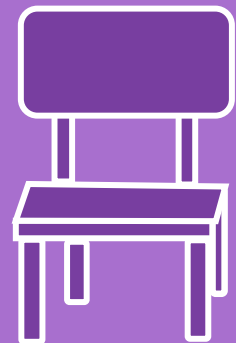
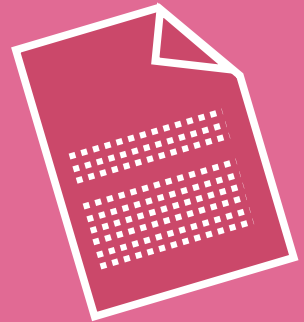




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Waste and Recycling Guidance Document

For University of Cambridge Departments

# Waste and Recycling Guidance Document

## Introduction

The University of Cambridge has set a target to recycle at least 95% of total waste we produce, and to achieve continuous year-on-year reductions in waste produced by student and staff members. To achieve these ambitious goals, all university members will need to make a contribution. A recent study at the University found that almost half of the items going into the general waste bins could have been recycled, meaning much still needs to be done to raise awareness of recycling procedures. However, in 2014-15 we still put 900 tonnes of waste into our recycling bins, or the weight of three Boeing 747s!

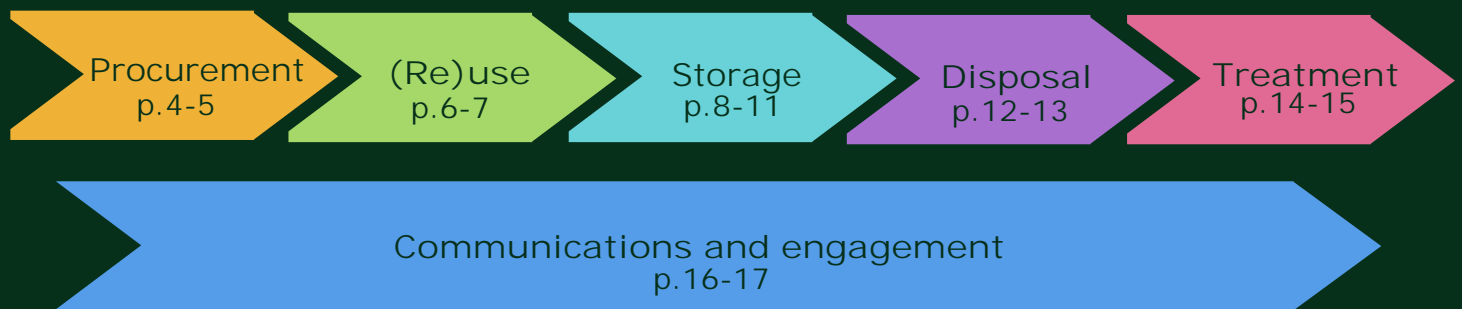
This means there is also much more that can be done to minimise the amount of waste we produce, through elimination, reduction, and reuse. Fortunately, improving waste management can be one of the easiest and most effective ways of reducing the environmental impact of your department and the University as a whole, and has a double impact on the University's bottom line by both reducing waste bills as well as procurement costs.

## What has been going on in the University?

In July 2016 a new waste and recycling system came into effect. This offers a great opportunity to refocus on the University's waste management and ensure that everyone is aware of the present guidelines. The current mixed recycling system is continuing with minimal changes, though there are now differences to the way waste is treated after disposal [see p.14-15](#). There is now a food waste collection system [p.11](#). To make crystal clear exactly what goes in which bin, new posters have been created [p.10](#). Alongside this emphasis on the new waste system, it is worthwhile reminding everyone about the fantastic schemes already in place, including WARPit [p.7](#), Vegware [p.11](#), and small departmental strategies ranging from charity donations [p.7](#) to innovative reuse programmes [p.6](#).

## How to use this document

This document aims to act as a "one-stop-shop" for tackling the issue of waste and recycling at the University of Cambridge. It was developed by collecting best practice from departments, and by speaking to staff about key challenges they face in encouraging recycling. The document also explains some common areas of confusion and offers creative ways to boost recycling rates. The document is divided into the five different stages of the waste process (see diagram below), detailing the actions that can be taken at each step to minimise waste and maximise resource recovery. Each section begins with some 'common questions' and 'top targets', and then identifies key challenges and ways to overcome them. It ends with some creative ways to boost staff interest and involvement in waste management and recycling.



# Checklist

Tick off the recommendations below to minimise the impact of waste production in your department

## Procurement p.4-5

- Focus on 'reduction' wherever possible, for instance by regular stock checking. **S012**
- Ask suppliers if they can reduce or take back the packaging that comes with their products. **G048**
- Write a sustainable procurement policy for the department if there is not one in place. **S011**
- Encourage behaviour changes in the department such as lower paper use and less printing. **B020**
- Look into more sustainable alternatives to the products your department currently purchases. **G006 G029**

## (Re)use p.6-7

- Establish a 'reuse corridor' for exchanging items within your department. **G045**
- Find ways to prolong the life of products and packaging, both recyclable and non-recyclable.
- Increase the amount of waste that you send to charities. **G010**
- Set up a WARPit account and find university members who can make use of your old equipment. **G007**

