murdoch & Sons Ltd	East Capellie Farm Landfill, Neilston	NS472583
J.D.H. Gordon, Esq	Railway Cutting, Whitehill Farm, St Boswells	NT578310
James Fairbairn	Lamberton Landfill, Berwick upon Tweed	NT973575
James Rae	Auchenstarry Farm, Kilsyth	NS713765
John Fyfe Ltd	Marybank Quarry, Stornoway	NB408328
John Gibbons (Contractors) Ltd	Site No. 2, Middle Essie, St Fergus, Peterhead	NK076546
John Marshall & Son	Dalreoch Farm, Dunning	N0003173
Joss (Aberdeen) Ltd	Loch-hills Quarry, Parkhill, Dyce	NJ914144
King Contractors (Perth) Ltd	Huntingtower Quarry, Perth	N0076247
Kirkmyres Sand & Gravel	Balquhindachy Farm, Turriff	NJ761486
Kirkmyres Sand & Gravel	Pitnacalder Quarry, New Aberdour	NJ873628
Kirkton Barns Reclamation Account	Kirktonbarns Landfill, Tayport	N0452261
L H Spence & Sons	Brackmont Mill, St Michaels, Leuchars	N0437224
Leiths Surfacing Ltd	Home Farm, Kingswells, Aberdeen	NJ863063
Les Taylor Contractors Ltd	Boghead Farm, Kintore	NJ795139
Les Taylor Contractors Ltd	Newton of Savocho, Longside, Peterhead, Aberdeen	NK066424
Les Taylor Contractors Ltd	Savocho Quarry, Peterhead	NK066425
Levenseat Ltd	Torphin Quarry, Harburn, West Calder	NT028597
Lothian Recycling 1996 Ltd	Pentland Mains Landfill, Damhead, Midlothian	NT254654
Luddon Construction Ltd	Birdston Tip, Kirkintilloch	NS649748
Luddon Construction Ltd	East Mavis Valley, Bishopbriggs	NS597714
Luddon Construction Ltd	Dalreoch Quarry, Renton Road, Dumbarton	NS388761
M & J Ballantyne	Broomhouse Quarry, Maxton	NT633309
M K Leslie Ltd	West Staney Hill, Lerwick	HU448422
M Ridgeway, Esq	Railway Cutting, Nether Howden Farm, Oxton	NT499532
Mardon Plant Hire Ltd	Hillhouse Farm	NT117674
Marshall Farms	Muirpark Farm, Tullibody, Clackmannanshire	NS867961
McIntosh Plant Hire (Aberdeen) Ltd	Cairdhilllock Landfill, Kingswells, Aberdeen	NJ847068
McIntosh Plant Hire (Aberdeen) Ltd	Leys Quarry, Mintlaw, Peterhead	NK004524
McIntosh Plant Hire (Aberdeen) Ltd	Cairdhilllock East, Kingswells, Aberdeen	NJ848069
McTaggart Construction Ltd	Giffenmill Railway Cutting, Barrmill, by Beith	NS372514
Messrs D Menzies & Partners	Mains of Taymouth, Kenmore	NN789477
Messrs George Raeburn	Auchentibber, Newhouse Road, East Kilbride	NS667527
Messrs J & R Mitchell	Old Pairney Quarry, Auchterarder	NN977130
Messrs McFadyens Contractors Ltd	Dhurrie Farm, Campbeltown, Argyll	NR684223
Michael Bowman	Duisky - 5, Fort William	NN007772

