

Loughborough University

Waste Management Strategy

2014 and beyond.



Executive Summary:

The following Waste Management Strategy (WMS) defines waste as “**Any substance or object the holder discards, intends to discard or is required to discard**” and demonstrates the challenges faced in managing it. It highlights the key legislation which drives, externally, the responsibility for waste management and in particular the need to apply the waste hierarchy of Reduce, Reuse, Recycle and Recover before considering Disposal. Internally the drivers focus on costs and a need to manage our waste as part of our Environmental Management System.

The Environmental Manager has responsibility for the management of controlled, clinical and hazardous wastes including maintaining the relevant permits and registrations. Reporting is to the University’s Health, Safety & Environment Committee on Waste Data and Legislative compliance but also to the Estate Management Committee where applicable. It is however the responsibility of all staff, students and other stakeholders to ensure that waste procedures provided are followed.

The WMS sets out recent performance as well as the key objectives which are:

1. To ensure legal compliance
2. To reduce the amount of waste produced
3. To ensure staff are trained to handle controlled, clinical and hazardous waste
4. To ensure all waste will be managed in a sustainable manner following the waste hierarchy indicated in figure 1.
5. To ensure all waste is segregated, stored and clearly labelled

In support of these objectives, targets are set against the hierarchy of Reduce, Reuse, Recycle, Recover and Disposal.

The WMS details the approach to managing waste in academic areas, halls of residence and in external areas both in terms of litter and skip management. It further details strategy for specific areas of the campus and reuse partnerships. It also details how waste management processes are communicated and the sort of wastes produced and the waste contractor management strategy.

Finally it identifies both litter and smoking (or at least the litter from it) as two key challenges to be overcome in the future.

Contents:

- 1.0 Introduction?
- 2.0 Drivers for waste management (responsibilities)
- 3.0 Recent waste performance
- 4.0 Objectives and targets
- 5.0 Waste management strategies
- 6.0 Waste types and our contractors
- 7.0 Waste processes and guidance
- 8.0 Future waste challenges

1.0 Introduction

Waste can be defined as “**Any substance or object the holder discards, intends to discard or is required to discard**”. Managing the disposal of waste is a major economic, social and environmental challenge.

Each year the UK generates around 300 million tonnes of waste, one third of which comes from domestic, commercial and Industrial operations, (the remainder from mining, quarrying and construction). Approximately 50% of this is currently deposited onto or into the land where the biodegradable elements generate methane, a greenhouse gas 20 times more potent than Carbon Dioxide.

In line with the University’s other environmental strategies the Waste Management Strategy (WMS) aids the fulfilment of the overall Environmental Policy. The implementation of the WMS provides a structure and process that allows the University to reduce its’ environmental impacts and costs through better management of resources whilst meeting and, where practicable, exceeding the requirements of legislation.

The University produces a number of waste streams and the purpose of this strategy is to develop a framework where University staff, students and other stakeholders are able to minimise the amount of waste produced, segregate reusable and recyclable waste and reduce waste to landfill.

2.0 Drivers for waste management (responsibilities)

2.1 External Drivers

Management of waste is no longer a choice between recycling or landfill, in fact it’s no longer a matter of choice. The University’s policies and procedures are driven by numerous pieces of legislation but in particular there is now a **legal responsibility** to apply the waste hierarchy, which is:

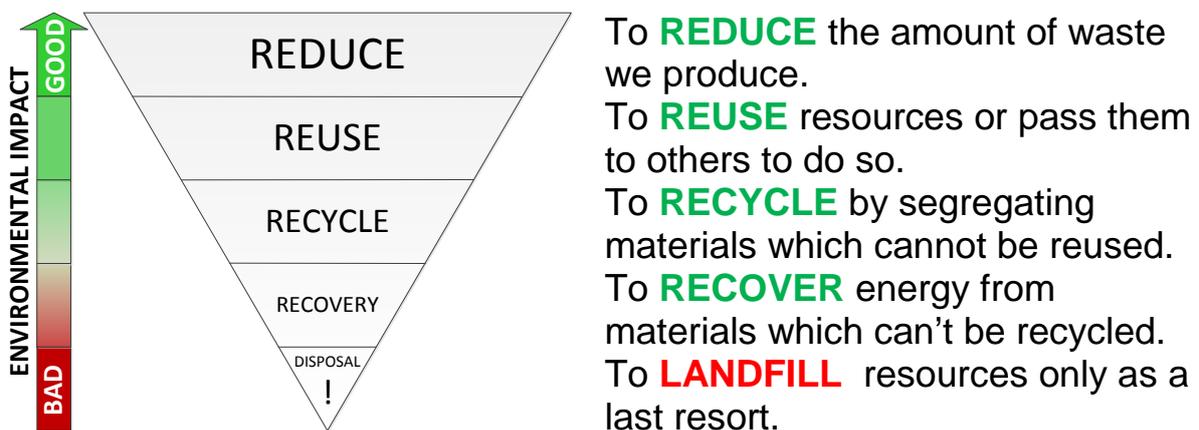


Figure 1: The Waste Hierarchy

As part of the University’s **Environmental Policy** and **Environmental Standards**, all staff and students now have a responsibility to adopt this hierarchy.

There is considerable incentive to manage our waste more sustainably both financially and legally as regulation increases. Loughborough University will meet and, where possible, exceed the requirements of all relevant waste legislation. There are numerous pieces of waste legislation now and these can all be seen in the

University's **Register of Environmental Legislation**. However some of the key pieces include:

- **The Environmental Protection Act 1990**
- **The Environment Act 1995**
- **Landfill Directive 99/31/EC**
- **Lists of Wastes (England) Regulations 2005**
- **Hazardous Waste (England and Wales) Regulations 2005 (as amended 2009)**
- **Waste Management (England and Wales) Regulations 2006**
- **Waste Electrical and Electronic Equipment Regulations 2006 (as amended 2007/9/10)**
- **Revised Waste Framework Directive 2008**
- **Environmental Permitting (England and Wales) Regulations 2010**
- **Waste (England and Wales) Regulations 2011**
- **WEEE Directive 2012/19**
- **Controlled Waste (England and Wales) Regulations 2012**

In addition strategies such as the following will drive our targets as well as Directives and external stakeholder expectations.

- **Waste Strategy for England 2007**
- **East Midlands Regional Waste Strategy 2006**
- **Leicestershire Municipal Waste Strategy 2006**

Internal Drivers

The rising cost of waste management, shown in the increasing cost of landfill and disposal of non-recyclable waste, is a clear driver for reducing the amount of waste produced and sent to landfill and can be achieved through sustainable waste management practices. The Environmental Management System (EMS) requires continual improvement and this includes waste management. Internal stakeholder expectations to reduce costs and waste volumes as well as minimising carbon emissions from waste management will further drive targets and improvements.

Responsibility for Waste

Waste on campus is managed by the Environmental Manager who has responsibility for the management of controlled, clinical and hazardous wastes (but not radioactive) site wide including maintaining any Environmental Permits and Environment Agency Registrations. The Environmental Manager reports to the University's Health, Safety & Environment Committee on Waste Data and Legislative compliance but also to the Estate Management Committee on any aspect of Waste Management affecting the Estate. It is however the responsibility of all staff, students and other stakeholders to ensure that waste procedures provided are followed.

3.0 Recent waste performance

The following table shows how the University has performed on its waste management over recent years.

	Total Waste*	On-site** Recycling %	Overall*** site Recycling %	Energy Recovery**** %	Landfill %
2012-2013	1,840	52%	77%	18%	5%
2011-2012	2,100	49%	72%	11%	17%
2010-2011	1,809	48%	56%	11%	33%
2009-2010	1,799	29%	29%	N/A	71%
2008-2009	2,199	26%	26%	N/A	74%
2007-2008	2,411	35%	35%	N/A	65%
2006-2007	2,097	20%	20%	N/A	80%
2005-2006	2,092	9%	9%	N/A	91%

* Excludes Construction Waste – figures in tonnes

** Waste and Recycling segregated on site by staff and students

*** Includes Waste and Recycling segregated by our contractors but this costs the University

**** Waste is incinerated and energy recovered for use in cement manufacture.

As can be seen excellent progress is being made in increasing recycling and energy recovery whilst reducing waste to landfill, but at least 25% of the waste produced on campus could be segregated on site for recycling. This would save the University money and allow our contractor to focus on further segregation from the resultant waste. This then forms the basis for our Objectives and Targets.