## Storage p.8-11

- Reduce the number of general waste bins while increasing the number of departmental recycling bins. **G052**
- Ensure recycling bins are large, consistent, conspicuous and located in well-frequented areas.
- Put up posters and labels to raise recycling awareness. **B017**
- Install and promote food waste collections in your department. **G071**

## Disposal p.12-13

- Ensure that bins bags are taken to the correct external bins.
- If cleaners take out the bins, ensure that their contract includes recycling and/or food waste.
- If departmental staff take out the bins, keep a rota to make sure everyone fulfils their role.
- Cut down on general waste bins, particularly individual desk bins, to make disposal easier. **G052**
- Carry out an audit of your department's waste outputs. **G054**

## Treatment p.14-15

- Familiarise yourself and departmental staff with the processes that occur after disposal.
- Get in touch with the Environment and Energy Section to organise a staff outing to a recycling facility. **S004**
- Raise awareness of alternative waste streams, for instance e-waste and other miscellaneous items. **B019**

## Communication p.16-17

- Engage with departmental staff regularly to encourage good recycling habits. **S012**
- Organise an event to raise awareness of waste issues and get department members on board. **B005 S004**
- Instil sustainable practices by including information on recycling in inductions for new staff/students. **B002**
- Get in touch with other departments to compare challenges and strategies.

Green boxes e.g. **G048** indicate Green Impact criteria and their number in the workbook



## Common Questions

- How can my department reduce the overall amount of waste it throws away?
- How can my department use procurement to improve its environmental footprint?

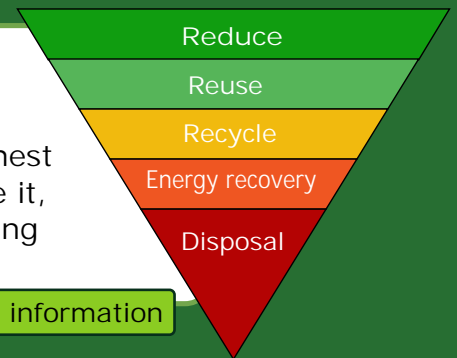
## Top Targets

- Minimise the quantity of materials brought into and used by the department.
- Reduce the environmental impact of the department's purchases.

### The Waste Hierarchy

The 'waste hierarchy' states how waste treatment should be prioritised in order to minimise environmental impact. The highest priority should be to 'reduce' waste before you reuse or recycle it, by using fewer products, keeping them for longer and minimising unnecessary purchases and packaging.

Search online for WRAP's document on the Waste Hierarchy for more information



## Reducing consumption

### What all departmental staff can do

- 1 Track paper use and set reduction targets, by using software such as 'Papercut'.
- 2 Set duplex as the printing default.
- 3 Use computer storage and emails instead of printed copies and handouts.
- 4 Bring a mug instead of using disposable cups.
- 5 Avoid unnecessary paper or stationery use or wastage.

Find more tips on cutting waste at [www.environment.admin.cam.ac.uk/recycling/spotlight-waste](http://www.environment.admin.cam.ac.uk/recycling/spotlight-waste)

More information on procurement can be found at [www.environment.admin.cam.ac.uk/sustainable-procurement](http://www.environment.admin.cam.ac.uk/sustainable-procurement)

### What purchasing staff can do

- 1 Work out which of the department's purchases can be reduced or even eliminated. Frequent stock checks can be useful for this.
- 2 Speak to suppliers about whether they can reduce their quantities of packaging, or take it back with them.
- 3 Write a sustainable procurement policy.
- 4 Remind staff to avoid wasteful practices.

Find the 'Green Guide to Stationery' at [www.environment.admin.cam.ac.uk/guidance](http://www.environment.admin.cam.ac.uk/guidance)



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# Finding the best products

There is an enormous amount of choice when it comes to procurement, and making considered purchasing decisions is an important way of ensuring that the products your department uses have the smallest environmental footprint possible. See the diagram to the right for principles to be aware of when purchasing, and find out more information at:

[www.environment.admin.cam.ac.uk/top-tips](http://www.environment.admin.cam.ac.uk/top-tips)

[www.environment.admin.cam.ac.uk/procurement-common-items](http://www.environment.admin.cam.ac.uk/procurement-common-items)



## Examples of sustainable alternatives

### Travel mugs



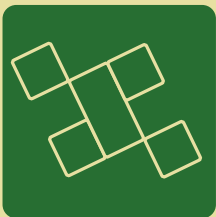
- Reusable coffee cups reduce the amount of waste going to landfill.
- University cafes sell the brand 'Keep Cup' ([www.keepcup.com](http://www.keepcup.com))
- Other options include 'eCoffee', '4imprint' and NUS Green Impact.