## Appendix IV

Licence Holder	Site	National grid reference
Midlothian Council	Drummond Moor Landfill, Roslin, Penicuik	NT273597
Moray Council	Kirkhill Landfill, Calcots Road, Elgin	NJ234634
Moray Council	Nether Dallachy Landfill, Spey Bay, Moray	NJ361643
Moray Council	Newtyle Landfill, Rafford, Forres	NJ054552
Morris Young (Perth) Ltd	Loanleven Farm, Perth	N0055258
Mr A P Anderson	Kinbuck Quarry	NN795050
Mr George Adam	Muirton Park Cottage, Bannockburn	NS818896
Mr J Muir	Inverqueich Farm, Alyth	N0274499
Mr J R Halliday	Campbelton Farm, Twynholm	NX657538
Mr Robert Drummond	Straid Farm, Lendalfoot	NX139907
Murray & Burrell Ltd	Hartwoodburn Farm, Selkirk	NT467269
N.C. Law Construction & Demolition	Burnside Phase 2, By Tillicoultry	NS907968
Norman Jamieson	No 7 Holdings, Gagie Quarries, near Monikie	N0468367
North Ayrshire Council	Shewalton Landfill, Shewalton, Irvine	NS333365
North Ayrshire Council	Brodick Landfill Site	NS030358
North Lanarkshire Council	Auchinlea Landfill, Bellside, Cleland	NS281659
North of Scotland Water Authority	Killiecrankie Water Treatment Works, Perthshire	NN921626
North of Scotland Water Authority	Lumsden, Rhynie	NJ468224
North of Scotland Water Authority	Elf Hill Quarry, Elgin	NJ211557
North of Scotland Water Authority	Lochcraigs Wood, Lintrathen	N0280543
Orkney Islands Councils	Bossack Quarry, Tankerness, Orkney	HY505084
Orkney Islands Councils	Blossom Quarry, Rousay, Orkney	HY425325
Orkney Islands Councils	Chinglebraes Quarry, St Ola, Orkney	HY428091
Orkney Islands Councils	Gallowtuag Quarry, South Walls, Hoy, Orkney	ND304896
Orkney Islands Councils	Mitchell's Quarry, Stronsay, Orkney	HY657281
Orkney Islands Councils	Peat Road Landfill, West Hill, Flotta	ND347926
Orkney Islands Councils	Westside Road Quarry, Eday, Orkney	HY562334
Pat Munro (Alness) Ltd	Caplich Quarry, Alness	NH668704
Pennant Plant Ltd	Prestonholm, Dalhousie	NT324627
Perth & Kinross Council	North Forr Landfill, By Crieff	NN871202
Peter D Stirling Ltd	Drumcavel Quarry, Darcosh	NS705693
Premier Refractories	Haining Wood, Manual Works, Whitecross	NS955774
Pure Malt Products Ltd	Victoria Bridge, Haddington	NT518744
R Garrick	The Old Lime Quarry, Girlsta	HU430504
R W & P Millican	Heughhead, Reston	NT877626
Railtrack PLC	Shewalton Moss Tip, Irvine	NS344350
Realm Construction	Lathalmond Tip, near Dunfermline	NT090920
Reclaim (Helensburgh) Ltd	Finnart Landfill, Garelochhead	NS242944
Renfrewshire Council	Linwood Moss, Linwood	NS443656
Robert Russell	Wester Seamores Farm, Dennyloanhead	NS805794
Robertson Contracting	Newton Toll, Elgin	NJ166632
Robinson & Davidson Ltd	Townhead Farm, Collin	NY028757

