



## WASTE STRATEGY EXECUTIVE SUMMARY



*Lancaster University is a Higher Education Institution based in Lancaster in the North West of England. The University is recognised as one of the top universities in Britain for the quality of its teaching and research.*

*Within its wider sustainability commitments, the University is keen to ensure that it manages waste and resources in an efficient and sustainable manner by aiming to avoid waste generation, where possible, and prioritising reuse and recycling over the disposal of waste materials.*



# 1 INTRODUCTION

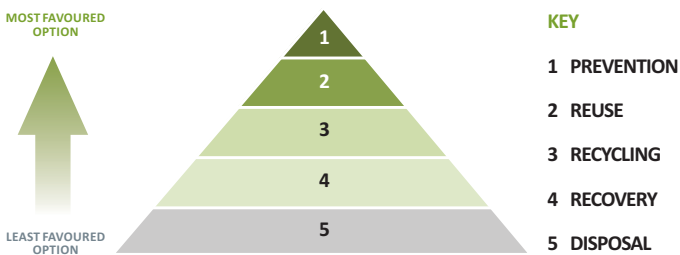
## 1.1 The Waste Strategy

The objective of this *Waste Strategy* is to set out a framework for waste management at Lancaster University from 2012 to 2020.

The *Waste Strategy* sets out the legislative requirements and drivers, as well as the national and Lancaster University specific waste management targets.

Short, medium and longer term strategic objectives, structured in respect of the waste hierarchy set out the detail of how Lancaster University will meet its legislative and internal targets.

Figure 1: Waste Hierarchy



## 1.2 Waste Hierarchy

The *Waste Hierarchy* is both a guide to sustainable waste management and a legal requirement for organisations to follow when managing their wastes.

The hierarchy gives top priority to waste prevention, followed by preparing for reuse, recycling, other types of recovery (including energy recovery), and last of all disposal.

This strategy reviews the current performance against the tiers within the *Waste Hierarchy* and sets targets for the short, medium and long term.

## 1.3 Background and Context

The need to develop a *Waste Strategy* at Lancaster University was driven by a variety of factors, as detailed below:

- **Rising waste and recycling costs.**
- **Consideration of alternative waste collection and treatment/disposal options.**
- **Desire to obtain additional value from recyclates.**
- **Desire to improve recycling rates and limit landfill disposal.**
- **Bin storage fire safety.**

## 1.4 Waste Strategy Review - Conclusions

In order to address these issues a *Waste Strategy Review* (WSR) was undertaken in 2011. The WSR determined a number of principal conclusions:

- Lancaster University general waste treatment/disposal costs are below sector average and recyclates costs are approximately sector average.
- Recyclates collection and treatment costs are higher than general waste (per tonne), though decreasing.
- Off-site treatment and segregation of general waste significantly increases overall recycling and recovery rates and when combined with on-site segregation of recyclates this maximises the overall recycling rate.
- A number of external bin stores require remedial works to meet fire safety requirements.
- Food waste is not currently segregated for treatment.

## 1.5 Waste Strategy Review - Recommendations

The *Waste Strategy Review* developed and considered a range of options for future management and treatment of waste. A number of the options were recognised as having major benefits, and were recommended for implementation, these included:

- Minimise general waste production.
- Introduction of food waste segregation.
- Development of centralised waste compound.
- Ongoing monitoring of new technologies.



## 2 WASTE PERFORMANCE

### 2.1 Waste and Recycling Performance

Lancaster University has made significant progress in improving its waste management performance over the last five years.

#### Total Waste Generation and Waste Prevention

Since 2007, the total amount of waste materials generated has been around 1,900-1,950 tonnes per annum.

This figure has remained fairly static despite significant expansion of the campus and the intensification of on-site activity and represents a gradual reduction in waste generation.

#### Reuse

In 2010-11 approximately 2% of waste generated at Lancaster University was segregated for reuse in a variety of projects.

#### Recycling

There has been a significant increase in the recycling rate at Lancaster University from less than 4% in 2006-07 to 53% in 2010-11.

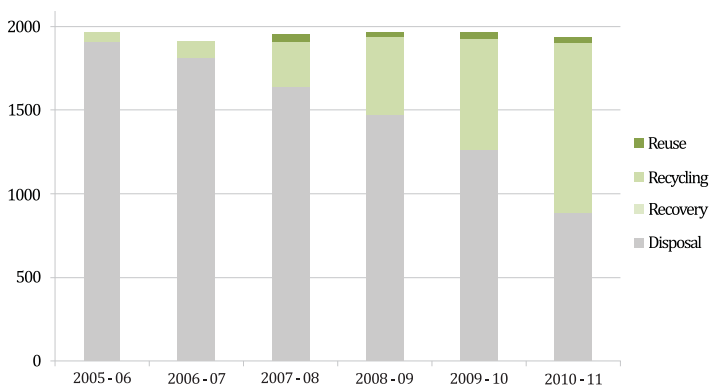
#### Recovery

Recovery of waste will commence when the off-site treatment plant is licenced for treatment/sale of the soil type material generated from the treatment of biodegradable waste.

#### Disposal

Residual waste generation at Lancaster University has gradually declined from over 1,625 tonnes in 2006-07 to 1,300 tonnes in 2010-11. In 2006-07 all 1,625 tonnes of residual waste were disposed of to landfill. In 2010-11 the figure was 868 tonnes.

Figure 2: Lancaster University waste generation in the context of the Waste Hierarchy (tonnages)



## 3 TARGETS AND PERFORMANCE

### 3.1 National Targets

National targets for reducing waste disposed to landfill and recycling rates have been set by the UK Government.