### Catering disposables



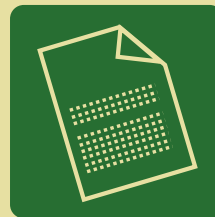
- The University Catering Service uses 'Vegware' in its cafes.
- The plant-based packaging and cutlery can go in food waste bins.
- For further details see [www.vegware.com](http://www.vegware.com)

### Carpet Tiles



- Carpet refits can be resource- and waste-intensive.
- One company reducing its impact in innovative ways is Interface.
- For more details visit [www.interface.com](http://www.interface.com)

### Sustainable printing



- Consider sustainable printing options to save raw materials.
- One company pioneering 'waterless printing' in the UK is Seacourt.
- See [www.seacourt.net](http://www.seacourt.net)



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## Common Questions

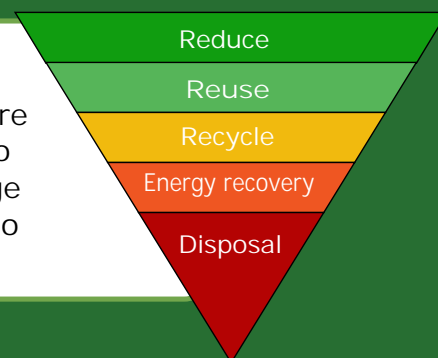
- How can we make the most of packaging and goods brought into the department?
- Who else might want my department's old items and materials?

## Top Targets

- Get the maximum use out of all products and packaging.
- Find alternative streams for products besides disposal.

### Reuse

Reuse of products and materials is the best option once they are already in the department because it prolongs their lifespan, so 'reuse' comes above 'recycle' in the Waste Hierarchy. This stage offers great potential for creativity. See below for some ideas to get you started.



## Reuse ideas



**Polystyrene:** A problem material for many departments because it is not recyclable. Reuse boxes within the department and switch to biodegradable packaging peanuts to reduce waste.



**Glass:** Wash and reuse glass containers where possible and safe to do so. Some departments in the Clinical School have reused them as vessels for low level waste. Don't forget that glass should be recycled in a separate bin from other recyclables.



**Envelopes:** Ensure your department has a collection point for old envelopes, which can be reused for internal mail. Establish a box for unneeded but usable stationery at the same point.



**Books:** Put up a book sharing shelf and encourage people to bring in old books from home, to exchange with other department members. Any books that remain for a long time can be donated.

The Green Impact award scheme has a lot of great criteria and suggestions for reuse. If you are already part of a Green Impact team, check the workbook. If not, visit: [www.environment.admin.cam.ac.uk/green-impact](http://www.environment.admin.cam.ac.uk/green-impact)

### Case Study: Plant Sciences

The Department of Plant Sciences has made the most of reuse opportunities by setting up a 'reuse corridor' for packaging, envelopes and stationery among other things. Departmental staff can bring items they no longer need here and trade them for other goods if necessary. Plant Sciences have also run a highly successful stationery amnesty.



# Charity schemes

There are numerous charities around who will take certain items that would otherwise have been thrown away and make a profit from them by taking them to recycling centres. By supporting these schemes you can reduce waste and raise money for charity, with minimal cost and effort. Below are some examples of the schemes that departments have been supporting.



## Stationery

Once their old pens have run out and can no longer be reused in the department, the Estate Management Team in Greenwich House send them to The Donkey Sanctuary. This charity will dismantle stationery into its separate components then send these parts on for a profit.

[www.thedonkeysanctuary.org.uk](http://www.thedonkeysanctuary.org.uk)



## Bottle Tops

The Business Improvement Group at Greenwich House are supporting The Matthew Project, a charity for drug and alcohol recovery, by taking part in their 'Plastic for Charity' scheme. This involves collecting bottle tops for recycling and has a great poster on the website, which can be printed off to advertise the scheme.

[www.matthewproject.org](http://www.matthewproject.org)



## Mobile Phones

The Strangeways Laboratories send their old mobile phones to the Cambridge-based charity, Arthur Rank Hospice. It is also possible to donate ink cartridges in a similar way, to the charity of your choice, through 'recycle4charity'.

[www.recycle4charity.co.uk](http://www.recycle4charity.co.uk)

# WARPit

## What is it?

WARPit, or the Waste Action Reuse Portal, is an online platform for redistributing resources easily between departments. Effectively it operates as a 'Freecycle' system specifically for the University. Users can post their unwanted equipment, furniture or other items and search the online marketplace for spare items that could be of use to them. This helps your department to waste less while saving more. Best of all, it's free to use!

## How does it work?

To use WARPit you must have an account. Register at [www.warp-it.co.uk/cambridgeuni](http://www.warp-it.co.uk/cambridgeuni). From here you can search for items, post your own and track exchanges. Any member of staff with an account can upload items. Find posters to advertise WARPit around your department at [www.environment.admin.cam.ac.uk/resource-bank/posters-materials](http://www.environment.admin.cam.ac.uk/resource-bank/posters-materials)

## What impact has it had?

Between 2014 and 2016 the scheme saved the University over 25,000kg of CO2 emissions, 14 tonnes of waste and over £55,000! This shows how important it is to consider reuse first and foremost when dealing with old items; it is the best way to save energy, raw materials and money.

As well as Warp-It, The University also runs an Equipment Sharing Project, which helps staff to temporarily make use of scientific and other equipment. For more info see [www.equipment.admin.cam.ac.uk](http://www.equipment.admin.cam.ac.uk).

## Common Items:



Furniture






Research Equipment



Office Supplies



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### Common Questions

- How can we ensure the right materials go in the right bins?
- How can we maximise recycling rates?
- How can we recycle food waste?