## Appendix IV

Licence Holder	Site	National grid reference
Russell Coal Limited	Gartshore 9/11 Soils Tip, Twechar	NS702763
S McAlister	West Thomaston Farm, Banknock	NS778798
Scottish Borders Council	Cleugh Landfill Site, Preston	NT792592
Scottish Borders Council	Dunion Hill Landfill Site, Jedburgh	NT625189
Scottish Borders Council	Far Knowes Landfill Site, Galashiels	NT518367
Scottish Power	Foreshore, West Pans, Musselburgh	NT360735
Scottish Power	Longannet	NS960850
Scottish Power	Valleyfield (Torry Bay)	NT000850
Shanks Argyll & Bute	Dalinelongart Landfill Site, near Dunoon	NS138814
Shanks Ltd.	Wester Hatton Farm, Balmedie Aberdeenshire	NJ948153
Shetland Islands Council	Rova Head, Lerwick	HU471452
Smith Skip Ltd	Knowes Farm, Beith	NS342553
Stewart Milne Homes Ltd	Lynturk Tough, Alford	NJ595124
Stoneyhill Waste Management Ltd	Stoneyhill Quarry, Peterhead	NK076409
T Muir (Haulage) Ltd	Balbie Farm, Kirkcaldy	NT232892
Talisman Energy UK Ltd	Golta Tip, Flotta	ND365948
Tarmac (Northern) Ltd	Melville No 2, Lasswade, Midlothian	NT298667
Tarmac (Northern) Ltd	Haveral Wood Quarry, Lasswade, Midlothian	NT293659
Tarmac (Northern) Ltd	Coltness Factory, Newmains, Wishaw	NS825553
Tarmac Northern Ltd	Addiewell, near West Calder	NS992626
Tayside Contracts	Bolshan Quarry, Kinnell, Friockheim	NO621527
Tayside Contracts	Cultullich, Aberfeldy	NN873504
Tillicoultry Quarries Ltd	Tulliallan Quarry	NS939898
Toffolo Jackson	Burnfield Road, Glasgow	NS557598
Torith Ltd	Baldragon Farm, Bridgefoot, Dundee	NO378352
Tullis Russell & Co Ltd	East Forthar Farm, Ladybank	NO296059
Uist Builders (Construction) Ltd	Grimshader Quarry, Grimshader, Isle of Lewis	NB394275
UKAEA	Dounreay near Thurso	NC992679
W Forrest & Son	Omoa Works, Newarthill, Motherwell	NS798598
W H Malcolm Ltd	Inchbelly Landfill, Kilsyth Road, Kirkintilloch	NS668756
W H Malcolm Ltd	Reilly Quarry, Bishopton, Renfrewshire	NS418695
W H Malcolm Ltd	Southbar Landfill, Bishopton, Renfrewshire	NS447693
W H Malcolm Ltd	Giffen Quarry, Greenhills, By Beith	NS379507
W H Malcolm Ltd	Medrox Quarry, Glenboig	NS726699
W H Malcolm Ltd	Shewalton Road Sand Quarry, Irvine	NS330371
W J & R Morgan	Anniston, Inverkeilor, Arbroath	NO663478
Waste Recycling Group Ltd	Easter Deans Landfill Site, Nr Leadburn	NT239532
Watermill Aggregates Ltd	Broomhead Farm Quarry	NJ983637
West of Scotland Water	Glassford Water Treatment Works	NS708478
West of Scotland Water	Loch Whinyeon, Gatehouse of Fleet	NX620605
West of Scotland Water	Laurieston Forest	NX665635
West of Scotland Water	Carbarns STW, Netherton, Wishaw	NS772539

## Appendix IV

Licence Holder	Site	National grid reference
West of Scotland Water	Gorbals Works, Corslett Road, Glasgow	NS235583
William Hamilton & Sons (Contractors) Ltd	Dovesdale Farm, Stonehouse	NS770460
Wm Baxter & Son	Baxter's Food Factory, Fochabers	NJ339601
Wm Thompson & Son (Dumbarton) Ltd	Riggangower Quarry, Milton	NS438752
Wm Tracey Ltd	Griffenmill Quarry, Greenhills, by Beith	NS373510
Wm Tracey Ltd	Middleton Quarry, Lugton, Beith	NS400528

### Mobile Plants

Bio-logic Remediation Ltd	Not applicable as mobile plant
Bio-logic Remediation Ltd	Not applicable as mobile plant
Environmental Reclamation Services Ltd	Not applicable as mobile plant
Environmental Reclamation Services Ltd	Not applicable as mobile plant
Land & Water Services (Scotland) Ltd	Not applicable as mobile plant
Land & Water Services (Scotland) Ltd	Not applicable as mobile plant
Shanks	Not applicable as mobile plant
Shanks	Not applicable as mobile plant
Shanks	Not applicable as mobile plant