The targets require local authorities to divert 25% of biodegradable waste away from landfill by 2010, 50% by 2013 and 65% by 2020. A recycling target of 50% by 2020 has also been set.

### 3.2 HE Sector Performance

The HE/FE sector does not have specific waste disposal or recycling targets. Mean HE/FE sector recycling rates in the HE/FE sector have increased from 18% in 2005-06 to approximately 45% in 2010-11.

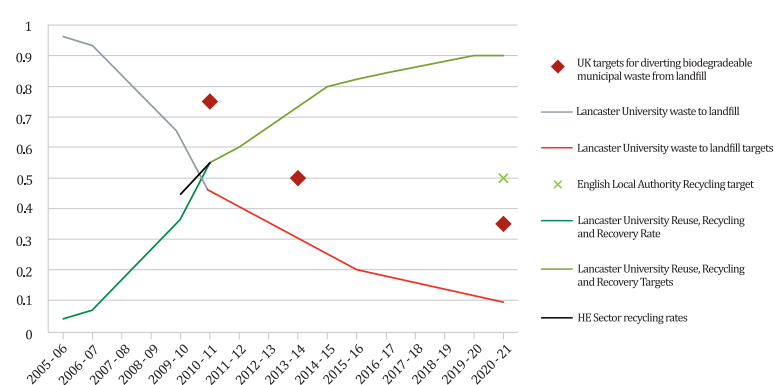
### 3.3 Lancaster University Performance

Lancaster University has seen major improvements in its recycling rate and waste diverted from landfill.

- Between 2005-06 and 2010-11 recycling rates increased from 4% to 53% (plus 2% reuse), exceeding the mean HE/FE sector recycling rates in 2010-11.
- In 2005-06 over 95% of Lancaster University waste was disposed of to landfill. This had reduced to 45% by 2010-11.

Lancaster University aims to surpass the UK national targets and aspires to be a leader in waste reduction and recycling within the HE Sector. The targets are given in section 4.

Figure 3: Lancaster University waste management performance compared with national targets and sector performance.



## 4 THE WASTE STRATEGY

### 4.1 Introduction

The *Waste Strategy* has been developed with a three stage timeframe. Each stage of the strategy has a waste reduction target and a series of projects designed to help achieve this target or to improve waste management.

The *Waste Strategy* runs from 2011-12 until 2019/20.

### 4.2 Short Term Waste Strategy (2012-2013)

**Target: 67% waste reused/recycled or recovered over 2012-13**

The following projects, plans and actions are planned to be implemented during 2012-13:

- Undertake food waste segregation/treatment feasibility project and waste composition analysis.
- Commence permanent upgrade of external bin stores to reduce fire safety risk.
- Develop temporary central waste storage compound.
- Formalise and fully document waste procedures.
- Review and tender waste and recyclate contracts.
- Extend compulsory recycling across campus for all student resident accommodation.

### 4.3 Medium Term Waste Strategy (2013-2015)

**Target: 80% waste reused/recycled or recovered by 2013-15**

The following projects, plans and actions are planned to be implemented over the 2013-2015 period:

- Install food waste treatment plant to selected locations.
- Review on-site and off-site contracted waste and recycling collection/treatment costs.
- Develop reusable waste storage/assessment facility.
- Implement permanent upgrade of external bin stores to reduce fire safety risks, phased over five years.
- Develop with Procurement guidelines and purchasing policies to ensure maximum resource efficiency.
- Complete roll-out of internal waste and recycling bins and recycling arrangements to all existing buildings.
- Integrate waste procedures, targets and documentation into formal environmental management system.

### 4.4 Long Term Waste Strategy (2015-2020)

**Target: 90% waste reused/recycled or recovered by 2019-20**

The following projects, plans and actions are planned to be implemented over the 2015-20 period:

- Extend waste food collection to all commercial outlets and trial food waste collection from student residences.
- Develop the central waste compound with space to enable sorting/storage/compaction of on-site high volume segregated recyclates.
- Trial on-site collection/sorting of selected high volume recyclates in central waste compound.
- Review on-site and off-site contracted waste and recycling collection/treatment costs.
- Extend reuse facility/project to enable maximum capture of reusable items across campus.
- Extend and mainstream 'resource efficiency' through procurement by requiring full lifetime costs of items to be considered in order to minimise waste.
- Review commercial case for installation of micro waste to energy plants.

### 4.5 Waste Strategy Review, Update and Reporting

Performance in implementing the *Waste Strategy* will be reviewed on an annual basis to assess progress and reported to CEMENT and CEEB.

In addition, following the completion of the short term *Waste Strategy* (2011-12) an updated and more detailed *Waste Strategy Action Plan* will be developed and agreed for the following year (2012-13), taking into account the projects, plans and actions set out in this document.

A new *Waste Strategy Action Plan* will be developed for each subsequent year within the *Waste Strategy* timeframe.

A full review of the *Waste Strategy* will take place in summer 2015 following the implementation of the initial four years of strategy.

## 5 SUMMARY

The *Waste Strategy* sets out a framework for waste management over the next decade at Lancaster University.

The strategy offers many environmental benefits, not least through managing resources more efficiently, through preventing and minimising waste generation and by increasing recycling rates, and helping to achieve legislative compliance.

The projects within the *Waste Strategy* detail how Lancaster University plans to alter the way in which waste is managed on-site, treated and disposed off-site. It is also designed to encourage a reduction in waste generation and alter University staff, students and visitors attitudes to waste management and generation.

### Contact

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Lancaster University has been awarded the Carbon Trust Standard after taking action on climate change by reducing carbon emissions.