### Top Targets

- Achieve the University's goal of recycling 95% of non-hazardous waste.
- Make the most of the food waste recycling system.

### The four key challenges to recycling... and their solutions:

- 1 Behavioural** (people are too busy to recycle) ➔ Make bins more accessible
- 2 Physical** (recycling bins are unsuitable) ➔ Bins must be sufficiently large
- 3 Knowledge-based** (what can be recycled?) ➔ Use clear signage & labelling
- 4 Attitudes** (no perceived positive results) ➔ Put up motivational posters

### Recycling

Recycling is of great importance because it keeps materials in circulation instead of ending their life, and therefore saves virgin materials. It also saves money; recycling is far cheaper than general waste disposal.

This section focuses on the actual disposal of materials within the department. This is the point at which department members are most directly involved, since they are the ones who must make the decision about which bin to put their waste in.

# What goes into the recycling bin?

With the University's waste contract with Mick George there are slight differences in recycling practices compared to recycling at home. It is therefore helpful to be familiar with the what to put in which bin at the University, particularly for the trickier items and materials where it might not be so obvious!

| What should be recycled?   |  | What should not be recycled?                                 |  |
|--|--|--|--|
| Plastic wrapping<br>All plastic should go into the recycling bin | Plastic bottles<br>For milk, squash, water etc.      | Paper towels<br>Too low-grade to recycle and may contaminate | Wood<br>Including wooden cutlery                           |
| Carrier bags<br>Recycle all plastic shopping bags                | Cartons<br>Including drinks cartons and soup cartons | Contaminated<br>Highly food-contaminated packaging           | Polystyrene<br>Packaging chips and boxes                   |
| Paper/Card<br>Including books, journals, boxes and packaging     | Metal<br>All metals including foil, cans and tins    | Glass<br>Should be recycled in a separate bin                | Mixed materials<br>Including crisp packets and coffee cups |

For a more complete A-Z of recycling at the University see [www.environment.admin.cam.ac.uk/recyclingAtoZ](http://www.environment.admin.cam.ac.uk/recyclingAtoZ)



# Maximising the potential of recycling bins



Ensure that your recycling bins are:

- 1 Clearly labelled  
Ensure that all bins are labelled with updated signage so that users are well informed.
- 2 Prevalent  
Aim for a ratio of three recycling bins for every general waste bin, so that recycling is favoured.
- 3 Accessible and visible  
It is preferable to have fewer bins overall (to encourage considered practices), concentrated in key areas such as kitchens, canteens and halls.
- 4 Sufficiently large  
To avoid overflow and preferential use of the general waste bin, ensure recycling bins are large.
- 5 Consistent and distinctive  
Keep recycling bins consistent in their colour and style so they are easily identifiable.
- 6 Lined with clear plastic lining  
This distinguishes recyclable waste and enables a quick check to ensure there are no contaminants.

## Suggested bins for different budgets



### Low Budget

Flat-pack cardboard recycling bins offer a great low-budget option in the Psychology Department. They are available from suppliers including CeraPackaging and Britishbins.co.uk.



### Mid Range

The PDN Department uses sturdy green bins that are hard to miss. Plastic bins like these are typically in the range of £20-£40 from suppliers such as ARCO, and should have an extremely long lifespan if taken care of.






### Luxury

Ready-labelled bins like those at the Judge Business School are particularly hard-wearing and smart. These customisable ones are from Home Office Design. Other suppliers include Glasdon and Leafield.



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# Promotion: labelling and posters

### FOOD WASTE

|            |                                  |                   |
|------------|----------------------------------|-------------------|
| TEA        | COFFEE GROUNDS                   | FRUIT             |
| VEGETABLES | BREAD & CAKES                    | EGG SHELLS & FISH |
| DAIRY      | RAW OR COOKED MEAT, FISH & BONES | VESTIBULAR        |

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### MIXED RECYCLING

|                   |                      |                            |
|-------------------|----------------------|----------------------------|
| PAPER             | MAGAZINES & TEXTILES | CARDBOARD                  |
| PLASTIC BOTTLES   | PLASTIC CONTAINERS   | CARTONS                    |
| PLASTIC PACKAGING | CANS & TINS          | PAINT, WALLPAPER & VARNISH |

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## Bin labels

The labels to the left are specific to the Mick George contract, so ensure that these are the ones that you have on your bins. Label all bins so as to avoid confusion. The most effective method is to have a label directly on the bin but if this is not possible then stick the label on a wall or cupboard above the bin.

[www.environment.admin.cam.ac.uk/posters](http://www.environment.admin.cam.ac.uk/posters)

### GENERAL WASTE

|   |                   |                 |
|---|-------------------|-----------------|
| PAPER TOWELS, NAPKINS & WOODEN FOODWARE | CONTAMINATED RAGS | POLYSTYRENE     |
| TEXTILES                                | CROCKERY          | PLASTIC CUTLERY |
| WOODS                                   | ROPES & CABLES    | BROKEN GLASS    |

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### GLASS RECYCLING

|                                  |                           |
|----------------------------------|---------------------------|
| DRINKING GLASSES & GLASS BOTTLES | PINTED / REINFORCED GLASS |
| GLASS JARS                       | PIPETTES                  |
| CLEAN LAB WARE & CHEMICALS       | SHEET & WINDOW GLASS      |

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## Posters

To the right are the most recent recycling posters, packed with engaging facts and suggestions. Put them up on a Green Noticeboard if you have one, or in another suitably visible area if not. Providing new, updated posters is an effective way to re-engage department members, who are familiar with the old posters and no longer likely to read them.

