University of Oxford
Waste Management Strategy
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Executive Summary

Background

Waste management is a key area of environmental sustainability within Oxford University. This Waste Management Strategy provides recommendations for reducing waste and developing a complete monitoring and reporting system for waste and recycling. This will enable the University to demonstrate continuing waste reduction and associated cost savings in its environmental reporting to HEFCE and the wider University.

The strategy aims to address how the University will meet its Waste Policy, as agreed by Council in 2008. The Policy states that "The University of Oxford Waste Policy is to review opportunities and implement measures to minimise general and hazardous waste generated by the University that is sent to landfill, and increase the proportion of waste that is recycled." The key reasons for developing the strategy are; legislation (the new Controlled Waste Regulations and local planning requirements); HEFCE reporting requirements; and the costs of waste disposal. At present total tonnage of waste and recycled waste are reported to HEFCE. In 2012 HEFCE will require higher education institutions to report on the Scope 3 emissions which include waste. Oxford’s figures for 2009-10 indicate that the CO$_2$ equivalent of the waste was 2,700 t CO$_2$ (3% of total emissions from energy, water, vehicles and air travel).

The strategy covers all waste streams including hazardous waste (within the remit of the Safety Office), building construction waste and sustainable purchasing (the Purchasing Department’s remit).

The strategy does not cover the Colleges because they are financially independent from the University and historically they are not included in HEFCE reporting for the Estates Management Statistics. However the University works closely with the Colleges in many areas of environmental sustainability. All waste disposal, recycling and reuse framework agreements will allow colleges to ‘opt-in’.

Current costs for waste disposal are about £750,000, including £400,000 for hazardous waste disposal. The Government has created a financial incentive to reduce waste to landfill and promote recycling by increasing the Landfill Tax by £8/tonne annually. The University currently pays £4.35 (73%) extra to have a ‘landfill’ bin emptied rather than a recycling bin. The Safety Office holds the budget for hazardous waste disposal so departments do not have to bear this cost.

The lack of reliable data on waste disposal prevents accurate reporting. The University’s preferred waste and recycling contractor serves about 40% of departments and their data suggests that 35% by weight of waste is recycled. There is no data available for the remaining 60% of departments which use other contractors. Other specialised waste streams are served by a variety of contractors and again very little data is available. The disposal of hazardous waste is highly regulated therefore detailed data is available which shows that only 1% is sent to landfill, the remained is incinerated or recycled.

The Waste Management Strategy was developed by the Sustainability Team in consultation with the University Purchasing Department and the University Safety Office.

The Sustainability Team is working where it can to establish re-use and recycling schemes for waste streams not covered in the main waste contract. These schemes are advertised widely in EcoFinance and include; Swap Shop, Plant Swap, printer cartridge recycling and book recycling.
Strategic objectives

The five strategic objectives for the waste management strategy that act to support the delivery of the University Strategic Plan and Estates Strategy are as follows:

1. To deliver a significant and commensurate reduction in its waste in line with its mission of sustaining excellence and its objective of making significant contributions to society

2. To follow the waste hierarchy in seeking first to implement cost effective measures to prevent waste being produced in the first place; to minimise waste; to recycle waste and to divert as much waste as possible from incineration or landfill

3. To engage and work in partnership across the University and Colleges, with staff and students, and with wider stakeholders to develop solutions for reducing the University’s waste

4. To take a whole life cycle approach to assessing the cost benefits of waste reduction measures, as well as considering indirect consequences (such as how waste management will be affected by fuel costs and transportation in the future)

5. To reduce the University’s indirect carbon emissions generated by waste (eg: methane in landfill sites) and waste transportation (eg: waste disposal vehicles)

Targets

The quality of waste data available to the University dictates that for the short term, the University is unlikely to be able to set targets for sustainability indicators such as percentage of total University waste recycled.

It is crucial for the University to be able to capture its total waste data so that in the future it can set quantitative waste reduction targets. It is also important to set clear deadlines for when the initiatives outlined in this document will be achieved and clear indications of how they will be resourced.

Regardless of the lack of available waste monitoring and reporting data, the University can set SMART\(^1\) targets:

1. Heads of Division to ensure all departments sign up to the University’s preferred suppliers by December 2012.

2. The Sustainability Team to continue to work with the Purchasing Department to review all waste and recycling service providers for all waste streams with the aim of consolidation of preferred suppliers by December 2013.

3. The Sustainability Team to continue to work with Purchasing to establish new contracts for waste streams that are currently not provided for, by December 2012.

4. The Sustainability Team to work with the Finance Department to create cost codes for recycling and hazardous waste so departments can record waste/recycling costs separately, by August 2012.

5. The Sustainability Team to continue to work with Purchasing to ensure all purchasing contracts include supplier take-back clauses where appropriate, in line with sustainable procurement best practice, by December 2013.

6. The Sustainability Team to develop staff training and guidance on waste issues, in a range of formats, by December 2012.

\(^1\) (specific, measurable, attainable, relevant and time-bound)
7. The Estates Directorate to demonstrably divert at least 70% of its building and construction waste (arising from capital projects and minor projects) from landfill by December 2012.

**Recommendations**

The strategy sets out recommendations covering governance and responsibility, procurement and communications.

- For value for money and data collection purposes all departments are to use the same preferred waste suppliers.
- Recycling schemes are to be established in all departments.
- Consolidate the list of waste suppliers to cover the various waste streams.
- All future waste and recycling contracts to cover the provision of good data for reporting purposes.
- The Sustainability Team to develop and issue guidance on waste and recycling to all new staff through the departments.
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1. Introduction

Oxford University is a leading educational institution. Waste generation is an integral part of this process and reducing waste is key to reducing the University’s environmental impacts and maximising business performance.

In 2011 this Waste Management Strategy (the strategy) was developed by the University’s Sustainability Team in consultation with the University Purchasing Department and the University Safety Office. The strategy provides a road map for the University to manage its material resources more effectively, with the aim of achieving increased efficiency and cost savings.

The strategy outlines recommendations for reducing waste and developing a full monitoring and measuring system for waste and recycling. This will enable the University to demonstrate ongoing waste reduction and associated cost savings in its environmental reporting requirements for HEFCE and the wider University.

The strategy aims to bring all aspects related to waste under a common focus and provide a formal and practical basis for communicating, seeking approval for and implementing a plan to reduce waste. The strategy focuses on the following areas that are key to improving the University’s waste management:

1. Governance and responsibility – responsibility for waste issues at senior level, and how this responsibility for waste is devolved throughout the organisation

2. Measurement – how to achieve a robust method of measurement and reporting

3. Targets – setting robust, flexible and adaptable targets that suit the University’s changing business needs and performance

4. Reporting and communication – how the University can communicate on waste issues to its key internal and external stakeholders

5. Procurement and investment – mechanisms that promote waste-conscious procurement and investment processes (eg: whole life-cycle costing)

6. Training and awareness – staff training requirements on waste reduction, reuse, recycling and communication
2. Background

2.1. Scope

2.1.1. Colleges

The scope of the waste management strategy excludes the Colleges because the Colleges are financially independent from the University and much of their waste is classified as ‘domestic waste’ which is collected free of charge, while the University’s waste is classified as ‘business waste’ which is charged for. Also waste data from the Colleges and the associated Scope 3 emissions are not reported to HEFCE.

However, the University works closely with the Colleges to address many areas of common initiative, including sustainability. All waste disposal, recycling and reuse framework agreements authorised by the University Purchasing Department will include an ‘opt-in’ clause for Colleges who wish to opt into any preferred supplier waste disposal/reuse/recycling agreements.

2.1.2. Types of waste materials

The scope covers all waste streams including building and construction waste, hazardous waste (which falls under the Safety Office’s remit) and sustainable purchasing (which falls under the Purchasing Department’s remit).

The Waste Management Strategy should be considered alongside the University Carbon Management Strategy, Water Strategy, Sustainable Buildings Philosophy Document and Travel Plan that the University has in place to address carbon management and sustainable water management.

2.2. University Waste Policy

The strategy aims to address how the University will meet its Waste Policy, agreed by Council in 2008. The Policy states that “The University of Oxford Waste Policy is to review opportunities and implement measures to minimise general and hazardous waste generated by the University that is sent to landfill, and increase the proportion of waste that is recycled.”

2.3. Monitoring and reporting

The University needs to be able to demonstrate its waste performance to internal and external stakeholders. However, it is currently unable to monitor its total (non-hazardous) waste, due to the incomplete data available from the University’s preferred waste suppliers (waste contractors) and non-preferred suppliers (as many departments do not use preferred suppliers for waste disposal or recycling and this data cannot be captured).

In contrast to energy and water consumption (which is monitored throughout the University using bespoke software), the ability to obtain accurate waste data is not under the University’s control.
2.3.1. Waste data

Currently the University is unable to obtain data on its total waste and recycling tonnages. In 2010 the University commissioned AECOM consultancy\(^2\) to assist the University to conduct building waste surveys of the 10 top waste producing buildings. The commissioning of AECOM’s work stemmed from a combination of statutory drivers and the desire amongst the University population to take a more strategic approach to sustainable waste management.

Waste data was provided by the University’s preferred waste supplier (however the data does not account for all the other waste suppliers currently used by the University). The waste collected is mainly made up of basic recyclable items such as certain plastic, paper, glass, cans, tins and cardboard.

In 2009/10 the preferred supplier confirmed they collected approximately 40% of the University’s waste and recycling (collecting from 100 of the 240 departmental buildings). This means there is no detailed information on the 60% of the University’s waste and recycling that is not collected by the preferred supplier (estimated to be over 9,000 tonnes).

