

**WASTE MANAGEMENT REPORT**  
**PERIOD AUGUST 2006 TO JULY 2007**  
**University of Aberdeen**

## Contents

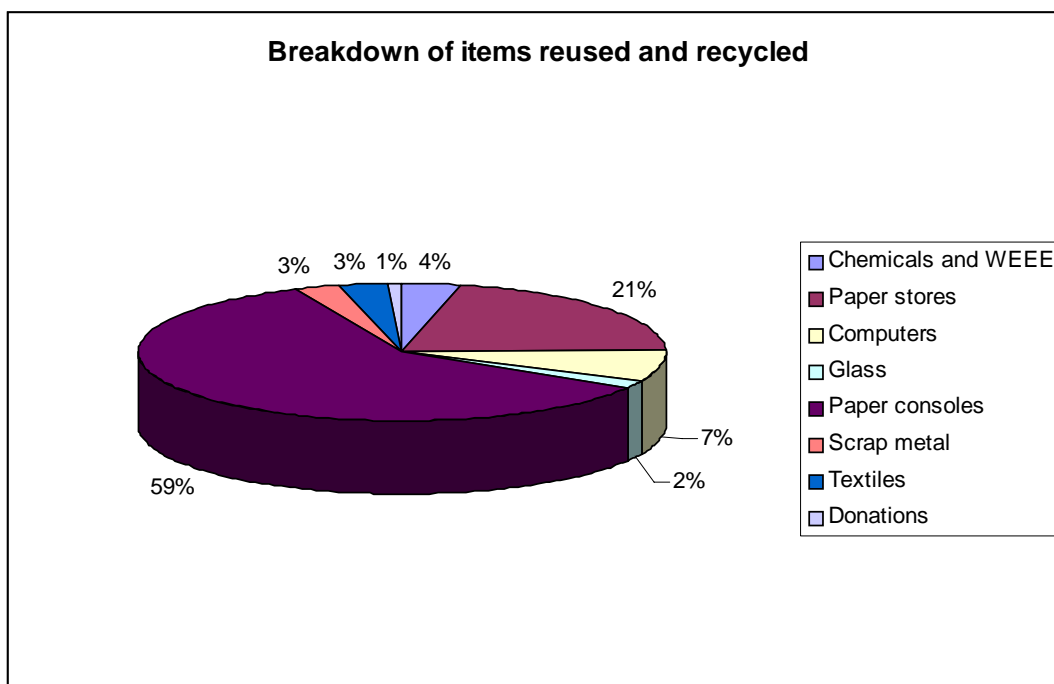
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## Executive Summary

Over the last financial year (period of August 2006 to end of July 2007) the University produced 1539.60 tonnes of waste. How this is broken down is illustrated in the table below.

Waste	Process	Mass in tonnes	Accuracy
Cardboard and paper from external stores	Recycled	59.19	Data provided from contractor
Chemicals and WEEE <sup>1</sup>	Recycled	10.16	Data provided from contractor
Chemicals and WEEE	Disposed	2.52	Data provided from contractor
Computers	Recycled <sup>2</sup>	20.64	Data provided from contractor
Computer waste	Disposed	2.294	Data provided from contractor
Donations	Reused	1.99	Data provided from contractor
General waste from skips and containers	Disposed	1252.11	Some detail provided from one contractor
Glass	Recycled	5.04	Estimated
Paper through recycling console system	Recycled	168.86	Data provided from contractor
Scrap metal	Recycled	7.65	Estimated
Textiles	Disposed	9.15	Data provided from contractor
<b>Total waste produced</b>		<b>1539.60</b>	

From the figures provided above it can be determined that during the last financial year a total of 82% of waste was disposed of (predominantly to landfill) and 18% was reused and recycled. How the latter figure is segregated is illustrated in the pie chart below.



It is important to note that the figures above are only indicative of the waste produced by the University. In certain areas we have insufficient data to produce reliable figures (e.g. clinical and construction waste) while some other figures are estimated (e.g. scrap metal figures are based on data for one calendar month while chemical and WEEE figures are based on information for two months). Over the coming years it is hoped that waste arising figures from contractors will be more readily available and more accurate.

<sup>1</sup> Waste arising figures from the contractor only commenced in June 2007, so this figure is based on two months worth of data only.

<sup>2</sup> 90% of the material is recycled, with 10% being disposed of in landfill.

## 1. Background

There have been a number of changes to waste management practices over the last financial year, with moves to enhance recycling facilities on campus. However, progress in this area is hampered by Aberdeen's geographical location and the lack of suitable waste treatment infrastructure locally. Due to our location we have to transport waste significant distances for treatment or disposal, increasing our waste costs in comparison with those of most other Scottish Universities. Indeed, in some instances this creates a conflict as to whether transporting waste such distances outweighs the benefit of recycling, especially in light of reducing our own carbon footprint.

Presently, cardboard, some chemicals, food and drinks cans, some glass, paper, scrap metal, and textiles are recycled. A small quantity of furniture, computer equipment, wooden pallets and stationery are donated for reuse. In the future, and in line with our waste policy, it is hoped the quantities diverted to these outlets will increase.