### The University's waste from a single year...

**Fact 1** ...weighs as much as the London Eye

**Fact 2** ...would require 6.325 punts if it was blown away on the River Cam

**Fact 3** ...would fill King's College Chapel to a depth of 17 feet

**Fact 4** University staff and students put over 1,000 tonnes of recyclable waste into the wrong bins every year, or the equivalent weight of two buses every week!

We aim to recycle **95%** of our total waste.

Visit [www.environment.admin.cam.ac.uk/recycling](http://www.environment.admin.cam.ac.uk/recycling) to find out how you can help achieve this.

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## Reconsider your refuse

Help make landfill a last resort:

- Reduce** paper use by printing double-sided and minimising the number of handouts taken to meetings.
- Reduce** disposable cup usage by using mugs or Keep Cups.
- Reduce** envelopes for internal mail.
- Reduce** equipment & furniture with WARPit, the Waste Action Raise Portal! ([www.warp-it.co.uk/cambridge](http://www.warp-it.co.uk/cambridge))
- Recycle** your waste correctly - a recent study found that 41% of waste put in general waste bins could have been recycled.

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## Other waste to be aware of



**Battery Collections**  
Batteries should be stored safely in a separate, labelled bin within the department. They can be sent to 'Battery Disposals, Laundry Farm' through the UMS, as can toner cartridges. A number of charities will take toner cartridges as well.



**General Waste**  
General waste bins should be kept small and discreet, and should always be accompanied by a recycling bin so that users are given a choice. Remove as many of these bins as possible, while making recycling bins more prominent and accessible.



**WEEE**  
Waste Electronic and Electrical Equipment can be advertised on WARPit if it is still useable. Otherwise it should be stored in the department and a collection requested (see link below). This enables material recovery.

[www.environment.admin.cam.ac.uk/e-waste](http://www.environment.admin.cam.ac.uk/e-waste)



**Hazardous & Chemical Waste**  
Hazardous waste must be dealt with separately; a number of contracts deal with this. For more information contact the Safety Office or visit the link below.

[www.environment.admin.cam.ac.uk/hazardous-waste](http://www.environment.admin.cam.ac.uk/hazardous-waste)



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# What to do with food waste

## How do we recycle food waste at the University?

The waste contract with Mick George includes a food waste removal service. This is for all leftovers and bi-products. All waste will be regularly collected and taken to an Anaerobic Digestion plant (AD), where it is broken down at high temperatures to produce 'biofuel'.

## How do I know if my department needs this service?

Any department is eligible for the food waste collection service and most departments produce some level of food waste, either through a canteen area or simply from lunches and snacks eaten in the department. A waste audit conducted in December 2015 found that 54% of incorrectly sorted waste in the general waste bins consisted of food waste, so evidently this is a large-scale issue that must be tackled if the University is to achieve its ambitious recycling targets.

## How do I get the bins?

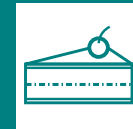
If you are interested in having a food waste collection service from your department, contact Facilities Management ([facman@admin.cam.ac.uk](mailto:facman@admin.cam.ac.uk)). They can make arrangement for Mick George to provide outdoor bins. When selecting internal bins, ensure that they are clearly labelled and appropriately sized for the department. Consider removal arrangements before the bins are installed. For example, will the waste removal come under the cleaners' remit, or will it be the responsibility of staff members?

## What goes in the food waste:

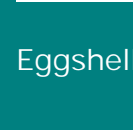


Tea bags/  
coffee grounds

Fruit and  
vegetables



Bread and  
cakes



Eggshells



Meat and  
dairy



Vegware

## Case Study: Greenwich House

Having had food waste bins already installed, Greenwich House has now switched to the Mick George contract and is having great success with its food waste management. A particularly helpful change has been the switch from paper bin liners, which have a tendency to disintegrate, to plastic ones. Plastic liners are suitable for the Anaerobic Digestion process because they can be removed after waste treatment. Greenwich House has been finding that its bins are a little small for purpose though, so may soon be switching to larger bins to avoid overflow issues.



## Vegware: a reminder

Remember that all 'Vegware' packaging and products (found in University-run cafes) can go straight into the food waste bin. This is important as plant-based materials can contaminate the mixed recycling stream. Look out for the Vegware symbol (right), and ask if unsure.



## The Food Waste Pathway

Food waste



Internal bin



External bin



Anaerobic  
digestion



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## Common Questions

- Who should be taking out the department's bins?
- How can I ensure that the bins are taken out regularly to the right place?