Of the 40% of waste collected by the preferred supplier, 35% was recycled and 65% was sent to landfill. It is clear that improvements need to be made to increase the University’s recycling performance.

The Safety Office estimates that it sends approximately 1% of hazardous waste to landfill and approximately 48.7% is incinerated. The hazardous waste section outlines hazardous waste in more detail.

2.3.2. Waste costs

Waste costs are increasing annually. The total waste budget for the University is about £750,000 which includes £400,000 for hazardous waste disposal. Each 1100 litre waste bin collected currently costs £12.82 (including bin hire and VAT). Recycling costs are cheaper as they are not subject to Landfill Tax, so the University’s preferred supplier charges £7.57 per 1100 litre recycling bin collection (including cost of bin hire and VAT).

2.4. Leadership and governance

Currently none of the preferred suppliers for the different waste streams provide adequate waste or recycling data to the Sustainability Team, and as a result it is extremely challenging to provide data to HEFCE and other stakeholders. Departments are allowed to use other waste suppliers in addition to the University’s preferred waste suppliers. This results in an inability to measure and monitor waste generated in the University. As preferred suppliers offer preferential pricing, departments who choose their own suppliers are likely to pay higher waste disposal and recycling costs compared to departments that use the University’s preferred suppliers.

Delivery

The ultimate responsibility for ensuring the delivery of the objectives in the Waste Implementation Plan set out in this waste management strategy lies with the Pro-Vice-Chancellor for Planning and Resources as chair of PRAC and the SSG. However, the Plan will be delivered by the University’s Sustainability Team. The Sustainability Team is based in the Estates Directorate and reports to the Director of Estates.

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\(^2\) The AECOM Waste Survey is in a separate document, SSG (11) 03 Annex B
The Sustainability Team reports to the Sustainability Steering Group (SSG). The SSG reports on the University’s progress towards sustainability objectives and acts as an expert panel and high-level strategic group to advise on policy. SSG Reports to the:

- Buildings and Estates Sub-Committee
- Planning and Resource Allocation Committee of Council

The Sustainability Steering Group is chaired by the Pro-Vice-Chancellor for Planning and Resources. The Group is also attended by the chair of BESC, the Director of Estates and the Head of Environmental Sustainability.

The SSG is also advised by the Environment Panel (sub-committee of BESC), the purpose of which is to provide a practical forum for the exchange of information and discussion of matters relevant to the implementation and development of the University’s Environmental Sustainability Policy.

The Environment Panel’s membership has representation from each academic division, the University Safety Office, the Conference of Colleges and the student body. Members of the Sustainability Team are in attendance.

2.5. Resources

There is currently no University-wide fixed budget for measures to increase the sustainability of the University’s waste management procedures. However, many of the initiatives outlined in this strategy are unlikely to require significant capital spend, as the cost of these initiatives will be more in terms of staff time.

The supplier’s internal recycling boxes cost £14 each + VAT, which can be financially prohibitive for large buildings due to the large numbers involved. Funds need to be made available to purchase internal recycling boxes.
3. Drivers to reduce waste

The University’s drivers for waste reduction and their cumulative effect present a significant financial and reputational risk to the University. These are outlined below. Aside from these drivers, the University considers sustainable waste management an essential component of addressing its environmental impacts in line with its Environmental Sustainability Policy 2008. ³

There are various drivers for the University to reduce its waste. These include the University’s own internal waste policy and external stakeholder requirements:

- Legislation
- HEFCE – Scope 3
- Planning requirements
- Green League
- Costs
- Reputation

3.1. Legislation

The new Controlled Waste Regulations 2011 ⁴ came into law on 29 March 2011. They transpose the revised Waste Framework Directive (2008/98/EC) and include changes to the way waste is managed in England and Wales. As a result, these regulations require the University to demonstrate it applies the waste hierarchy to all waste generated. Increasing emphasis must be placed on reducing waste at source, minimisation and reuse. Recycling is lower down the pyramid. Energy recovery (incineration) and sending waste to landfill (disposal) are least favoured. The waste hierarchy is expected to be implemented through amended Duty of Care requirements from the autumn of 2011 and UK government will provide guidance on this.

While recycling is gaining popularity in the University, it must now focus on meeting compliance according to the waste hierarchy below:

Waste Hierarchy Pyramid

³ Environmental Sustainability Policy 2008 is available on the University website: www.admin.ox.ac.uk/estates/environment/envpol08.pdf
3.2. HEFCE

HEFCE (Higher Education Funding Council for England) has stated that it plans to link the amount of funding allocated to specific institutions to their performance on carbon management. This presents a financial driver for the University to demonstrably reduce its waste.

The accepted best practice approach to carbon management is the World Resource Institute’s Greenhouse Gas Protocol (GHGP), recommended by DEFRA (2009) and HEFCE. The GHGP outlines the approach that organisations should take to managing their CO₂ emissions. Central to this is the categorisation of the carbon emissions that result from an organisation’s activities into three scopes. The scopes are numbered in order of priority, based on how an organisation should address calculating and reducing its emissions.

Scopes of carbon emissions under the Greenhouse Gas Protocol

<table>
<thead>
<tr>
<th>Scope</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| 1 Direct emissions | Direct emissions occur from sources that are owned or controlled by the organisation | • Direct fuel and energy use (eg: gas or oil)  
• Transport fuel used in institutions’ own fleet vehicles |
| 2 Indirect emissions | Emissions from the generation of purchased electricity consumed by the organisation | • Purchased electricity |
| 3 Other Indirect emissions | Emissions which are a consequence of the activities of the organisation but occur from sources not owned or controlled by the organisation | • Waste  
• Water  
• Procurement  
• Commuting (both staff and students)  
• Land based staff business travel  
• Staff business air travel |

HEFCE states that institutions are encouraged to measure a baseline for Scope 3 emissions because in the longer term they expect these to be included in the University’s carbon management strategy.

Based on 2009/10 data Scope 3 emissions from waste are 3% of the University total.

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7 Carbon management strategies and plans: a guide to good practice, HEFCE (amended Sept 2010)
8 Figures regarding CO₂ in this strategy are in terms of ‘CO₂-equivalent’, which means they take account of Greenhouse Gas emissions other than CO₂ such as methane and nitrous oxide.
10 HEFCE currently only requires institutions to set a carbon reduction target for scope 1 and 2 emissions. HEFCE will require Scope 3 reporting from 2012.
When HEFCE announces the waste targets in the medium term future, the University must be ready to respond. However, the University is currently unable to provide adequate waste data to HEFCE; it submits estimated data based on available data for part of the estate. While the University’s preferred supplier collects from 40% of University buildings, there are 60% of buildings whose waste data is either unknown or unavailable. Therefore, the University is unable to completely fulfil existing HEFCE requirements, and will find it even more challenging once HEFCE announces new waste reporting in the future.

3.3. Planning requirements

Oxford City Council planning requirements are a key driver for waste reduction in new buildings and major refurbishments with a footprint of 2,000 m² or more of floor space. They must undergo a ‘Natural Resource Impact Analysis (NRIA) as part of the planning process (as set out in Policy CP.18 of the Oxford City Local Plan). Planning applications for developments over this threshold must include an NRIA at submission.

The NRIA requires data on how new builds and refurbishments will use natural resources, both at the construction phase and through the subsequent day-to-day running of the buildings.

As part of the NRIA, the University must demonstrate how the building is designed to minimise the use of natural resources during its lifetime. The NRIA criteria for waste management include:

- Storage and access to facilities/collection – storage facilities should be provided and be accessible, safely and conveniently by building users
- Internal layouts should include space to store waste conveniently before it is taken outside for recycling or composting
3.4. Green League

Each year the University is asked by People & Planet to submit environmental data and information for the Green League under the Freedom of Information Act. The Green League results are published in the Times Higher Education Supplement and the Guardian in June each year, ranking all UK universities’ environmental performance.

Among the criteria that contribute to an institution’s ranking, the Green League gives points for annual reductions in waste per full-time staff and student member (based on the proportion of total waste mass recycled and waste mass per head).

The table below shows how the member institutions of the Russell Group of research intensive universities were spread throughout the rankings of the 2011 Green League (Oxford was ranked in 89th position in 2010).

**Ranking of the Russell Group Universities in People & Planet’s Green League 2011**

<table>
<thead>
<tr>
<th>University</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>London School of Economics &amp; Political Science</td>
<td>22</td>
</tr>
<tr>
<td>University of Edinburgh</td>
<td>47</td>
</tr>
<tr>
<td>King’s College London</td>
<td>50</td>
</tr>
<tr>
<td>University of Southampton</td>
<td>60</td>
</tr>
<tr>
<td>Newcastle University</td>
<td>63</td>
</tr>
<tr>
<td>University of Bristol</td>
<td>68</td>
</tr>
<tr>
<td>University of Cambridge</td>
<td>68</td>
</tr>
<tr>
<td>University of University of Birmingham</td>
<td>73</td>
</tr>
<tr>
<td>Imperial College London</td>
<td>78</td>
</tr>
<tr>
<td>University College London</td>
<td>83</td>
</tr>
<tr>
<td>University of Manchester</td>
<td>89</td>
</tr>
<tr>
<td>University of Warwick</td>
<td>100</td>
</tr>
<tr>
<td>University of Glasgow</td>
<td>101</td>
</tr>
<tr>
<td>University of Oxford</td>
<td><strong>103</strong></td>
</tr>
<tr>
<td>University of Sheffield</td>
<td>114</td>
</tr>
<tr>
<td>University of Liverpool</td>
<td>119</td>
</tr>
<tr>
<td>Cardiff University</td>
<td>130</td>
</tr>
</tbody>
</table>

By implementing sustainable waste management best practice, the University will ensure it is in a good place to gain additional waste-related points in the Green League in the future.
3.5. Costs

Data provided by the University’s Finance Department shows the University spent approximately £750,000 on waste and recycling (including hazardous waste) in Financial Year 2009/10. Waste accounted for 6.96% of total spend on utilities in 2009/10.