## Appendix IV

Licence Holder	Site	National grid reference
<b>Treatment Plants</b>		
60 North Recycling Ltd	Layfields/Rova Head, Lerwick	HU470449
A & M Smith	Bankhead,Duffshill, Portlethen	NJ927997
Aberdeenshire Council	Civic Amenity Site, Souterford Road, Inverurie	NJ778219
Aberdeenshire Council	Kirkton Road Depot, Stonehaven	NJ861860
Alexander Christie	11-13 Glendale Street, Glasgow	
Armstrong Waste Management Ltd	Newton Road Ind Est, Dumfries	NX955783
ASAP Contracts Ltd	Rear of Cairnhill Cottage, Sykeside Road, Airdrie	NS754637
Caledonian Industrial Ltd, Caleco Waste	Caleco Waste Transfer Station, Loanhead, Edinburgh	NT284666
Champion Technologies Inc	Minto Avenue, Altens, Aberdeen	NJ955030
D & W Stewart (Ladybank) Ltd	Lower Melville Wood, Ladybank	NO297116
East Coast Skips	Macmerry Industrial Estate, Macmerry, East Lothian	NT443726
East Dunbartonshire Council	Broomhill Dewatering Facility, Broomhill Ind. Estate, Kirkintilloch	NS662748
East Lothian Council	Barbachlaw Refuse Baling and Transfer Station, Wallyford	NT361719
East of Scotland Water Authority	Dalderse WWTW, Davids Loan, Falkirk	NS902820
East of Scotland Water Authority	Dunfermline WWTW, St Margarets Bay, North Queensferry	NT122816
East of Scotland Water Authority	Stirling WWTW, Whitehouse Road, Stirling	NS808935
East of Scotland Water Authority	Carron Valley Treatment Works, Denny, FK6 5JE	NS 766836
Enviroco Limited	Damhead Waste Management Centre, Upperton Industrial Estate, Peterhead	NK012044
Enviroco Limited	Hillview Ind Est, Hillview Road, East Tullos, Aberdeen	NJ 950037
Enviroscot Limited	Langmuir Way, Bargeddie	NS705641
Enviroscot Limited	600 Gilmerton Road, Edinburgh	NT298681
Euro Environmental Contracts Ltd	2 Whitestone Place, Whitehill Ind Est, Bathgate	NS982663
Highland Council	Torbreck Waste Transfer Station, Torbreck, Lochinver, Sutherland	NC088243
J A Kerins, Kwik Skips	Yard No 5, The Clippens Yard, Station Road, Loanhead	NT269662
J Burnett	Dalkeith Demolition, Mayfield Ind Est, Dalkeith	NT343643
J Haig Hamilton & Sons	West Fortune Farm, Drem	
J M Cunningham	Yard No 6, The Clippens Yard, Station Road, Loanhead	NT269662
James Easdale	40 Upper Cartsburn Street, Greenock	NS284752
Lanstar (Scotland) Ltd	Transfer Station (Solvent Processing), 60 Murray St, Paisley	NS476647
Leigh Environmental Ltd	Abbots Road, Bankside Ind Estate, Falkirk	NS897815
M McKenzie	Old Pentland, Loanhead, Edinburgh	NT265662
Marshall Farms	Balquharn Farm, Alva	NS866974
McIntosh Plant Hire (Aberdeen) Ltd	Birchmoss Plant & Storage Depot, Echt	NJ747502
Ministry of Defence (N)	Ministry of Defence, Clyde Submarine Base, Faslane	NS242901
Morris Young (Perth) Ltd	Loanleven Farm, Perth	