## Top Targets

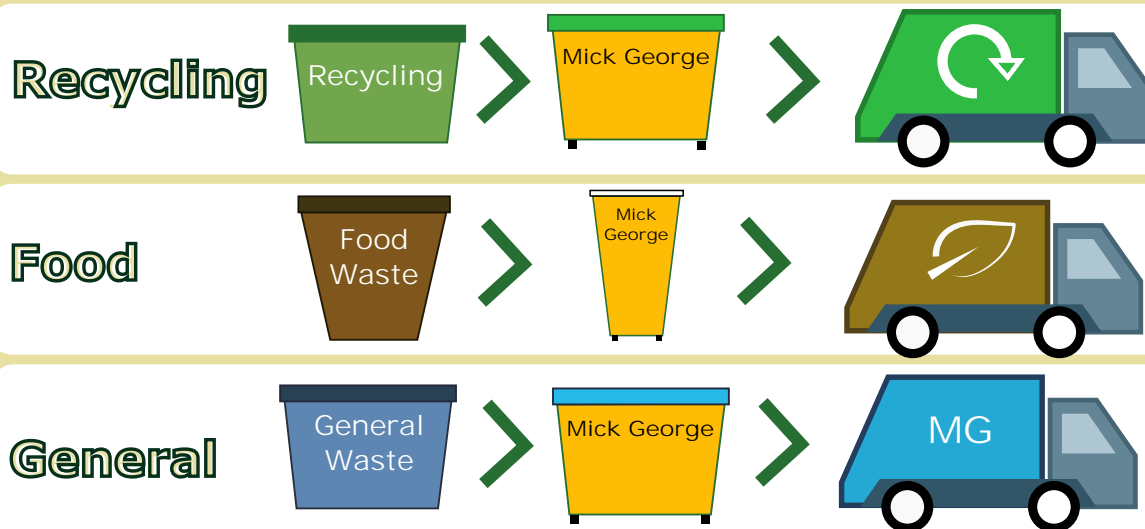
- There should be clear rules about whose responsibility it is to empty internal bins.
- It should be very obvious which bin bags belong in which external bins.

### Disposal

There are several external points waste may be taken to when it is removed from the department. The three key ones (food, recycling and general waste) are displayed below, however other types of waste including glass, pallets and fluorescent tube lighting can also be collected by Mick George. It is important that external bins are appropriate to the building's needs, and that they are used and filled correctly. If you find that external bins are not appropriate for your building, contact facilities management ([facman@admin.cam.ac.uk](mailto:facman@admin.cam.ac.uk)) to arrange changes to these. Note however that some external bins may be shared with other departments.

## Disposal into external bins

It is vital to consider what happens to waste after it has been collected in the internal bins. If bin bags are subsequently put into incorrect external bins, all the effort that department members have gone to when sorting their rubbish will be quite literally wasted! Here is a reminder of what should go where.



**Other waste collections**  
 Certain other collections can be arranged through Mick George, such as coffin boxes for fluorescent tubes, and glass collections. For further details on Mick George collections contact Facilities Management (email below).

[facman@admin.cam.ac.uk](mailto:facman@admin.cam.ac.uk)



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# Responsibility for disposal

## If departmental staff remove waste:

- 1 Establish a rota for bin removal, preferably with a checklist for everyone to see and fill in.
- 2 If there are difficulties with ensuring that department members fulfil their roles, try organising a competition with prizes for the best performers.
- 3 Ensure sufficient numbers of department members are involved so that the burden is not too great for any one person.
- 4 Be sure to read the information on Duty of Care and consignment notes - see the link below and box to the right.

[www.gov.uk/government/publications/waste-duty-of-care-code-of-practice](http://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice)

## 'Duty of Care' at the University

The University has a legal responsibility to ensure that any waste removed from the University premises is stored, transported and disposed of without harming the environment. This is called our 'Duty of Care' and requires anyone dealing with our waste to ensure that:

- waste is stored and transported appropriately and securely so it does not escape (whether through accidental means or theft)
- waste is only transported by people or businesses that are authorised to do so
- appropriate documentation is completed and retained for all waste removed from the University estate (i.e. waste transfer notes are completed).

Visit [www.environment.admin.cam.ac.uk/recycling/duty-care](http://www.environment.admin.cam.ac.uk/recycling/duty-care) or contact the Environment and Energy Section for further advice.

# Cleaning contract suggestions

## If you would like cleaners to remove bins:




- 1 As part of the tendering process for new cleaners, ensure that you consider recycling arrangements.
- 2 Contact the external agency responsible for your cleaners to discuss whether recycling and food waste bin removal could come under their remit.
- 3 If your department employs your cleaners, look into renegotiations of the remit so that it can include recycling and food waste.
- 4 Consider how performance can be monitored and managed as part of the contract. This should be two-way (i.e. cleaners should be able to report recycling & waste issues).

## Tips for success:

- 1 Ensure that cleaners are given training on bin disposal as part of their induction. If required, the Environment and Energy Section can give a presentation on optimal disposal practices.
- 2 Provide clear bin liners for recycling bins and black bin liners for general waste bins so that there is a clear difference.
- 3 If possible, reduce bin numbers to a few central recycling bins to increase the ease of disposal.
- 4 Waste data from Mick George should help inform departments about recycling rates. Contact [environment@admin.cam.ac.uk](mailto:environment@admin.cam.ac.uk) for your department's data.