Total University utilities spend 2009/10

The waste reduction measures outlined in this strategy will help to reduce the University’s exposure to increasing waste and recycling costs. Waste disposal and recycling costs will rise driven by:

- University expansion
- Landfill Tax increases
- Rising costs of natural resources (eg: oil)

3.5.1. University expansion

As the numbers of students and staff increase due to University expansion, tonnages of waste and recycling will also increase unless significant efforts are made to reduce waste at source.

3.5.2. Landfill Tax

The University's waste to landfill costs are increasing year on year as waste suppliers are required to pay Landfill Tax for every tonne of waste sent to landfill. The Landfill Tax is aimed at reducing tonnages of waste sent to landfill because most landfill sites are near full capacity.

As of April 2012 the Landfill Tax will increase to £64 per tonne and will continue to increase by £8 per tonne per year until it reaches £80 per tonne in 2015/16. The cost increases will be passed through to prices charged by the University’s preferred waste and recycling suppliers.

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The Finance Department generated data for the total waste spend by running a report on the University’s 2009/10 accounts data, pulling out any mention of ‘waste’. The data was then manually processed to remove any line items that were not related to waste.
Price increases (provided by the University’s preferred waste supplier)  
(Prices do not include VAT)

<table>
<thead>
<tr>
<th>Waste collection per 1100L bin:</th>
<th></th>
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<tbody>
<tr>
<td>£7.38</td>
<td>£8.46</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Recycling collection per 1100L bin:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>£5.65</td>
<td>£5.87</td>
</tr>
</tbody>
</table>

3.5.3. Additional recycling boxes

The new Controlled Waste Regulations stipulate that organisations are likely to be required by law to separate their waste (paper, metal, plastic and glass), as opposed to current co-mingled collections. This means the University may need to buy more internal recycling boxes, however it would be prudent to work with waste and recycling preferred suppliers in order to establish the best solution.

3.5.4. Cost of natural resources

In addition to the Landfill Tax waste costs are rising due to inflation and especially the above inflation increases in fuel.

3.6. Reputation

The trend towards disclosure and incentive-based regulation means that the University will face increasing reputational risk from poor performance on waste management.

3.6.1. Visitors, students and staff

Oxford has an international reputation for the excellent standard of its teaching and research. Today more than 20,000 students from a diverse range of backgrounds and nationalities benefit from Oxford’s resources and unparalleled facilities.

Waste is visible, unlike energy or water which is rarely noticeable on a day to day basis. Waste carries negative connotations and when visible in buildings and ancillary spaces it creates an impression of neglect and bad management. Oxford cannot afford to generate a negative impression to staff, students and visitors through poor waste management (such as overflowing bins, rubbish left by the side of buildings or untidy rooms filled with unwanted items). Improved waste management will remedy this.

3.6.2. Freedom of Information Act

The University Press Office receives many enquiries from student journalists and private individuals asking about the University’s environmental performance, often requesting information under the Freedom of Information Act.

There is a reputational risk if the University does not take further steps to set targets, proactively manage its environmental impacts and communicate challenges and achievements to staff and students.
3.6.3. University of Oxford Annual Review

Each year the Sustainability Team provides a one-page report covering quantitative data on the University’s sustainability performance. Waste data must be included along with energy, water, transport, sustainable buildings and biodiversity. The Annual Review is a high profile publication which is distributed internally and externally (globally). Therefore it is crucial that this report shows accurate data reflecting the University’s responsible waste management approach.
4. Waste management implementation

This section describes the many actions that can be taken to implement a waste management strategy covering; governance, consolidation of waste suppliers, monitoring and reporting, procurement and communications.

4.1. Leadership and governance

Responsible waste management is ultimately everyone’s responsibility (we all produce waste as part of our work life and make decisions about where we dispose of it). However, effective waste management is only possible with top down support from senior staff members.

In the University, waste management is typically the role of Building Managers, Laboratory Technicians and Facilities Managers. However, without leadership from senior staff such as Heads of Department and Administrators, it will be challenging to demonstrate significant waste reduction.

In addition, the student population is transitory and therefore it is necessary to regularly repeat waste related communications, in order to maintain adequate momentum for waste reduction initiatives. Leadership and a change of attitude towards waste will enable staff and students to contribute to a culture of responsible waste management, which is to be cultivated within departmental buildings.

It is important to recognise that to change behaviour and attitudes to waste, communication on waste related issues must be factored into the day to day running of a department and including waste reduction in all staff induction materials and job descriptions where relevant.

Whilst ultimate accountability for ensuring the delivery of the objectives in the Waste Management Strategy lies with the Pro-Vice Chancellor for Planning and Resources, the Plan will be delivered by the University’s Sustainability Team.

The implementation process can only be effective with top down approval and leadership from committees, Heads of Division and Heads of Department (in collaboration with the Purchasing Department, the Safety Office and the University’s Sustainability Team).

For HEFCE waste reporting purposes, the Estates Management Statistics will be compiled by the Sustainable Development and Waste Management Officer and reported to the Head of Environmental Sustainability.

4.2. Preferred suppliers

The University’s preferred waste and recycling supplier collects waste and recycling from 40% of departmental buildings. It recycles a large number of basic items – therefore all departments should be able to set up recycling for:

- Paper – all types inc. envelopes, magazines, brochures and directories
- Confidential paper shredding (collected as a separate collection)
- Plastic (PET 2 and HDPE 2 only)
- Cardboard boxes and card food packaging
- Tins and cans
- Glass bottles and jars
- Food waste (collected as a separate collection)

The supplier recently started providing food waste collection services as a separate collection, however University departments have not yet opted into these collections. Food waste collections would be especially beneficial for departments with cafeterias or dining facilities. The supplier recycles non hazardous Waste, Electrical and Electronic Equipment (WEEE) and also collects hazardous WEEE. The Safety Office arranges the disposal of hazardous WEEE and the departments are responsible for disposal of their non-hazardous WEEE.

Only 100 out of the University’s 240 buildings (40%) have their waste and recycling collected by the University’s preferred waste and recycling supplier. The remaining 140 buildings (60%) have their waste collected by various suppliers – many of which are not preferred. As a result, there is no available waste or recycling data for 60% of University buildings. To remedy the situation, Divisions must ensure their departments opt into the preferred waste contracts, so that waste and recycling can be monitored and reported accurately.

The University’s waste and recycling contract was re-negotiated in 2010, with set, preferred lower prices with the University’s preferred supplier. The other preferred suppliers, eg: for computer equipment and confidential paper shredding, should also be required to provide waste tonnage data for monitoring purposes.

If the University consolidated its waste suppliers it could manage waste more efficiently and reduce waste-related costs.

By making it obligatory for all departments to opt into the supplier contract, the University will also reduce waste-related vehicle movements and emissions, especially in areas such as the Science Area and Oxford City. Potentially it would also reduce the number of bins on University premises, as there would be scope for reduced numbers of external landfill bins.

4.3. Consolidate waste and recycling services

The University uses a wide range of waste and recycling service providers. Competitive rates have been negotiated with the University’s preferred supplier for ‘general waste’. The supplier’s contract is also known as the University’s ‘central' waste contract.

For the University to establish how well it is performing in terms of sustainable waste management, a key requirement is reliable waste data from which sound decisions can be taken on opportunities to reduce the environmental impact of the University’s waste.

Many of the opportunities identified in this strategy are based on partial data, which has required some supposition and generalisation. The University is currently pursuing a process to increase the value for money it achieves for the services it procures. From a value for money perspective, those sites which are not using the waste supplier’s service may be paying higher rates for their waste management services. Also, the more consolidated the University’s waste management arrangements are, the stronger the negotiating position the University has to drive down the price their departments pay.

These points raise the need for an exercise to establish exactly which sites are served by the supplier and to facilitate and incentivise Departments that are using other service providers to change, whilst respecting the University’s principle of subsidiarity.
4.4. Monitoring and reporting

The University must develop a robust method of measuring and reporting waste, as this is essential for underpinning the enforcement of responsibility for waste as well as future reporting requirements.

The challenges of measuring waste data and emissions are considerable. Following the University’s principle of subsidiarity, by which budgetary responsibility and decisions are devolved as far as possible to allow the departments and research groups autonomy, each department is responsible for arranging its own waste services.

Of all the University’s sustainability related data requirements, waste data provides a particular challenge because, unlike energy use which is metered, accurate waste data requires the waste and recycling contractors to record data on tonnages of waste/recycling. Obtaining waste data from service providers tends to be difficult, as few companies have efficient information systems set up for anything above accounting requirements. Unless a requirement to provide accurate, timely data is stipulated clearly in all waste/recycling contracts, suppliers are unlikely to provide waste data to the University.

Waste surveys have been sent out to departments in the past, but only a maximum 33% response rate was achieved. AECOM’s waste survey results highlighted a discrepancy with data from the waste supplier.

All of the University’s preferred waste/recycling suppliers should be subject to stricter reporting requirements in their contracts. Tenders should be offered only to suppliers who set KPIs for how and when they will meet the University’s monitoring and reporting requirements and penalties should be enforced if suppliers fail to meet their agreed reporting responsibilities. This would help the University to track its waste and recycling tonnages and associated costs.

The University should also review how waste and recycling costs are entered into the financial database (ORACLE), to identify mechanisms that would make the tracking of waste and waste related costs, easier and more accurate.

4.5. Supplier take-back

Some research groups in the University provide incentives to suppliers of laboratory equipment to encourage supplier take-back of packaging at the point of delivery, or on request. To roll out packaging take-back on a wider basis in the University, it is recommended that the Purchasing Department and the Sustainability Team work with Facilities Managers and representatives of research groups to drive supplier take-back and identify solutions to problem waste streams such as polystyrene and certain plastics.

The Purchasing Department already includes take-back in preferred supplier contracts however it is up to departments to ensure they implement take-back where possible. The ability of suppliers to take back packaging should be weighted quite heavily in the tendering process, as it can reduce a department’s waste costs considerably.

A communications strategy for this process should be drawn up to find the best way to disseminate this information to relevant research groups.

A common example is the plastic boxes in which pipette tips are delivered which are made from a type of plastic that the supplier cannot recycle (they only recycle PET 1 and HDPE 2). A large quantity of pipette packaging is generated across the University each day, leading to a significant waste stream in pipette boxes.

Other common packaging used for laboratory products are ‘Winchester’ bottles containing solvents. The Chemistry Research Laboratory (CRL) uses up to 140 bottles of
solvent per day, and saves approximately £16,000 per year in waste costs through take-back with their supplier.

Pipette boxes and solvent bottles are just two examples of the many forms of supplier take-back across the University, showing that Departments are using their purchasing power to send clear messages up the supply chain.

Unfortunately there is no simple way to quantify the amount of supplier take back across the University, so incorporating these successes into overall data on waste management performance presents a significant challenge.

4.5.1. Supply chain management

The Purchasing Department includes procurement processes in all supply chain management issues, especially where non-recyclables are generated in abundance, eg: in the laboratory areas of the University. In the medium and longer term, identifying opportunities to improve supply chain management will enable the University to build working relationships with suppliers to encourage them through Research and Development to reduce packaging and select materials that can be reused or recycled at end of life.

4.5.2. Life cycle costing

The University procurement process considers the end-of-life for goods purchased (eg: whether they can be recycled or reused). This process helps to maximise the types of goods purchased that can easily be recycled at end of life.

The procurement process includes ‘take-back’ of packaging waste in its procurement contracts. By stipulating take-back as part of the contract, suppliers will be more likely to take back their waste packaging, reducing the University’s labour and costs.

Note that a purchaser can waive the WEEE producer take back responsibility at contract stage to reduce the purchase cost. The customer always has responsibility for transport
costs at end of life, although some companies do transport free of charge as they can make sufficient money from reuse / recycling especially for IT equipment.  

4.5.3. Reduce waste at source

Reducing waste at source is the most efficient way to reduce waste, recycling and procurement costs. Options for reducing waste include technical and behaviour change interventions, based on the waste hierarchy of reduce, reuse and recycle (landfill being the least preferred option).

The University needs to review all of its waste streams and identify which items are really needed. The University procures thousands of items (eg: plastic drink stirrers, plastic bags, cheap pens and pencils that break easily) that could be replaced with durable, more sustainable alternatives.

Reuse in-house is key to waste reduction and has lower environmental impacts compared to recycling. The University doesn’t have a dedicated resource for reusing unwanted items generated from the 184 departments. By reusing the vast amount of unwanted items generated by the University it is possible to reducing expenditure on new items and from avoiding bulky waste disposal costs.

Stationery

For various reasons, departments sometimes need to dispose of brand new, unwanted items such as files, document holders and wallets. While some of these items may be reused by other departments (or colleges) through the University virtual Swap Shop, there is no data available for what happens to items that are not reused through Swap Shop. Much of the waste the University sends to landfill is stationery waste, such as broken pens, pencils, files and plastic inserts. In addition to widening awareness of the Swap Shop reuse service, it is recommended that departments analyse all stationery waste generated to explore options for reducing this waste at source (eg: buying refillable pencils and leads instead of disposable pencils).

4.5.4. Reduce transportation carbon emissions

The procurement of reuse, recycling and waste disposal suppliers should take into consideration the need to reduce the University’s indirect carbon emissions which result from waste transportation. This will reduce the supplier’s Scope 1 emissions and the University’s Scope 3 emissions. A remit to reduce indirect emissions should be included in the tender process and contracts.

4.5.5. Confidential paper

The University’s preferred confidential paper shredding contractor is Shred-IT. However, departments use various other confidential paper shredding suppliers such as Keltonstone and Iron Mountain. Confidential paper shredding costs are typically high, as it is a specialist service. It is recommended that departments aim to reduce paper shredding costs by opting into the University’s preferred supplier, Shred-IT. In addition, Shred-IT should be required to provide regular paper recycling data to the University Sustainability Team for monitoring and reporting purposes.

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12 Further information is available on WEEE Regulations Appendix 1 of the University Policy on Hazardous Waste Disposal (www.admin.ox.ac.uk/safety/oxonly/s6-10).
4.6. Finance

Although waste reduction activities are no or low cost and savings can be made there is at present a limited budget within the Sustainability Team for waste related activities. A detailed budget will be prepared after the approval of the Waste Implementation Plan.

It is estimated that the University could save approximately £63,000 per year by increasing recycling rates by 15% (1,350 tonnes). This would raise current recycling rates from 35% to 50%.

In addition to financial considerations, the University needs to establish human resources needed to implement the waste management strategy. This could include time for staff to develop a sustainable procurement strategy, which has a direct impact on waste reduction. It could also include staff time to review all preferred suppliers’ contracts and put in place a mechanism for capturing and reporting data on the University’s total waste. Time is also needed to develop guidance for new waste and recycling arrangements.

In terms of budgetary requirements, one idea could be to create a ‘waste levy’ to raise income for waste reduction initiatives (similar to the University’s energy levy). The levy would cover the costs of an additional staff member to work on waste.

Note that the Safety Office holds the budget for hazardous waste disposal.

4.7. Items not covered by the normal recycling collection

There are many items that the preferred supplier can’t easily recycle and therefore it is necessary to set up collections with other preferred suppliers for certain waste streams, eg:

- Wooden pallets
- Printer and toner cartridges
- Paint (emulsion)
- Building and construction waste
- Books
- Bulky waste (eg: furniture and office equipment)

Many of the above waste streams are not collected by a preferred supplier in the University. A recent example of negotiating a contract with a printer cartridge recycler is the University’s printer cartridge recycler, Reclaim-IT (now a preferred supplier). However, Reclaim-IT (like all cartridge recyclers) doesn’t accept all brands of printer cartridges. The challenge to the University is finding recycling opportunities for all waste items, so they can be diverted from landfill.

Another example is a recently-negotiated book reuse/recycling deal with the Oxfam Bookshop in St Giles, Oxford. All departments and Colleges can now recycle unwanted books at the Oxfam bookshop in St Giles, free of charge (however, this is not a preferred supplier).

The Purchasing Department, in liaison with the Sustainability team will continue to work together to identify opportunities for developing central recycling contracts for waste that can’t be disposed of/recycled by the current preferred supplier.
4.8. Building space availability for waste management

During the site waste surveys conducted by AECOM, many facilities managers indicated that a major barrier to improving waste management in their building is the pressure on space. Managing waste effectively and legally requires space to be allocated for storing materials awaiting waste collection/recycling. For a building to achieve BREEAM Excellent it must have a clearly demarcated space (with external access to allow for waste collection) allocated to waste management.

4.9. Sustainable procurement

Removing waste at source is the most sustainable and cost effective way to manage waste. Sustainable purchasing that relates to waste reduction is an area that should be investigated thoroughly, as HEFCE will include sustainable purchasing in the scope 3 carbon emissions reduction targets as of 2012.

Reducing waste at source is closely linked to the procurement process, via the University Purchasing Department or through individual departmental procurement contracts. By buying less (eg: items that are not absolutely necessary; or items that can be replaced with more durable items), the University can reduce waste costs.

It is recommended that in order to reduce waste at source and monitor progress, a strategic approach to sustainable purchasing is required (eg: develop a University Sustainable Procurement Strategy, implementation plan and targets, ahead of the introduction of HEFCE scope 3 targets for indirect carbon emissions reduction). This is a potentially large and complex area and requires significant input from the University Purchasing Department in liaison with the Sustainability Team.

4.9.1. Sustainable Procurement Strategy

The University should develop a Sustainable Procurement Strategy as this is key to waste management, and is likely to be required under the HEFCE scope 3 emissions requirements. The Sustainability Team and Purchasing will continue to work together to identify where waste is generated, and how it can be reduced at source.

Departments, in liaison with Purchasing, should identify ways to rationalise the procurement of laboratory supplies for a number of buildings located in close proximity to each other. The aim of this would be to evaluate the feasibility of establishing a central procurement point for the buildings, through which all orders and deliveries would pass.

This would allow combined purchasing power and space for the logistics of storage and waste minimisation.

4.10. Student and staff engagement

There is much confusion about waste and recycling in the University. This is mainly due to having multiple waste contractors and multiple choices for disposing/recycling waste.

Signage is a particular problem as departments use various different types of signage, which can be confusing. By consolidating waste and recycling suppliers, departments could all use the same signage and branding (eg: supplier’s recycling boxes).

It is recommended that the University begins a process of systematically rolling out a new system which will ensure that it is much more convenient for its building users to recycle waste than send it to landfill.
The first step will be to prepare a pack of materials and information to help the facilities managers to implement the new system. This will consist of digital information, such as text for announcement emails and downloadable material such as communication materials for going onto the bins and recycling boxes. The process of rolling out the system would be greatly facilitated if some form of volunteer support could be garnered from the University’s Eco Reps, and if Heads of Department allocated their staff time to their facilities’ or building managers to help with the process.
5. Hazardous waste

Hazardous waste is waste that may be harmful to human health or the environment. It is defined as “any waste that is classified as hazardous by the European Waste Catalogue and the Hazardous Waste (England) Regulations”.

Examples of hazardous waste include chemicals, gas cylinders, waste oils, fluorescent tubes, asbestos, some types of battery, sharps, clinical/biological and radioactive wastes. These materials are produced in large quantities, primarily from laboratories, as a result of the University’s research and teaching activities. Sodium lamps, paint, antifreeze and brake fluids can also be disposed of via the Safety Office.

5.1. Hazardous waste policy

Council Regulations place hazardous waste disposal under the remit of the Health and Safety Management Committee (HSMC). The University Safety Office operates a hazardous waste disposal service on HSMC’s behalf and holds the budget for hazardous waste disposal. A small number of specialist contractors are used, chosen for their expertise in handling the various types of waste. University safety policies, approved by Council, set out the arrangements for disposal of various types of waste and are available on the Safety Office website.

In contrast to the position for non-hazardous waste, hazardous waste disposal in the University is centrally managed, monitored and audited. Total hazardous waste tonnages are provided to HEFCE for Estates Management Statistics reporting purposes each year, via the Estates Directorate.

Although (with the exception of radioactive waste) the policies do not require departments to use the Safety Office’s disposal services, the current central funding mechanism means there is no cost incentive for departments to dispose of their own hazardous waste or to fail to dispose of waste in order to avoid paying waste disposal costs. It would be most unusual for a department to make its own arrangements for hazardous waste disposal.

5.2. Costs

Hazardous waste disposal costs the University approximately £400,000 per annum. In June 2008 the Chair of the Environment Panel and the Director of the Safety Office wrote to heads of departments urging them to avoid the purchase of unnecessary materials, which were often subsequently disposed of unused. Since that time the amount of unused material entering the hazardous waste stream has reduced, no doubt because of increased attention to costs.

Significant hazardous waste minimisation would require a change to established research techniques. Such changes have occurred in the past, particularly in the reduction in use of unsealed radioactive materials.

5.3. Batteries and aerosols

All buildings should have collection points for staff and students to deposit batteries and aerosols. The Safety Office arranges the disposal of aerosols and batteries. Although

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13 www.admin.ox.ac.uk/safety/oxonly/S5-11
common disposable batteries are not hazardous for disposal, using the Safety Office’s service for all batteries will ensure they are recycled or correctly disposed of as appropriate. Empty waste toner cartridges will not be hazardous for disposal, but some full ones may be – in this case they or their data sheet would bear the code EWC 08 03 17.

5.4. Hazardous waste reporting

All of the University’s hazardous waste streams are monitored centrally by the Safety Office. The University’s preferred hazardous waste disposal suppliers are obliged to provide tonnage data to the Safety Office. 1% of the University’s hazardous waste goes to landfill and 48% is incinerated. The remaining 51% is reused or recycled by the waste contractors. The majority of radioactive waste is disposed of by incineration, although some sealed source materials are recycled.

The table below shows three years hazardous waste data (data for 2010-2011 is not yet available). Note that radioactive waste disposals are measured by activity rather than tonnage – however this data is confidential due to security issues – so are not included in this table. Radioactive waste is reduced year on year, mainly due to changes in research techniques that allow people to use less radioactive material or avoid it altogether.
University’s hazardous waste disposal routes

<table>
<thead>
<tr>
<th>Route</th>
<th>2007-2008 (tonnes)</th>
<th>2008-2009 (tonnes)</th>
<th>2009-2010 (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>2.39</td>
<td>2.29</td>
<td>1.9</td>
</tr>
<tr>
<td>Incineration (1)</td>
<td>107.63</td>
<td>99.73</td>
<td>91.387</td>
</tr>
<tr>
<td>Specialist treatment</td>
<td>0.15</td>
<td>0.04</td>
<td>0.220</td>
</tr>
<tr>
<td>Physiochemical treatment (2)</td>
<td>4.55</td>
<td>2.63</td>
<td>3.680</td>
</tr>
<tr>
<td>Solvent recovery (2)</td>
<td>41.9</td>
<td>53.28</td>
<td>56.140</td>
</tr>
<tr>
<td>Oil recovery</td>
<td>6.68</td>
<td>7.13</td>
<td>12.560</td>
</tr>
<tr>
<td>Refrigerated equipment (3)</td>
<td>12.55</td>
<td>24.48</td>
<td>9.914</td>
</tr>
<tr>
<td>Monitors: CRTs &amp; TFTs (4)</td>
<td>26.97</td>
<td>15.98</td>
<td>8.498</td>
</tr>
<tr>
<td>Gas Discharge Lamps</td>
<td>0.76</td>
<td>1.43</td>
<td>1.050</td>
</tr>
<tr>
<td>Batteries (5)</td>
<td>0.82</td>
<td>1.41</td>
<td>2.140</td>
</tr>
<tr>
<td>Aerosols and Gas Cylinders (6)</td>
<td>1.11</td>
<td>0.35</td>
<td>0.240</td>
</tr>
<tr>
<td>TOTAL TONNAGES</td>
<td>205.51</td>
<td>208.75</td>
<td>187.819</td>
</tr>
</tbody>
</table>

(1) Without full energy recovery  
(2) Recovery where possible  
(3) Partial recovery and recycling  
(4) Reuse, recovery or recycling (as complete unit or components)  
(5) Recycling, except where contains mercury  
(6) Partial recovery and recycling

5.5. Targets

Waste minimisation is a legal requirement under the Environment Agency’s environmental permissions regime which requires the use of Best Available Techniques (BAT) to prevent or, where that is not practicable, reduce waste at source and minimise waste generation and discharges to the environment.

Waste minimisation legal requirements are a useful basis from which to set hazardous waste reduction targets. However, targets cannot be set without consulting those affected (the research community).

While it is not possible to predict what may or may not arise as a result of the University’s future research activities, it is possible to focus on effective implementation of the waste hierarchy. This is in line with Council’s original intent (in the University Waste Policy 2008) – to reduce waste at source, reuse, recycle and reduce the amount of hazardous waste sent to landfill.
5.6. **Sustainable procurement (hazardous waste)**

Waste reduction at source is a key component of sustainable procurement. The University could conduct a review of research techniques and associated purchasing practices in order to assess the amount of hazardous materials purchased and explore the opportunities for reduction.
6. Current staff and student engagement initiatives

The Sustainability Team is developing a waste engagement programme which consists of improving existing waste, reuse and recycling facilities in the University. The measures below are part of this programme, which will continue to be developed over the coming year. Promotion and publicity of waste/recycling initiatives are regularly publicised through EcoFinance, Swap Shop, Plant Swap and the A-Z Waste Fact Sheets on the University website.

Labels for waste bins and recycling boxes are now available for all departments to download from the University website (the labels are only suitable for departments using the preferred waste and recycling supplier because they recycle different waste streams to other suppliers).

Once the University has adequate recycling facilities in all departments, it will be possible to educate students to participate effectively on matters of waste reduction, reuse and recycling in departmental buildings.

6.1. Communication

Good communication is essential for encouraging behavioural change that will lead to a greater awareness of which materials can be recycled. It is important that recycling boxes and waste bins are clearly branded and accurately labelled so that users understand which items go in the boxes/bins.

The following items are placed in the supplier’s co-mingled (mixed) recycling boxes and sorted at a Materials Recycling Facility:  

- Paper (not shredded) and envelopes
- Plastic (types PET 2 and HDPE 2)
- Cardboard boxes and card food packaging
- Tins and cans
- Glass bottles and jars

As only 40% of buildings are currently serviced by the supplier (and of these, not all have an adequate number of supplier’s recycling boxes), there is potential to increase the number of recycling boxes in buildings. This should be done by consolidating waste bins (for landfill waste) so that instead of one bin per desk, there is one bin per 10 desks, and one recycling box per 10 desks. Users can then walk to the boxes or bins to deposit their waste/recycle.

6.2. Signage

To encourage departments to recycle, they will require branded recycling boxes, as many of the departments’ signage is confusing and not easy to recognise (see examples below).

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14 A Materials Recycling Facility (MRF) is where recyclable materials are mechanically and manually separated into the different streams before being sold to the materials market.
Examples of various signage used in University buildings:
6.3. Bulky waste

Bulky waste is any item that is too big to fit in the 1100L waste/recycling bins, such as furniture, fixtures, small amounts of construction waste, display boards, timber and wooden pallets. While some bulky items are reused through the University’s Swap Shop, data from the University Purchasing Department shows that when departments clear a particular area in a building many departments choose small local clearance companies that put an emphasis on recycling when disposing of waste.

Employing local companies is good for the local economy, however there is a question as to how accurate their waste data is, as typically smaller companies can find it challenging to produce quality waste data due to time and resources.

There is an opportunity to identify local enterprises that provide quality services and waste data, so the University can support them by making them the University’s preferred supplier for space clearance services.

It is also very important from a legal point of view to ensure waste, reuse and recycling contractors have the appropriate waste carrier certification and Duty of Care\(^{15}\).

6.4. Swap Shop

The University Sustainability Team set up a ‘virtual’ Swap Shop\(^{16}\) in 2009 to accompany EcoFinance – the University’s monthly eco-bulletin. Swap Shop serves to reuse unwanted furniture, office and laboratory equipment that can’t be easily recycled by the University’s current waste suppliers. The University generates tonnes of good quality, reusable items that are routinely sent to landfill. There is much room for improvement as not all items can be reused easily due to their size; or because they are bespoke (e.g. specially-designed lecture theatre seating or very large shelving units).

Since Swap Shop started it has reused 9,286 items and saved the University an estimated £101,221 through not buying new items. Cost savings would be much higher if the avoided waste and recycling costs were factored into the calculations.

Staff can advertise departmental unwanted items on Swap Shop, which is sent electronically to departments and colleges each month, with a list of items available (or ‘Wanted’ adverts).

Due to the communication system in the University, many staff members do not receive Swap Shop or are aware of its existence, regardless of the Sustainability Team’s efforts to widely publicise Swap Shop in the collegiate University. With additional resources from the University governance, Swap Shop could gain a much larger staff audience.

\(^{15}\) (information on Duty of Care is available through the Environment Agency).

\(^{16}\) www.admin.ox.ac.uk/estates/environment/ecofinanceandswapshop
6.4.1. Plant Swap

Plant Swap\(^{17}\) is a collegiate University reuse scheme set up in January 2011. It operates in a similar way to Swap Shop, but targets specific areas and stakeholders in the collegiate University that generate gardening-related and landscaping-related waste (note: this does not include composting, which is managed by the University Parks Department).

Plant Swap is a recent initiative so no data is currently available for how much waste has been reused. However, the types of items expected to be reused through Plant Swap include garden tools, equipment and plants.

Key stakeholders in Plant Swap include the University Parks, Botanic Garden and Arboretum, Wytham Woods, Wytham Sawmill, Wytham FAI Farm, Linacre College Allotment Society and various staff/student horticultural projects. Staff members can join the Plant Swap scheme via the University Sustainability Team.

6.5. Cartridge reuse and recycling

The University generates thousands of waste cartridges a year (accurate data is yet unavailable). In 2010 the Sustainability Team and Purchasing Department negotiated a contract with Reclaim-IT Ltd to set up free reuse and recycling for certain brands of printer and toner cartridges\(^{18}\).

As part of the University/Reclaim-IT contract, Reclaim-IT are obliged to provide the University with data on the number of cartridges recycled/reused. Reclaim-IT donates a small amount of income to the University for each cartridge reused – and the income is used to purchase recycling boxes for departments.

There is scope for reviewing any other brands of waste cartridges generated by the University that Reclaim-IT cannot reuse or recycle. There is also considerable scope to review how cartridges are purchased, as hundreds of new unwanted (and expensive) cartridges are regularly advertised in Swap Shop. This should be reviewed by the Sustainability Team in liaison with the Purchasing Department.

6.6. Book reuse and recycling

The Sustainability Team negotiated a book reuse and recycling scheme\(^{19}\) with Oxfam Book Shop in St. Giles, Oxford. All departments and colleges can donate their unwanted books to the bookshop free of charge, saving significant disposal costs.

6.7. Computer reuse

OUCS recently set up a pilot project to donate PCs and computer equipment to Computer Aid, a charity that sends working computers to educational institutions in developing countries.

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\(^{17}\) [www.admin.ox.ac.uk/estates/environment/biodiversity](http://www.admin.ox.ac.uk/estates/environment/biodiversity)

\(^{18}\) [ww.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/estatesdirectorate/documents/environment/wastea-z/cartridges.pdf](http://ww.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/estatesdirectorate/documents/environment/wastea-z/cartridges.pdf)

\(^{19}\) [www.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/estatesdirectorate/documents/environment/wastea-z/books.pdf](http://www.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/estatesdirectorate/documents/environment/wastea-z/books.pdf)
7. Other waste streams

7.1. Building and Construction waste

7.1.1. New buildings and refurbishments

The University has an ongoing programme of refurbishing or demolishing its buildings in order to build new ones. The University policy is for all new capital projects and refurbishments over £1m to achieve BREEAM ‘Excellent’, which presents a significant challenge to design teams (a target has not been set for developments under £1m).

The achievement of BREEAM Excellent will contribute to improving the University’s waste management performance in a number of ways. Design teams seeking to achieve BREEAM Excellent for their construction or refurbishment projects are required to target credits that have associated waste management sustainability benefits. BREEAM awards credits for projects that meet certain minimum standards in terms of tonnes of non-hazardous waste generated per square metre of floor area of the new building.

BREEAM awards credits for projects that use recycled building materials and materials with recycled content.

7.1.2. Site Waste Management Plans

The University Estates Directorate is working with WRAP (Waste Resources Action Programme) to set building and construction waste reduction targets for new buildings and major refurbishments, as part of statutory Site Waste Management Plans. It is suggested that the University sets a realistic, achievable target of diverting at least 70% of building waste from landfill by December 2012.

7.1.3. Plasterboard

New waste regulations stipulate that plaster board and any materials containing gypsum are now banned from landfill sites and must be segregated separately from other building and construction materials. Segregation of waste requires sorting into separate containers and separate collections, which can increase waste costs. However plasterboard separation will be factored into Site Waste Management Plans for University buildings. For smaller projects that are not subject to Site Waste Management Plans, the University should set up a waste data collection system as collectively a large amount of waste is likely to be generated from these.

7.2. Difficult waste streams

This section looks at waste streams that present particular challenges to the sustainability of the University’s waste management, and looks at solutions for eliminating them from the University’s waste stream through good supply chain management and sustainable procurement.

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20 BREEAM is the Building Research Establishment’s Environmental Assessment Method. It is the industry standard in the UK for assessing the sustainability of a new building or refurbishment in construction and operation.
There is a wide assortment of items that currently cannot be recycled (because the recycling technology does not yet exist) and are unsuitable for reuse. To reduce waste costs and divert waste from landfill it is suggested that the more difficult waste items are targeted for waste reduction at source, such as supplier ‘take-back’ schemes.

### 7.2.1. Polystyrene

Polystyrene is a bulky waste material that takes up a lot of room in the landfill bins. The regular waste contractors do not accept polystyrene as it has very little residual value.

Biological laboratories and IT departments receive substantial deliveries of material that is encased in polystyrene. Many departments also use a lot of polystyrene cups for hot drinks.

Some suppliers provide a polystyrene take-back for large amounts, by post. Some departments have indicated that their suppliers take back expanded polystyrene and send it for recycling. This should be investigated further and rolled out to all departments by reviewing all current procurement contracts for laboratory purchasing and ensuring take-back is included in contracts/service level agreements.

From a supply-chain management point of view, the University Purchasing Department should work with suppliers to come up with ideas for using sustainable packaging, such as replacing polystyrene with moulded, durable card packaging, which is currently available.

**Polystyrene cups**

The University’s polystyrene cups are all sent to landfill. There are alternatives to using these cups. Some cardboard cups can be recycled and these should be favoured over polystyrene cups. Ideally china cups should be used as washing them saves money and carbon emissions over time. However, further investigation is needed into why departments prefer polystyrene cups.

### 7.2.2. Cling film, bubble wrap and plastic bags

There are many types of plastic that cannot be recycled. Most plastic that is recyclable in the UK is PET 1 or HDPE 2. Plastic that can’t be recycled in the University includes cling film, bubble wrap and plastic carrier bags. Departments should review their use of cling film and bubble wrap (or how this waste is generated) and identify alternatives to using plastic bags for lunchtime shopping, conferences and other promotional purposes, replacing them with cloth ‘bags for life’. 

Polystyrene packaging waste
7.2.3. Drink stirrers

Commonly used throughout the University, wooden and plastic drink stirrers have replaced tea spoons, and thousands of them end up in the landfill waste bins. They cannot be recycled as they are too small and cannot be recycled or composted through waste collections.

Although drink stirrers are small waste items, the University is likely to be disposing of thousands each day. It would be more cost effective in the longer term to use washable tea spoons.

7.2.4. Sugar and salt sachets

Like drink stirrers, sachets are small but thousands are generated in the University each day. Although they’re made of paper, sugar and salt sachets are too small to be recycled, and end up in landfill. It is recommended that the University switches to using refillable sugar/salt dispensers.

7.2.5. Crisp packets

Most crisp packets are made of plastic on the outside and a metal coating on the inside, which means they can’t be recycled, and must go in the landfill bin. Confectionery waste in general is often made of mixed materials, and it is recommended that a review of products with recyclable packaging is conducted in the University, with a view to procuring items with recyclable packaging.

7.2.6. Wooden pallets

Currently wooden pallets are often stored in ancillary areas in buildings, as staff don’t know how to dispose of them. Wooden pallets can be recycled, however it is costly. It is recommended that the pallet collections are reviewed by the Purchasing Department and the Sustainability Team, to identify ways to make this easier and to ensure monitoring and reporting data is made available to the University.

7.2.7. Sawdust

Sawdust from wood products and MDF (which is toxic) is generated by departments such as Estates. This cannot be recycled into horticultural or agricultural products as MDF contains formaldehyde – a toxin linked to cancer and other diseases. MDF-contaminated sawdust and MDF off-cuts are regularly sent to landfill. It is recommended that the University Purchasing Department works with suppliers to identify non-formaldehyde MDF to replace the current type, and identify if this can be composted.

7.2.8. Furniture

Broken chairs and other items made from all wood cannot be recycled into horticultural products as they are treated with varnishes and other chemicals. However they can be recycled into particle boards and other by-products via the Redbridge Recycling Centre in Oxford City. Many departments are not aware of this service or the costs involved (eg: for the Direct Labour Organisation to take it to Redbridge). It is recommended that the University establish clear guidelines for this waste stream and disseminate it to all departments.
Many items of office furniture are made from a mixture of materials such as welded plastic, wood and metal, which can’t be disassembled easily. Bespoke-made or broken items typically can’t be reused in the University and neither can they be recycled, so they tend to be disposed of in landfill. There are potential solutions to this. Some companies specialise in refurbishment of office furniture, etc and by becoming entering into a agreement with them the University can arrange for many bulky items to be refurbished.

It is recommended that the University agrees a contract with a reputable furniture refurbishment supplier, eg: Green Works.

7.2.9. Paper towels

Paper towels are used prolifically throughout the University. Currently they all go to landfill. They cannot be recycled as the paper quality is poor, however they can be composted. It is recommended that departments recycle hand towels in their in-vessel composting systems or small composters, or that alternatives for hand towels are established (eg: using cloth roller-towels).

7.2.10. Non-recyclable items

These waste items are generated by the University but can’t be recycled by most suppliers or other companies, due to a lack of technology or cost-effective facilities:

- Plastic that is not PET 2 nor HDPE 2 (eg: bubble wrap and cling film)
- Hard plastic (eg: CD cases, laboratory plastic packaging)
- Polystyrene
- Paper sugar and salt sachets
- Plastic drink stirrers
- Plastic bags
- Mixed materials (eg: crisp packets, coffee containers, some stationery items)
- Paper hand towels
- CDs and DVDs

The University should prioritise non-recyclable waste streams (as they are expensive to send to landfill) by aiming to reduce them at source. This can be achieved by reviewing purchasing practices and gradually phase out these items, and ensure that Purchasing agreements and contracts include ‘take-back’ requirements as a high priority for suppliers’ packaging.
<table>
<thead>
<tr>
<th>Waste</th>
<th>Preferred waste supplier</th>
<th>Alternative arrangement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>Oxfam Bookshop, St Giles</td>
<td></td>
</tr>
<tr>
<td>Bubble wrap and cling film</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Building and construction waste</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Bulky waste (furniture and office equipment)</td>
<td>None</td>
<td>University virtual Swap Shop</td>
</tr>
<tr>
<td>Cardboard – all types</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>CDs &amp; DVDs</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Confidential paper shredding</td>
<td>Shred-IT</td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>Glass bottles and jars</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>Green garden waste</td>
<td>University Parks (in-house)</td>
<td></td>
</tr>
<tr>
<td>Mixed materials (eg: crisp packets, coffee containers, stationery items)</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Non-haz WEEE</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Paint (emulsion)</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Paper – all types</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>Paper hand towels</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Paper sugar and salt sachets</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Plastic (PET 2 &amp; HDPE 2 only)</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>Plastic drink stirrers</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Polystyrene</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Printer and toner cartridges</td>
<td>Reclaim-IT (select brands only)</td>
<td>Various – many unknown</td>
</tr>
<tr>
<td>Other brands of cartridges</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Tins and cans</td>
<td>Grundon</td>
<td></td>
</tr>
<tr>
<td>Wooden pallets</td>
<td>TR Recycling</td>
<td></td>
</tr>
</tbody>
</table>
7.3. Biodegradable waste

Biodegradable waste in a landfill creates methane during decomposition – a greenhouse gas with 23 times the global warming potential of CO$_2$. Composting organic waste addresses this problem and turns waste into a valuable resource for use in gardens and landscaping schemes. Composting can often be done on site or can be collected by the University’s preferred waste supplier, which provides weekly food waste collections on request.

7.3.1. Garden waste

The University Parks recycles most of the University’s green garden waste through composting on University-owned land, although no data is available for how much is composted.

7.3.2. Food waste

In-vessel composting on site

As fuel costs increase in the longer term, which may compromise waste and recycling collections, it is recommended that the University looks towards becoming more self-sufficient in its recycling. Many organisations now use in-vessel composting on-site (even in small areas of space) to compost their food and carbon-based waste (lunch waste, paper handtowels, wooden cutlery, etc). For very small amounts of food waste it is recommended that departments install 660L plastic compost bins if they have suitable areas of landscaping (or earth) near their building. The Sustainability Team has expertise in setting up small composting systems, and can assist in the process.

Small compost bins on site

The up-take of departmental compost bins is slow. It is recommended that a trial scheme is established.

Food waste collections

The University preferred supplier provides food waste recycling collections on request. However departments don’t appear keen to sign up to this service.

7.4. WEEE

The Waste, Electrical and Electronic Equipment (WEEE) Directive 2007 prohibits the processing of any electrical devices as landfill waste, in order to reduce the contamination of the landfill waste stream with heavy metals and other toxins found in WEEE and to encourage the recycling markets in valuable metals and other materials.

WEEE is classified either as hazardous or non-hazardous. Although a full picture cannot be gained from the ten buildings surveyed by AECOM, the results show that departments are seeking to ensure that their hazardous WEEE is kept out of their landfill waste bins and disposal is arranged either through the Safety Office or via separate departmental collections. However, in some departments non-hazardous WEEE such as keyboards, mice and other computer components, were found discarded in landfill bins.

Hazardous WEEE (eg: computer monitors) collections must be arranged through the University Safety Office. However, departments are responsible for arranging and financing their non-hazardous WEEE collections. The email waste survey shows that a
broad range of waste management service providers are being used to collect the University’s WEEE.

A better and more cost effective service could be procured if the University negotiates a contract for all WEEE (hazardous and non-hazardous) with one preferred supplier, and communicated this regularly to all departments. This would also enable better waste data monitoring, required by HEFCE.

**Hazardous WEEE waiting to be recycled:**

![Image](image_url)

7.5. **Printer and toner cartridges**

Some staff in the University are unclear whether printer and toner cartridges are hazardous or not. The Safety Office has confirmed that printer and toner cartridges are not hazardous unless they have a hazardous waste sign on them (e.g., a crossed-out wheelie bin symbol). If they are hazardous the Safety Office can arrange for their disposal. If the cartridges are not hazardous they can be recycled using a preferred supplier (see 6.5).

7.6. **Laboratory equipment**

Some of the University’s technicians collect and refurbish or repair unwanted research equipment that is then sold internally to research groups at reduced prices.

The benefits include supplementing the maintenance/refurbishment budgets that the technicians have at their disposal, providing reduced-price research equipment to researchers and extending the life of equipment. A commonly refurbished piece of equipment is the vacuum pump (see image below). Departments should consult the WEEE Regulations concerning removing WEEE from the waste stream, refurbishing and reusing them, to ensure the University is not in breach of the WEEE Regulations.

**Refurbished vacuum pumps waiting to be reused:**
8. University waste and recycling performance

8.1. Introduction

For the purpose of this document, the University was only able to obtain waste and recycling data from the University’s preferred waste and recycling supplier and from various confidential paper shredding suppliers. Therefore the data below doesn’t represent the full scale of the University’s waste or recycling, which is likely to be at least three times as much as the figures suggest, if all waste and recycling is included – not just the University’s preferred waste supplier collections.

The University’s preferred waste supplier currently collects from only 40% of departmental buildings. The data below, provided by the supplier, shows the University recycled 35% of its waste in 2008/9 compared to 31% the previous year.

The data includes confidential paper shredding data, which accounted for approximately 0.8% (77 tonnes) of the University’s total waste in 2008/9.

Estimated University non-hazardous waste for 2007/8 and 2008/9:

- **2007/8**
  - Recycled: 31%
  - Landfilled/incinerated: 69%

- **2008/9**
  - Recycled: 35%
  - Landfilled/incinerated: 65%

![Non-Hazardous Waste Chart](image-url)
8.1.1. Waste data by Division

The figure below shows a breakdown of waste and recycled material collected by the supplier for each Division (note that the supplier collects from approximately 40% of University sites).

Breakdown of preferred supplier’s waste and recycling by Division in 2008/9:

The data is based on partial data and is not an accurate illustration of the overall tonnages of waste collected from University buildings. However, it might be concluded from this data that some Divisions recycle a significantly smaller proportion of non-hazardous waste than others.

Most of the University’s waste is generated by Medical Sciences and Mathematical, Physical and Life Sciences. By contrast, Social Sciences, Humanities, Academic Services and University Collections and the Administration Service generate relatively low tonnages of waste. At the time of writing, the supplier does not collect from any site in the Department for Continuing Education.

8.1.2. AECOM buildings waste survey

In 2010 AECOM consultancy was commissioned by the University to conduct a waste survey to analyse the waste of the University’s top ten waste-producing buildings. Email surveys were sent to all of the University’s Building Managers and Departmental Administrators asking questions regarding their buildings’ waste management facilities. Responses were received for 38 of the University’s buildings.

Ten buildings were selected for a waste survey based on data provided by the preferred supplier.

The buildings were chosen based on absolute volumes of waste collected. If the buildings had been selected based on waste generated per floor area (m²) or staff member, the list of buildings would likely have been very different. However, the intention was to cover as high a proportion of the University’s waste generated as possible, to ensure the data could be generalised to the wider University estate.
University’s top 10 waste-producing buildings by GIA: 21

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Gross Internal Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Chemistry Research Lab</td>
<td>16,706</td>
</tr>
<tr>
<td>2 New Biochemistry</td>
<td>13,339</td>
</tr>
<tr>
<td>3 Old Rd Campus: Research Building</td>
<td>12,946</td>
</tr>
<tr>
<td>4 Weatherall IMM</td>
<td>11,550</td>
</tr>
<tr>
<td>5 Tinbergen (Zoology and Experimental Psychology)</td>
<td>10,651</td>
</tr>
<tr>
<td>6 Said Business School</td>
<td>6,803</td>
</tr>
<tr>
<td>7 Physiology Laboratory</td>
<td>9,000</td>
</tr>
<tr>
<td>8 Sir William Dunn School of Pathology</td>
<td>2,780</td>
</tr>
<tr>
<td>9 Inorganic Chemistry</td>
<td>2,498</td>
</tr>
<tr>
<td>10 University Central Offices</td>
<td>2,426</td>
</tr>
</tbody>
</table>

The results of the survey identified opportunities to significantly reduce the University’s waste, especially packaging, laboratory equipment and office equipment. It was suggested that these ten buildings should be prioritised as they produce the most waste.