4.0 Objectives and targets

Key Objectives

The University's WMS objectives are:

1. To ensure legal compliance
2. To reduce the amount of waste produced
3. To ensure staff are trained to handle controlled, clinical and hazardous waste
4. To ensure all waste will be managed in a sustainable manner following the waste hierarchy indicated in figure 1.
5. To ensure all waste is segregated, stored and clearly labelled

Strategy Targets

The following table sets out our aspirational targets, in line with the waste hierarchy, for waste reduction, reuse, recycling (both onsite and overall) recovery and landfill.

	REDUCE	REUSE	RECYCLE		RECOVER	LANDFILL
			Onsite	Overall		
2012/13 (A)	1,840	0%*	52%	77%	18%	5%
2013/14	1,820	1%	54%	77%	17%	5%
2014/15	1,800	1%	55%	78%	16%	5%
2015/16	1,790	2%	56%	78%	15%	5%
2016/17	1,780	2%	57%	79%	14%	5%
2017/18	1,770	3%	58%	79%	13%	5%
2018/19	1,760	3%	59%	79%	13%	5%
2019/20	1,750	4%	60%	80%	11%	5%

(A) Actual

* Data not separately recorded

Additional targets within these are:

1. To increase recycling in halls year on year with a target of 45% by 2020
2. To reduce food waste by 25% by 2020 against the baseline of 200 tonnes recorded in 2011/12

Recycling is calculated as including – paper, confidential paper, cardboard, glass, cans, plastics, wood, metal, printer/toner cartridges, WEEE (Waste Electrical and Electronic Equipment), batteries, fluorescent tubes / lamps and food waste processed through anaerobic digestion.

Recover is calculated as including – waste segregated by our contractor for use as a Refuse Derived Fuel (RDF)

Reuse is calculated as including – any resource we pass to a third party which is reused in the state in which it is passed, possibly with minor refurbishment.

5.0 Waste management strategies

5.1 Academic Areas:

In academic areas the strategy is to source segregate our waste streams as opposed to using a co-mingled solution. There are two main reasons for adopting this approach:

1. We believe that our legislative responsibilities require us to do this.
2. By source segregating it allows us to achieve an income from certain resources, such as metal, paper, cardboard and plastics as well as achieve zero cost on certain waste streams e.g. WEEE. Where we do not get an income or achieve a zero cost the cost charged is less by segregating e.g. wood.

The internal bin strategy is to use a standard range of bins which utilise WRAP colours and imagery across all academic areas and these are slowly being rolled out. The range includes bins for Paper, Plastics, Cans and Non recyclables. The target is to have all areas using these bins by 2020 if not before. Further details of these can be seen on the strategy which can be found here http://www.lboro.ac.uk/sustainability/policy/waste_management.html

5.2 Halls of Residence:

In Halls of Residence a slightly different strategy is adopted and here a co-mingled approach is used. Again there are two main reasons for adopting this approach:

1. As residences the waste from these areas is classed as domestic rather than commercial and as such we work with Charnwood Borough Council on the removal of the recyclable element of this waste.
2. Space in the Halls of Residence is restricted and with the existing property stock it would not be possible to have multiple bins in these areas.

The internal bin strategy in these areas is therefore to use a standard bin across all halls with one bin for non-recyclables and a separate bin for mixed recyclables.

The segregation of food waste in Halls of Residence is also a key strategic aim and has been introduced in some halls. All University owned and run self catering halls will have food waste segregation by the end of 2014.