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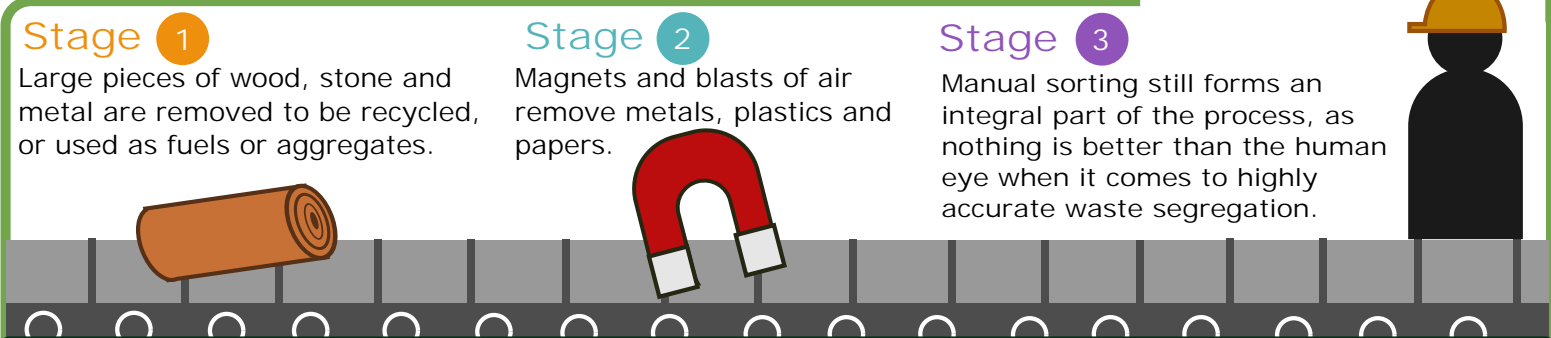
## Common Questions

- What happens to our waste after it has been taken away?
- Why are some waste types collected separately?

The Mixed Recycling Pathway  
 Mick George has a Mechanical Recovery Facility in St Ives, where waste from a range of commercial customers is sorted according to size, density and material by passing the waste through several separation stages, as shown below.

## Top Targets

- Learn about the amazing processes occurring behind the scenes (and share them with the rest of your department!)



**Stage 1**  
 Large pieces of wood, stone and metal are removed to be recycled, or used as fuels or aggregates.

**Stage 2**  
 Magnets and blasts of air remove metals, plastics and papers.

**Stage 3**  
 Manual sorting still forms an integral part of the process, as nothing is better than the human eye when it comes to highly accurate waste segregation.

If staff from your department are interested in visiting this Facility, contact the Environment and Energy Section.

## Sorted materials are dealt with at different sites



Map of the facilities

**The Food Waste Pathway**  
 Food waste is sent to an anaerobic digestion plant, where it is broken down by microorganisms in the absence of oxygen. The product resulting from this process is 'biogas', composed primarily from methane and carbon dioxide. This is an important fuel because it is renewable, it has low greenhouse gas emissions compared to fossil fuels, and it can be stored and used when needed.

- Biogas can be used as:
- power for electricity plants.
  - gas for the grid.
  - transport fuel.
  - heat for houses.

Additionally the solid bi-product of the process is an effective soil conditioner, which can be used to reduce farmers' reliance on inorganic fertilisers. To find out more see the link below.

[www.localgeneration.co.uk](http://www.localgeneration.co.uk)

# The non-recyclable pathway

## What happens to non-recyclable waste?

Materials including cling film, polystyrene, Styrofoam and coffee cups are sent on to an Energy from Waste facility. They are subjected to an incineration process that extracts heat and gas from the materials and prevents waste from going to landfill. The leftover materials from this process are used for construction



1 Waste is fed into the incinerator

3 The heat is used to boil water, and the steam powers electricity generators

4 Harmful gases are removed

2 The waste is heated to extremely high temperatures

5 Leftovers are used for construction

# Alternative waste streams

Some materials can't go into the 'normal' bins at the University. Often this is because they need to be subjected to different waste treatment and recycling processes. See below for a few of the pathways that some of these items and materials follow.

## Batteries

It is important to recycle batteries in order to recover valuable heavy metals including nickel, cadmium and mercury, thus saving raw materials.

## Fluorescent Lights

Similar to batteries, the mercury can be recovered from fluorescent lights. This avoids the health risk caused by putting them in landfill.

## E-Waste

E-waste, or WEEE, is dismantled so that particular parts and materials can be recovered. The remaining material is usually shredded for recycling or landfill.

## Cooking Oil

In the University Centre, waste cooking oil is sent to a reprocessing facility where it is cleaned and used as transport fuel!




## Hazardous, Chemical & Clinical Waste

These wastes, often from labs, should not go down drains or into normal bins. A specialist contractor collects and treats this waste, usually by thermal, chemical or biological processes.

For a complete A to Z of recycling at the University, see: [www.environment.admin.cam.ac.uk/recyclingAtoZ](http://www.environment.admin.cam.ac.uk/recyclingAtoZ)  
For more details on hazardous, chemical and clinical waste disposal, and waste disposal for depts at Addenbrookes, visit [www.environment.admin.cam.ac.uk/hazardous-waste](http://www.environment.admin.cam.ac.uk/hazardous-waste)



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# Communications and engagement

## Common Questions

- How can I get other members of the department involved in recycling?
- Are there ways to link up with other departments similar to me?