## Appendix IV

Licence Holder	Site	National grid reference
<b>Treatment Plants</b>		
Mr George Kerr	Drumshoreland Road, Pumpherston	NT074695
North Ayrshire Council	46 Metcalf Place, Oldhall Industrial Estate, Shewalton, Irvine	NS333365
North of Scotland Water Authority	Halkirk Wastewater Treatment Plant, Halkirk	ND141597
Orkney Islands Councils	Workwell Quarry, Orphir, Orkney	HY307054
Perth & Kinross Council	Ladywell Leachate Irrigation System, Dunkeld	
Scottish Water	Carbarans WWTW, Carbarns Road, Netherton, Wishaw	NS772539
Scottish Water	Bogton Road, Forres	NJ039596
Scottish Water	Corntown, Conon Bridge	NJ550562
Shanks Ltd	Greenbank Road, Tullos, Aberdeen	NJ948038
Shanks Northern Ltd	Greenbank Cresc., East Tullos, Aberdeen	NJ952037
Shaun Skinner	Veitch's Yard, Edgefield Rd, Loanhead, Midlothian	NT284668
SITA	Refuse Treatment Plant, Greenbank Crescent, East Tullos, Aberdeen	NJ953039
SITA	Civic Amenity Site, Pitmedden Road, Dyce	NJ884131
SITA	Sclettie Civic Amenity Site, Bucksburn, Aberdeen	NJ893100
Stirling Water Seafield Limited	Sewage Treatment Works, 4 Marine Esplanade	NT288760
Summerside Skips Ltd	Freightliner Yard, Sir Harry Lauder Road, Portobello	NT305735
Sureclean	10 River Drive, Teaninich Ind Est, Alness, Ross-Shire	NH652692
Swire Oilfield Services	Souterhead Rd, Altens, Aberdeen	NJ950020
T B Williamson & Son Ltd	Unit 39, Newbattle Ind Est, Mayfield, Dalkeith	NT344644
Taylor's Industrial Services Ltd	Hareness Circle, Altens, Aberdeen	NJ945027
Taylor's Industrial Services Ltd	Hareness Circle, Altens, Aberdeen	NJ954025
Tayside Contracts	Loanleven Treatment Facility	N0047253
Tayside Contracts	Forfar Depot, Kirriemuir Rd	
Town & Country Skips Ltd	Macmerry Industrial Estate, Macmerry, East Lothian	
UK Waste Management Ltd	Kilsyth Treatment Centre, Twechar	NS701762
UK Waste Management Ltd	Greenbank Road, Aberdeen	NJ948038
Waste Advisory Services (Scotland) Ltd	72 Durham Street, Kinning Parkway Industrial Estate, Glasgow	NS567641
Watson Skip Hire Ltd	Compound No 5, Easthouses Ind Est, Dalkeith, Midlothian	NT346656
West of Scotland Water	Daldowie Sludge Treatment Centre, Daldowie STW, Broomhouse, Uddingston	NS672621
West of Scotland Water	Sheildhill Sludge Treatment Centre, 38 Renfrew Rd, Glasgow	NS537661
William Finlayson & Son	Wallyford Ind Estate, Musselburgh	NT369718
William Tracey Ltd	15 Carlibar Road, Barrhead	NS500592
William Tracey Ltd	Burnbrae Road, Linwood	NS432643
William Tracey Ltd	Dunniflats Depot, Lugton	NS418531

## Appendix IV

Licence Holder	Site	National grid reference
<b>Post-closure sites</b>		
A B Hendry	Beam Quarry, Bonnybridge	NS836771
Aberhill Metals	Old Leven Colliery Bing, Methil	NO369005
Ambion Homes Ltd.	Peel Glen Road, Bearsden	NS519727
Angle Park Sand & Gravel Co Ltd	Ramornie Sand Pit, Ladybank	NO312101
Angus Council	Arrats Mill Landfill Site, Arrats Mill, Montrose Road, Brechin	NO646587
Argyll and Bute Council	Achadaphail Quarry, Bunessan, Isle of Mull	NM400225
Arjo Wiggins Fine Papers Ltd	Little Clinterty Quarry, Bucksburn, Aberdeen	NJ836123
Armstrong Waste Management Ltd	Auchenlosh Quarry, Dalbeattie (Phase I)	NX851612
Balfour Beatty Construction Ltd Civil Engineering Division	Creaggan Bridge, Balcardine, Argyll	NM978441
Barr Ltd.	Hollybush Farm, Mauchline, Ayr	NS489297
Braidbar Nurseries	Star & Garter Farm, Newton Mearns	NS526533
British Petroleum	Sullom Voe/Esso Bernicia, Sullom Voe	HU401768
British Waterways	Almond Aquaduct	NT104706
Bruce Plant Ltd	Charlestown, Cove, Aberdeen	NJ944010
Castelli & Girola UK Ltd	Boyd's Farm, Eagelsfield	NY231735
Castelli & Girola UK Ltd	Bonshawside 1 + 2, Lockerbie, M74	NY225723
Castelli & Girola UK Ltd	Woodhouse Mains, Kirtlebridge	NY268711
City of Glasgow Council	Cathkin Quarry, Cathkin Rd, Glasgow	NS622583
Comhairle nan Eilean Siar	Raoinavat, South Shawbost, Isle of Lewis	NB243459
CORUS	Clydebridge Works, Ballochmill Rd, Glasgow	NS632625
Culdaff Construction Ltd	Calderside Farm, by Auchentibber, Hamilton	NS665549
D. Cochrane	Catmoss Quarry, Greenlaw	NT713451
D.J. Laing (Contractors) Ltd	Lauriston Quarry, Quarryfield Farm, St Cyrus	NO759667
Dan Ramsay & Son Ltd	Meadowbank Farm, Torrance	NS628739
Daniel Campbell & Sons (Contractors Ltd)	Millwell Farm, Drumboy Road, Auldhouse, East Kilbride	NS653497
Deryck Forbes	Crossley Quarry, Maryculter	NO865964
Dr & Mrs H Riffkin	Teuchats Farm, By Leven, Fife	NO403075
Dykebar Waste Ltd	Harelaw Farm	NS499607
East Dumbartonshire Council	Roads Department, Broomhill Ind. Estate, Kirkintilloch	NS664748
Ennstone Thistle Limited	Ethiebeaton Quarry, Monifieth, By Dundee	NO486339
Farrans Construction	Auchenfoyle Farm, Kilmacolm	NS311671
Fife Council (Cleansing & Waste Management)	Lochty Park, Glenrothes	NT289984
G & A Munn & Son Landfill Ltd	Site 6, Mid Auchencarroch Farm, Jamestown	NS419813
G & B Building & Civil Eng Contractors Ltd	Greenhead Farm, Rescobie, Forfar	NO515514
G & D Cunningham Ltd	Haugh Road, Mauchline, Ayrshire	NS502263
Gavin Lawrie Ltd	Monkton Sand Quarry, Nr Monkton	NS344277
George Beattie & Sons (Contractors) Ltd	Colzium Quarry, Kilsyth	NS725788