Waste is an ever increasing problem, both in quantity and in legislative requirements. New Directives are bringing more stringent controls to how we handle and dispose of wastes, preventing some, such as tyres, liquids and biodegradable material from going to landfill. In light of this it is hoped that more readily available end markets for material that can be reused or recycled will become available.

## 2. Highlights

The highlight of last year was the implementation of confidential and non-confidential paper recycling across both campuses and outlying facilities. The paper recycling system across University locations utilises differing collection mechanisms ranging from consoles to drop front bins. Since this system has been in place the University has recycled **168.86** tonnes through the console system.

## 3. Policy and targets

The University adopted its first Environmental Policy in May 2007, detailing a requirement to make efficient use of resources and minimise waste production. In order to implement some of the policy requirements it is necessary to highlight specific areas of work and set relevant waste targets. A Waste Policy has been developed and approved which sets three main targets. They are as follows:

- To reduce waste at source by 5% compared to 2006-2007 baseline levels by 2010
- To reuse 2% of waste items compared to 2006-2007 baseline levels by 2010
- To recycle or compost 20% of waste generated compared to 2006-2007 baseline levels by 2010

This report outlines what the baseline data is for the period August 2006 – July 2007.

## 4. Waste streams

The table opposite illustrates the main waste streams produced at the University (the list is not exhaustive) and indicates whether they are classified as general or special wastes. It also details the outlets for these wastes as it was during the period in question.

Waste item	Classification		Treatment / Disposal route
	General	Special	
Aerosols	✓	✓	Dependent on aerosol content. Mainly disposed of through general waste stream and collected by Shanks.
Animal By-products		✓	Collected by Healthcare Environmental or NHS Grampian for transfer to thermal treatment facilities
Asbestos		✓	Disposed of via approved asbestos contractor
Batteries		✓	Collected by Veolia Environmental and recycled
Brochures	✓		Placed in paper consoles, collected by Shred-it and recycled
Cardboard	✓		Placed in cardboard stores, collected by Shanks and recycled
Chemicals		✓	Collected by Veolia Environmental, where some are reused, whilst others are recycled or thermally treated
Clinical waste		✓	Collected by Healthcare Environmental or NHS Grampian for transfer to thermal treatment facilities
Computers		✓	Collected by CCL North who recycle 90% of the computer components, the remaining 10% is landfilled
Confidential waste	✓	✓	All material is securely shredded by specialist contractor
Construction waste	✓	✓	Taken by contractors
Envelopes	✓		Placed in paper consoles, collected by Shred-it and recycled
Fluorescent tubes		✓	Collected by Lampcare for heavy metal removal and crushing
Food and drinks cans	✓		Collected by porters and uplifted by Panda Rosa for recycling
Furniture	✓		Some is reused, dismantled for recycling; but the majority is landfilled
Glass	✓		Most glass is collected for recycling
Laboratory equipment		✓	Disposed of as WEEE through Veolia Environmental, where some components are recycled, whilst the majority is landfilled
Magazines	✓		Placed in paper consoles, collected by Shred-it and recycled
Newspapers	✓		Placed in paper consoles, collected by Shred-it and recycled
Oily rags		✓	Collected by Veolia Environmental where they are treated and reused as oily rags
Packaging	✓		Cardboard is recycled where applicable, but plastic is disposed of. Collected by Shanks.
Paper	✓		Placed in paper consoles, collected by Shred-it and recycled
Plastic	✓		Disposed of as general waste and collected by Shanks.
Printer consumables	✓	✓	Collected by individual departments for differing charitable organisations to reuse and recycle
Radioactive waste		✓	Managed by NHS Radiation Protection Adviser
Scrap metal	✓		Collected by Panda Rosa and recycled
WEEE <sup>3</sup>		✓	Disposed of through Veolia Environmental, where some components are recycled, whilst the majority is landfilled
Wood	✓		Disposed of as general waste and collected by Shanks.

<sup>3</sup> Waste Electrical and Electronic Equipment

## 5. General waste

### 5.1 Waste reused

Throughout the period of August 2006 to July 2007 the University has donated around **1.99** tonnes of waste to charity, ranging from furniture to wooden pallets. This has been reused within the local community through the help of the Creative Waste Exchange, which the University is a corporate member. These figures do not take into account waste reused in construction projects, which is difficult to quantify at present.

### 5.2 Waste recycled

The table below illustrates the quantity of waste recycled during the period of August 2006 to July 2007.

Waste stream	Tonnage recycled
Cardboard and paper (from stores, skips and drop front bins)	59.19
Chemicals and WEEE	10.16
Computers <sup>4</sup>	20.64
Glass <sup>5</sup>	5.04
Paper (confidential and non-confidential through consoles)	168.86
Scrap metal (includes food and drinks cans)	7.65
Textiles (through recycling points)	9.15
<b>Total waste recycled</b>	<b>280.7</b>

### 5.3 Waste disposal (landfill predominantly)

The table below illustrates the quantity of waste disposed of during the period of August 2006 to July 2007.