21 Note that waste tonnages are not provided for these buildings, as inconsistencies in waste data render comparison of individual buildings meaningless.
9. Strategic objectives

The five strategic objectives for the waste management strategy that act to support the delivery of the University Strategic Plan and Estates Strategy are as follows:

1. To deliver a significant and commensurate reduction in its waste in line with its mission of sustaining excellence and its objective of making significant contributions to society

2. To follow the waste hierarchy in seeking first to implement cost effective measures to prevent waste being produced; to minimise waste; to recycle waste and to divert as much waste as possible from incineration or landfill

3. To engage and work in partnership across the University and Colleges, with staff and students, and with wider stakeholders to develop solutions for reducing the University’s waste

4. To take a whole life cycle approach to assessing the cost benefits of waste reduction measures, as well as considering indirect consequences (such as how waste management will be affected by fuel costs and transportation in the future)

5. To reduce the University’s indirect carbon emissions generated by waste (eg: methane in landfill sites) and waste transportation (eg: waste disposal vehicles)
10. Targets

The quality of waste data available to the University dictates that for the short term, the University is unlikely to be able to set targets for sustainability indicators such as percentage of total University waste recycled.

It is crucial for the University to be able to capture its total waste data so that in the future it can set quantitative waste reduction targets. It is also important to set clear deadlines for when the initiatives outlined in this document will be achieved and clear indications of how they will be resourced.

Regardless of the lack of available waste monitoring and reporting data, the University can set SMART\textsuperscript{22} targets:

1. Heads of Division to ensure all departments sign up to the University’s preferred suppliers by December 2012. This will require a review of suppliers’ contracts to achieve more favourable terms, followed by a campaign to ensure all departments switch to using the supplier for their waste and recycling.

2. The Sustainability Team to continue to work with the Purchasing Department to review all waste and recycling service providers for all waste streams with the aim of consolidation of preferred suppliers by December 2013. Example waste streams include wooden pallets, printer cartridges, non-hazardous WEEE, paint, bulky waste, books and building and construction waste.

3. The Sustainability Team to continue to work with Purchasing to establish new contracts for waste streams that are currently not provided for, by December 2012.

4. The Sustainability Team to work with the Finance Department to create cost codes for recycling and hazardous waste so departments can record waste/recycling costs separately, by August 2012. The creation of separate cost codes for waste and recycling will provide useful data for monitoring and reporting waste disposal costs and the progression from waste to landfill to recycled waste. The data will also be reported alongside preferred waste suppliers’ data.

5. The Sustainability Team to continue to work with Purchasing to ensure all purchasing contracts include supplier take-back clauses where appropriate, in line with sustainable procurement best practice, by December 2013.

6. The Sustainability Team to develop staff training and guidance on waste issues, in a range of formats, by December 2012.

7. The Estates Directorate to demonstrably divert at least 70% of its building and construction waste (arising from capital projects and minor projects) from landfill by December 2012.

\textsuperscript{22} (specific, measurable, attainable, relevant and time-bound)
11. Recommendations

The following strategic recommendations are tailored to the specific waste needs of the University. Recommendations include procurement processes, governance and responsibility and identifying solutions for waste – including and beyond the University’s current waste and recycling collections.

Details on how the University will implement the Waste Management Strategy will be in the separate Waste Management Implementation Plan.

The Sustainability Team’s role is to advise on waste management best practice and develop publicity / promotional tools to help departments reduce waste. However, departments are ultimately responsible for implementing waste reduction, reuse and recycling in their buildings. This should be driven by senior staff members, and disseminated through each department in a structured approach.

11.1. Governance and accountability

In order to be able to demonstrably reduce waste it is recommended that PRAC consider the repercussion for non-performance. What method will be applied if some departments consistently under perform on waste reduction and recycling improvements? Without recourse for this, significant improvements are unlikely.

Whilst ultimate responsibility for ensuring the delivery of the objectives in the Waste Management Strategy lies with the Pro-Vice Chancellor for Planning and Resources, the Plan will be delivered by the University’s Sustainability Team.

1. Include in all Divisional Plans a requirement to reduce waste, and ensure resources are allocated by including a remit for waste reduction in staff job descriptions.

2. The Sustainable Development and Waste Management Officer to compile waste and recycling data for the Estates Management Statistics and report to the Head of Environmental Sustainability.

3. The University’s committee structure to provide a clear indication that all departments are to use the same preferred waste suppliers (making it clear to departments that Higher Education Statistics Agency (HESA) requirements and rising waste costs mean there is no option for opting-out of the University’s waste and recycling framework agreements).

4. All Heads of Department to approve recycling and the consolidation of waste bins and installation of the University’s preferred supplier recycling boxes throughout their buildings.

5. Head of Divisions and Departments to familiarise themselves with the Waste Management Strategy and to ensure that the strategy is implemented in their departments.

6. Departments to formally include in staff job descriptions a remit to contribute to a department’s waste management and reduction aims and objectives.

7. Divisions and departments to allocate formal responsibility to managers who are responsible for procurement and IT-related waste (eg: printer paper, printer and toner cartridges and other non-hazardous electronic waste).
8. The Estates Directorate’s Direct Labour Organisation (DLO) to provide waste and recycling data to the Sustainability Team so that the University is able to monitor and report on waste taken from departments to any waste and recycling facilities.

9. All departments to install the available signage for waste and recycling so that it is accurate and uniform across the University.

10. Facilities Management to contribute to the Waste Management Implementation Plan once this is developed and to implement the facilities side of waste management throughout the University, in liaison with the Sustainability Team, the Purchasing Department and the Safety Office.

11. The University to develop a system for monitoring tonnages of composted waste in order to provide HESA with waste data in the annual Estates Management Statistics (EMS).

11.2. Sustainable procurement

The University Purchasing Department offers purchasing expertise to all departments, so that departments can benefit from preferred pricing and for example, take-back of waste, such as lab equipment. However, Purchasing cannot force departments to opt into preferred supplier contracts. By opting into Purchasing’s framework agreements, departments can benefit from preferential pricing for waste disposal and recycling.

The Sustainability Team and the Purchasing Department will continue to work together to develop a Sustainable Purchasing Strategy which includes a clear remit for sustainable purchasing with links to waste reduction, reuse and recycling.

Purchasing is keen to work with the Sustainability Team to re-tender for a single supplier (this will allow more waste items to be collected by one supplier, thereby reducing transport related CO₂ emissions and reducing waste costs).

1. The Sustainability Team and Purchasing to consolidate suppliers so that one preferred supplier collects all types of waste from departments.

2. The Sustainability Team to continue to work with Purchasing to review all existing waste contracts and negotiate waste reporting requirements (including science based materials).

3. The Sustainability Team to continue to work with Purchasing and any other key staff members responsible for procurement to review goods purchased and how they can be reused/recycled at end-of-life.

4. Departments to allocate responsibility to their relevant staff to review all goods purchased and identify opportunities for reducing waste at source.

5. Departments to actively seek to phase out materials that cannot easily be recycled (e.g. polystyrene, clingfilm, bubble wrap, plastic or wooden drink stirrers, etc).

6. The Sustainability Team and Purchasing to tender for a preferred supplier of skips for office clearouts and minor refurbishments, to avoid using multiple skip companies and paying a premium.

7. The Sustainability Team and Purchasing to establish one preferred supplier of skips for building and construction waste arising from capital and minor projects.
8. All catering departments to opt into the preferred supplier’s food waste collections.

9. Departments to review opportunities for composting biodegradable waste on-site (eg: non-recyclable paper products and small amounts of food waste).

10. Departments to recycle hand towels in their in-vessel composting systems or small composters, or that alternatives for hand towels are established (eg: using cloth roller-towels).

11. The University Purchasing Department to work with suppliers to come up with ideas for using sustainable packaging, such as replacing polystyrene with moulded, durable card packaging.

12. The University to consider whole life costing for waste. For example, if the initial purchase cost of an item is added to waste costs, the total costs are actually around three times as much as when only the waste disposal cost is considered.

13. All waste and recycling contracts should include robust monitoring and reporting Service Level Agreements (SLAs) to ensure data monitoring and reporting is formally part of all waste and recycling contracts.

14. The University Purchasing Department to establish a contract with a reputable furniture refurbishment supplier, eg: Green Works.

15. The University Purchasing Department to include a remit in the tender process and contracts to reduce indirect emissions in the provision of waste and recycling services.

16. The Sustainability Team to investigate the barriers to the take up of the local waste food collection service and find solutions.

17. The University Purchasing Department to request Shred-IT to provide regular paper recycling data to the University Sustainability Team for monitoring and reporting purposes.

11.3. Communication

Every member of the University (staff and student) generates waste so they all have a part to play in reducing the volumes of all waste streams. In many cases behaviour has to change; whether it is to procure products that can easily be recycled, purchase fewer products and use them more carefully, re-using items rather than discarding them or just learning to use the recycling facilities. Communication at all levels is key to the implementation of the waste strategy.

1. The Sustainability Team to develop and issue University waste guidance to all new staff members including research staff, via departmental administrators.

2. The Sustainability Team to liaise with departments to gain their support for the recommended changes in the management of waste.

3. All departments to install the University’s available signage for waste and recycling containers so that users are able to sort waste/recycling items properly.

4. All departments to include waste reduction guidance and links to the University’s Swap Shop in staff induction communications.

5. All departments to include waste reduction responsibility in job descriptions related to procurement.
6. The Sustainability Team to regularly repeat waste related communications targeted at the transitory student population.

7. The Sustainability Team to develop a communications strategy for supplier take-back, to find the best way to disseminate this information to relevant research groups.