## Appendix IV

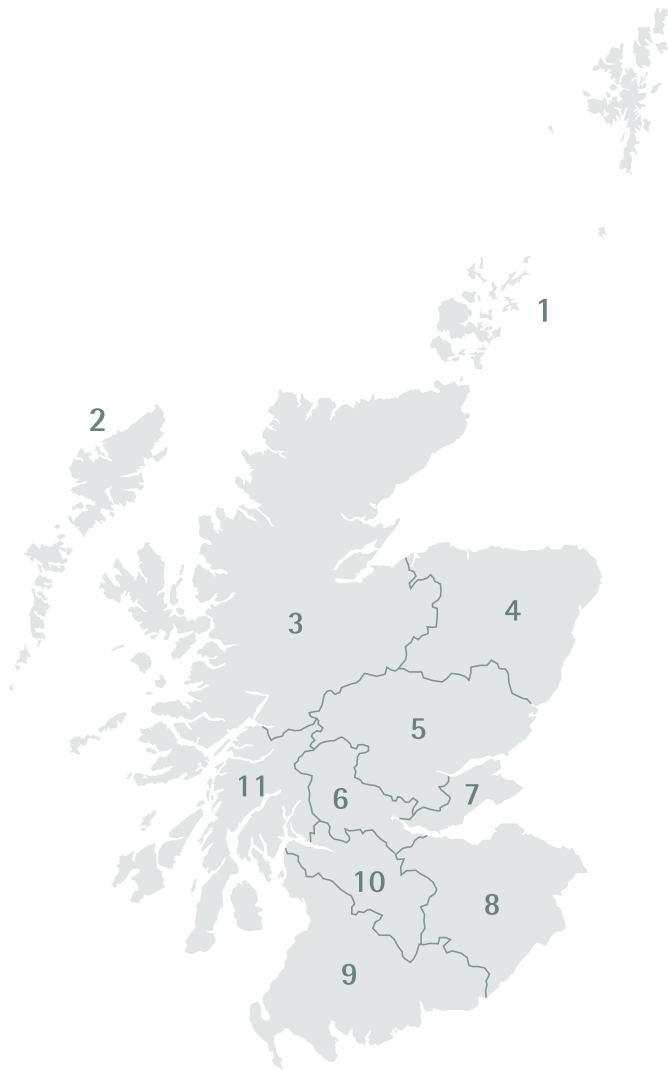
Licence Holder	Site	National grid reference
<b>Post-closure sites</b>		
George Munn & Others	Site 3, Mid Auchencarroch Farm, Jamestown	NS414824
Glasgow City Council	Wilderness Quarry, Bishopbriggs	NS598725
Grant Construction Services (Fife) Ltd	Dodhead Links, Kirkcaldy Road, Burntisland	
Highland Council	Croftaugh, Brora, Sutherland	NC896042
J & A Crozier	Lochdrum Farm, Bonnybridge	NS818782
J & J Currie	Down's Moss, Catherinefield Road, Dumfries	NY013778
J C Campbell & Co	Southbank Road, Kirkintilloch	NS650732
J H Connon Ltd	Cairnhall, Kintore	NJ787178
J Haig Hamilton	West Fortune Farm, Drem	NT534801
J J Spence	East Hatton Farm, Balmedie	NJ965157
J Wilson & Son (Coulton) Ltd	Old Toll Garage, Littlemill Road, Drongan, Ayrshire	NS446187
James Barr	Catherine Field Road, Heathhall, Dumfries	NY006786
John H Connon Ltd	Woodlands Quarry, Tulloford, Oldmeldrum	NJ797327
Joss (Aberdeen) Ltd	Newtonhill, Whitecairns	NJ928153
KMS (Fife) Ltd	Tolliehill Landfill	
Les Taylor Contractors Ltd	South Auchincleach, Westhill, Skene	NJ803119
Les Taylor Contractors Ltd	Wogle Farm, Kinellar	NJ825084
Lewis Land Seviles Ltd	Druim Shader, Isle of Lewis	NB528343
McIntosh Plant Hire (Aberdeen) Ltd	Kingsford, Kingswells, Aberdeen	NJ845064
McIntosh Plant Hire (Aberdeen) Ltd	Backhill, Kingswells, Aberdeen	NJ843064
McIntosh Plant Hire Ltd	Sluie Quarry, Potarch	NO613968
Messrs George Raeburn	Earnockmuir Farm, Hamilton	NS687525
Mr Angus Macleod	Loch Raoinavat, Shawbost, Isle of Lewis	NB235458
Mr B Paterson	B Paterson, Barclosh Moss, Dalbeattie	NX851612
Mr David Morton	Hayston Farm, Kirkintilloch	NS642741
Mr G A More - Nisbett	East Gilmerton, Drum Estate	NT297687
Mr G Kerr	Pumpherstons Works	NT074695
Mr G Watters, Law Mining Ltd	Rigmuir Farm, Chapelton	NS673524
Mr Gavin Craig	Avonside, Drumclog	NS630370
Mr Ian Ross	Cousland, By Dalkeith	NT375688
Mr J. Adams - ARC Northern	A R C, Annanbank Farm, Johnstone Bridge	NY105935
Mr M Russell, M & D Russell (Haulage) Ltd	Clapperton Bing, Pumpherston	NT078697
Mr Neil Knox	Scoughall Farm, North Berwick	NT618833
Mr Peter Beattie, George Beattie & Sons Ltd	Gartshore No 1 Colliery, Twechar	NS271674
Mrs Jane Simpson Hill	Torbush, Morningside, Newmains	NS826555
Mrs Sarah Coyle	Waterbank Farm, Carmunnock	NS598562
N.J. Macdonald	The Old Burgh Tip, Marybank, Isle of Lewis	NB403332
North Ayrshire Council	Nethermains Landfill Site, Sandy Road, Irvine	NS310415
North Lanarkshire Council	Hope Park, Croy	NS729760