Waste producer	Tonnage disposed of
Waste produced through the IMS compactor	115.04
Waste produced through skips	891.96
Waste produced through wheeled containers <sup>6</sup>	245.10
Chemicals and WEEE	2.52
Computer waste	2.294
<b>Total waste disposed of</b>	<b>1256.91</b>

## 6. Special and clinical waste

Special wastes such as chemicals and WEEE are collected bi-annually during January and July. Any special wastes collected outwith this period are charged directly to the department producing the waste. Any EEE<sup>7</sup> procured after August 2005 should be given back to the supplier for disposal. This is now a legal requirement. The onus of WEEE disposal should no longer sit within Estates but within the procuring department.

Waste lamps, batteries, and oily rags are collected on an ad hoc basis; this is estimated to be once every three to four months. Computers are bulked up and collected once the storage container has reached capacity, or are collected by the contractor straight from the department if the amount of computers is of a large enough quantity.

Clinical waste is collected regularly from research locations across campus, predominantly at Foresterhill. As yet the waste arisings data for all clinical waste uplifts is not readily available, and therefore this has not been included in the waste produced figures above.

<sup>4</sup> Total computer waste is 22.94 tonnes, of which 90% is recycled and 10% is disposed of in landfill.

<sup>5</sup> Assuming 100% capacity

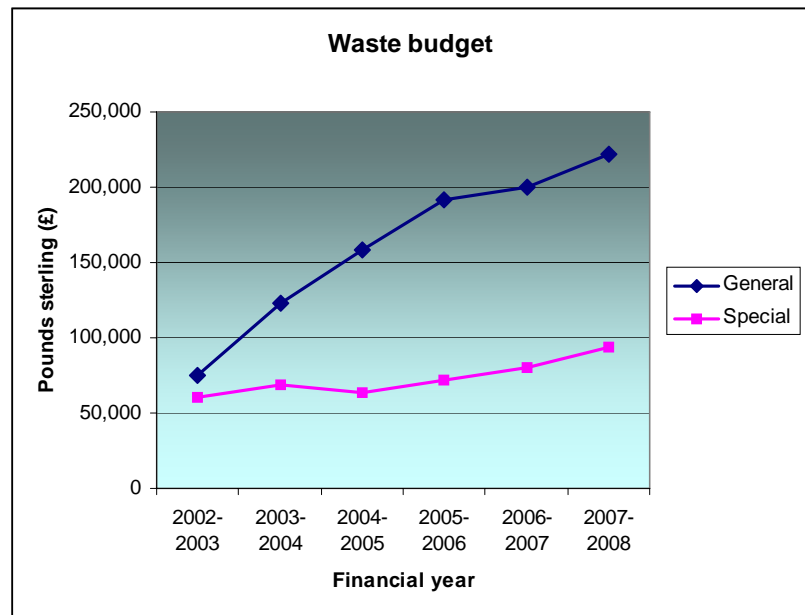
<sup>6</sup> Assuming 75% capacity

<sup>7</sup> Electrical and Electronic Equipment

## 7. Waste costs

The graph on the right shows the University's budgets for general and special wastes since 2002<sup>8</sup>. The graph illustrates significant increases in waste costs due predominantly to changes in legislation, increases in landfill tax and associated transportation, labour and gate fee costs. The increases are also due to increased volume of waste production as the University has expanded its activities.

It is likely that waste treatment and disposal costs will continue to rise year on year. The landfill tax escalator is set to increase by £8 per tonne for active wastes in April 2008, changing the current disposal charge for one tonne of such waste from £24 to £32.



## 8. Future plans

Service Level Agreements between the University and waste management contractors need to be tightened, whilst purchasing agreements and tenders need to incorporate the requirements of waste legislation.

Contracts need to be reviewed to ensure we are receiving best value for money and that collections are being undertaken in the most efficient way. The implications of new contracts may see significant changes in cost. For example, cardboard collections were until recently free of charge; this has now become chargeable with the introduction of a new contractor.

In order to achieve the targets highlighted within the waste policy the University needs to make a significant change in its current operational and procurement practices. The principles of the waste hierarchy need to be embedded into the University culture both on an individual and managerial level. Once waste is produced we have missed our opportunity.

New systems such as compactors need to be installed to reduce the amount of waste collections and ultimately costs.

Measures to reduce and reuse waste need to be implemented, for example:

- Sustainable procurement
- Leasing / hiring equipment compared to procuring items
- Reusing items across departments
- Waste minimisation campaigns
- Donating items to charitable organisations
- On site composting
- Awareness raising through academic and managerial staff

Whilst implementing the above will manage waste, it does not address cultural and behavioural change which will ultimately dictate whether any initiative works and whether targets are met.

## 9. Further information

Contact Amy Gray, Waste and Environmental Manager, Tel: 01224 272053, Fax: 01224 272061, [amy.gray@abdn.ac.uk](mailto:amy.gray@abdn.ac.uk) Environment Office, Estates Section, University Office, Kings College, Aberdeen, AB24 3FX

<sup>8</sup> This does not cover waste expenditure by Campus Services.