## Top Targets

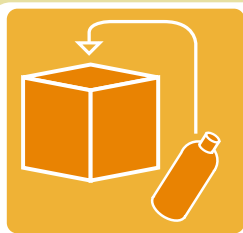
- Use events and engagement to raise awareness of and interest in environmental issues.
- Start building a network with other departments to share ideas and solutions.

## Top tips for day-to-day engagement

1. Face-to-face communication with staff can be a key way to embed sustainable practices.
2. Give gentle reminders about correct bin use, especially if you see them being used incorrectly.
3. Give frequent encouragement to keep department members reminded and enthused, and feed back any improvements in performance
4. Mini competitions within the department can be great for raising awareness and encouraging good practice.
5. Remember to keep posters and labels updated.

## Ideas for occasional engagement

Putting on a few awareness-raising events throughout the year is a great way to keep department members engaged - and to have some fun as well! It need not take up too much time; the suggestions below are quick to organise and set up. The Environment and Energy Section is keen to support any events you run.



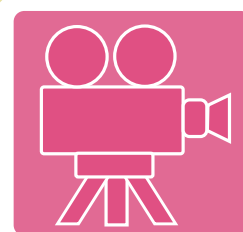
**Waste-sorting competition**  
Harness competitiveness by running a waste-sorting competition. Use boxes to represent bins, gather a range of (clean!) materials and see how quickly people can sort the items correctly.



**Waste audit**  
Knowing what is in your bins is important when aiming to improve waste management. A simple check of bin contents or weights can be a simple way to feed back on performance and common problems.



**Guessing competition**  
Raise awareness by getting staff to guess, for example, how much paper your department uses a month - a stack of empty boxes of paper can be a powerful visual tool to accompany this! Give a prize for the closest estimate.



**Film screening**  
Putting on a film screening is a great way to put departmental practices in a global context and remind people why their actions matter. There are lots of fantastic waste-related films to see.

Visit [www.environment.admin.cam.ac.uk/guidance](http://www.environment.admin.cam.ac.uk/guidance) for more on engaging staff about waste & recycling



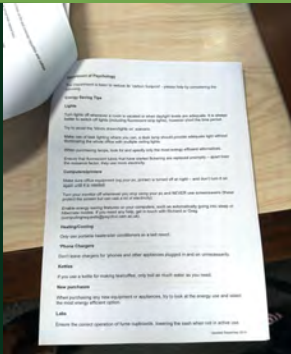
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# When new members join the department

The arrival of new staff and students into the department offers the perfect opportunity to outline waste and recycling protocol and instil sustainable practices early on. People are far more likely to follow certain patterns of behaviour, such as sorting their recycling, if they see these practices as a timeless norm rather than a new initiative. See below for suggested ways of engaging new department members.



## Induction Pack

If you give out an induction pack to new department members, include a page or two on environmental matters. Outline what goes in the recycling bins and where the bins are located.



## Introductory Lectures

Include information on bin locations and recycling protocol in introductory lectures for staff. For students, add a couple of slides about recycling to the end of the first lecture.

**Case Study: Psychology**  
The Department of Psychology includes a page on recycling and other environmental issues in its induction pack, which is provided to all staff members. This information encourages engagement and good practices early on, especially when coupled with prevalent and well-labelled bins.

Evidence of the success of these strategies was gained from a University waste audit in 2015, where the Department was one of the best performers when it came to putting the right items in the correct bins.

See [www.environment.admin.cam.ac.uk/guidance](http://www.environment.admin.cam.ac.uk/guidance) for more on inductions, and [www.environment.admin.cam.ac.uk/case-studies/waste-recycling](http://www.environment.admin.cam.ac.uk/case-studies/waste-recycling) for more case studies

# Networking with other departments

Communicating with other departments can be a really worthwhile way of sharing ideas and finding out how other teams have dealt with recycling and waste management problems similar to those you are facing. In particular it is worth speaking to departments with a similar structure to your own, since departments can vary widely in the quantities and nature of waste they produce. See below for suggested ways of getting in touch.

## EECs

- 1 If you or members of your department are Environment and Energy Coordinators you can email around the EEC Network with specific queries and comments. For more information on EECs see below.

[www.environment.admin.cam.ac.uk/EECs](http://www.environment.admin.cam.ac.uk/EECs)

## Green Impact

- 2 The Green Impact Teams gather for workshops and discussions throughout the year. Raise any queries you might have at these, particularly if they link to the Green Impact Workbook.

[www.environment.admin.cam.ac.uk/green-impact](http://www.environment.admin.cam.ac.uk/green-impact)

## The Environment and Energy Section

- 3 Get in touch with the Environment and Energy Section if you would like to be linked up to other departments or teams, or you have any specific environmental queries.




Email: [environment@admin.cam.ac.uk](mailto:environment@admin.cam.ac.uk)

## Site Committee Meetings

- 4 Attending these can be a good chance to raise any waste or recycling issues relevant to the entire site.



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