## Appendix IV

Licence Holder	Site	National grid reference
<b>Post-closure sites</b>		
North Lanarkshire Council	Dalmacoulter Quarry, Stirling Road, Airdrie, ML6 7SP	NS766679
North of Scotland Water Authority	Ruthven, Huntly, Aberdeenshire	NJ517467
Norwest Holst Construction Ltd	Badenheath Park Farm, 80 Cumbernauld Road, Annathill	NS720719
Parker Brothers Ltd	Hayston Garage, 38 Glasgow Road, Kirkintilloch	NS645739
Paterson of Greenoakhill Ltd	Greenhead Moss PH2, Waterloo	NS813547
Peter Moretti	Cardowan Cottage, Steps	NS669685
R M Supplies (Inverkeithing) Ltd	Ferrytoll Quarry Landfill, Ferryhills Road, nr Inverkeithing	NT127815
Raynor Building Services Ltd	Old Quarry, Emmock Road	NO399345
S Oosterhof	Lower Tyacksnook, Lonmay, Fraserburgh	NK032597
Scottish Borders Council	SBC Roads DLO, Caddonlee Farm, Clovenfords	NT447357
Scottish Borders Council	SBC Roads DLO. Caddonlee Farm, Clovenfords	NT466353
Scottish Borders Council	Corsbie Dean	NT623455
Smith Anderson	Cabbagehall Tip, Leslie	NO245013
South Lanarkshire Council	Curlingmyre, Kelvin South, East Kilbride	NS637158
South Lanarkshire Council	Markethill Road, Law Place, Nerston, East Kilbride	NS632557
South Lanarkshire Council	Newlandsmuir Road, Gardenhall, East Kilbride	NS611530
South Lanarkshire Council	Earnock Quarry, Parkneuk Road, Blantyre	NS677539
South Lanarkshire Council	Cadzow Dam Landfill, Off Muttonhole Rd, Hamilton	
South Lanarkshire Council	Blue Waters Quarry, Limekilnburn Road, Quarter	NS717514
Stair Estates	The Pot, Castle Kennedy, Stranraer	NX100600
Tarmac Northern Ltd	Melville No 1, Lasswade, Midlothian	NT298667
The Buccleuch Estates Ltd	Harelaw Hill, Langholm	NY427786
Highland Council	Gairloch Site C, Poolewe Road, Gairloch	NG820779
Tulloch Capital Quarries	Harelaw , Port Glasgow	NS309727
W H Malcolm Ltd	Overgree Farm, Burnhouse	NS385510
W H Malcolm Ltd	Mavis Valley, Balmuirdy Road, Bishopbriggs	NS593714
W H Malcolm Ltd	Avenuehead Farm	NS702698
W Russell & Sons	Wilkieston Farm, Peat Inn	NO452119
W Waugh & Son (Builders) Ltd	W Waugh, Auldgirth	NX915842
West of Scotland Water	Dryfield Sewage Treatment Works, Glasgow Road, Kirkintilloch	NS674264
West of Scotland Water	Jellyhill Sewage Treatment Works, Hilton Terrace, Bishopbriggs	NS673261
West of Scotland Water	Sludge Lagoons, Locharmoss, Dumfries	NY010783
West of Scotland Water	Dechmont Old Service Reservoir	NS664576
William Tracey	Knowes Farm, Beith, Phase 3	NS345557

# Appendix V

## Waste Strategy Area Map



### Waste Strategy Areas and their Constituent Local Authorities

- 1** Orkney & Shetland
- 2** Western Isles
- 3** Highland
- 4** North East  
Moray, City of Aberdeen and Aberdeenshire
- 5** Tayside  
City of Dundee, Angus and Perth & Kinross
- 6** Forth Valley  
City of Stirling, Clackmannanshire and Falkirk
- 7** Fife
- 8** Lothian & Borders  
City of Edinburgh, West Lothian, Midlothian, East Lothian and The Scottish Borders
- 9** Ayrshire, Dumfries & Galloway  
North Ayrshire, East Ayrshire, South Ayrshire and Dumfries and Galloway
- 10** Glasgow & Clyde Valley  
Inverclyde, Renfrewshire, East Renfrewshire, City of Glasgow, South Lanarkshire, North Lanarkshire, East Dunbartonshire and West Dunbartonshire
- 11** Argyll & Bute

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7 DAYS A WEEK

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wasteactionline  
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Scottish Environment Protection Agency

Please do not call these numbers for general enquiries

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