5.3 External litter Bins:

The strategy for external litter bins follows that of the Halls of Residence with a dual bin offering a co-minigled and non recycling option. These sustainably sourced hardwood bins are in keeping with the campus aesthetics and were first introduced in 2012. The aim is for this to be the only external bin used by 2017, although some cigarette posts may also still be required. Further details of these can be seen on the strategy which can be found here

http://www.lboro.ac.uk/sustainability/policy/waste_management.html

5.4 Skip Provision and the Collection of Waste:

The WMS seeks to maximise the financial efficiency of bins and skips on campus whilst also minimising the aesthetical impact and the H&S Risks. Larger skips require less frequent emptying and offer greater economy and as such will be used where possible. To minimise campus impact they will however need to be positioned away from high footfall areas and a key part of the WMS is the creation of a Waste compound where all large skips can be housed. The use of such skips also requires waste to be collected by internal vehicles and transported to this locaiton. Where 1100l bins and FEL's are used the aim will be to enclose these in compounds which are in keeping with the aesthetics of the campus.

5.5 Waste & Recycling from Village Park:

Due to the high volume of waste & recycling from the halls of residence, the strategy in this area involves the provision of storage space for recyclable materials, pending colleciton by the council, and the provision of a compactor for general waste. Both of these requirements are met in the Car Park 6 Waste Compound, which although not ideally positioned is the only space currently available to meet this requirement.

5.6 East Park Waste Strategy

The development of the East Park provides an opportunity to create a more cost effective solution for dealing with waste and recycling from this area which includes two halls of residence, a dining hall, retail outlet and several large new buildings. A proposal will therefore be put forward as a consequence of this strategy.

5.7 Reuse Strategy

The University has formed working relationships with a number of local and national charities in oder to develop the reuse of resources from the campus. Understanding the needs of these charities and ensuring our resources are being put to good use has been part of the focus of the WMS over the last 12 months and we are now in a place where we can develop our reuse processes to achieve strategy targets.

5.8 Contractors Waste

Contractors are responsible for removing all waste from site and are not permitted to use Unviersity skips without prior approval from the Environmental Manager and the Project Manager. For larger projects the University requires contracts to adhere to the principles of Site Waste Management Plans despite the legislation being rescinded.

6.0 Waste types and our contractors

Wastes produced include, but are not limited to:

General Waste	Paper	Cardboard	Plastics
Cans	Confidential Waste	WEEE	Toner Cartridges
Mobile Phones	Polystyrene	Metal	Wood
Food	Glass	Plasterboard	Batteries
Light bulbs	Furniture	Aerosols	Oils
Asbestos	Chemicals	Clinical waste	Hazardous waste

The strategy for the University is to appoint contractors who are able to manage one or more specific waste streams grouped as follows:

- General waste
- Mobile phones
- WEEE
- Batteries and bulbs
- Clinical waste
- Hazardous waste
- Bulk waste
- Toner cartridges
- Food waste
- Confidential waste
- Halls mixed recycling
- Glass bottles
- Segregated recyclable materials – paper, plastics, cardboard, cans/metals etc

7.0 Waste processes and guidance

The management of waste streams is communicated through operational controls (processes and procedures) which can be found on the Sustainability website. These controls detail how the various waste streams are to be dealt with.

8.0 Future waste challenges

Two of the key challenges facing Loughborough moving forward might not be ones which immediately spring to mind but both have significant environmental impacts because they are difficult to manage. They are:

1. Litter – Managing litter on campus takes up a significant amount of time and incurs substantial costs. Picking up litter is a laborious and tedious manual task made more difficult in poor weather conditions. The frustration is that dropping litter is actually an offence for which individuals can be fined and yet it remains a significant problem. It also adds to other problems on campus such as vermin as well as having a detrimental effect on the aesthetics of the campus. Educating staff and students not to drop litter will be a challenge.
2. Smoking – Whilst smoking itself is not an environmental issue, the dropping of cigarette butts is. Cigarette butts are litter and therefore create the same problems detailed above, only made worse because they are even harder to pick up

Record of Changes
Date, reason for and author of changes to the Strategy: