University of Greenwich

Waste Action Plan

Our Plan for Reducing Waste at Greenwich
2024 – 2030

Estates & Facilities

UNIVERSITY OF GREENWICH

Contents

1. Forward

Waste impacts us all, and from the individual to large business, everyone produces it. Much of this waste, from food to plastics, when improperly managed can emit greenhouse gases or dangerous chemicals. This damages ecosystems, spreads disease and threatens our economic prosperity, disproportionately harming the younger and more vulnerable groups in our society.

At Greenwich we provide a variety of educational and social environments for 25,000 students in addition to accommodating 2,000 staff split over three campuses. From your typical domestic house waste and recycling to hazardous clinical, chemical, and electrical equipment we have a diverse waste stream portfolio. Managing our waste is therefore crucial not only for our health and wellbeing, but also for the environment.

Our Waste Action Plan will help to achieve our environmental objectives and obligations, whilst providing the opportunity to transition away from the traditional linear modal and to a circular economy in maximising our use of resources. This plan aligns with our institutional values; Inclusive, Collaborative and Impactful and will assist in achieving our Strategic Priority of Connecting and Sustainable Campuses. I am therefore delighted to endorse this plan.

Chris Forster
Director of Estates and Facilities

"The university will create a green and sustainable university and actively encourage and support sustainable development and principles of sustainable learning and teaching practice in curriculum development and delivery."

This is Our Time Corporate Strategy, Page 20

2. Executive Summary

Defined by the UK Government, any material that is 'thrown away' is classified as waste. In the UK alone we are now generating 44 million tonnes a year; all waste requires disposal and depending on the choice it will impact the three pillars of sustainability (environment, financial and society).

Not including construction waste, at Greenwich our generation has significantly reduced; from an average of 1,100 tonnes from 2009/10 to under 700 tonnes now. Recycling rates reached 62% in 2019/20, close our 70% target, but fell to 39% in 2020/21 following the coronavirus pandemic and challenges remain with the rate currently at 36% for 2022/23.

Our Waste Action Plan outlines how we will improve our recycling trends, alongside legal obligations and is aligned to our Net Zero Carbon Plan to 2030. Our overarching ambition is set out in our Corporate Strategy: Strategy 2030, calling on everyone to implement positive sustainable change whilst at Greenwich.

3. Objectives & Targets

The following objectives provide direction in line with our Sustainability Policy:

1. **To obtain** an annual improvement in recycling rates, including regular review of environmental best practice against appropriate targets and/or KPIs.
2. **To target** waste management measures to address variable production or needs of specific areas, aligned to the Waste Hierarchy.
3. **To consider** how our university can use its sphere of influence in waste management and to promote further behavioural change.
4. **Maintaining** legal compliance across all our waste control operations.

They are supported by the targets detailed below, with section 11, The Action Plan detailing the requirements to make them a reality, and set by using the SMART methodology.

1. **To achieve** a recycling rate of 70% from non-construction wastes by 2030.
2. **To reduce** waste arisings by 5% a year.
3. **To establish** a baseline for re-use and to achieve a 10% increase by 2025.
4. **To capture** a higher accuracy of construction data by September 2024.
5. **To ensure** procurement tender questions surrounding waste are embedded by 2026.
6. **To embed a** behavioural change campaign for halls of residence by 2025.

Where required, more localised targets will be considered. Our data is available here and is submitted annually via the Higher Education Statistical Agency's Estates Management Record, with our progress reported through the Annual Sustainability Report.

4. Sustainable Development Goals

Globally, waste prevention and accurate disposal are increasingly taken seriously. **The United Nations (UN) Sustainable Development Goals (SDGs)** are 17 aspirations adopted in 2015 with 2030 deadlines for building on the UN's principle of "*Leaving no one behind*", the agenda that emphasizes a holistic approach to achieving a sustainable planet for all.

Waste management is essential for sustainable development, directly impacting upon human health and future prosperity, with six SDGs attributable to its management of waste (right).

4. The Legislative Context

Though legal compliance is not the primary driver for the development of this Action Plan, it is, nevertheless, an important consideration. Waste regulation is strict in the UK, with multiple branches of legislation dealing with specific waste streams.

Core themes surround the implementation of the waste hierarchy, in addition to the diversion of waste to landfill and the associated increase of recycling all possible materials. UK policies also operates on '*shared responsibility';* everyone generates waste, so everyone has a part to play in preventing its future growth. Taxation is used to penalise generation of certain streams, e.g. through the land-fill tax on organisational level and carrier bag on the individual. Legislation also covers the Duty of Care of waste handling, ensuring appropriate documentation of records and licencing. Our Environmental Management System (EMS) to ISO14001 standards provides a framework to audit our legal compliance.

5. Key Terms

a) ISO 14001 (Environmental Management System)

ISO14001 is an international voluntary standard for environmental management systems (EMS) with third party certification. An EMS is a set of processes that enable organisations to reduce environmental impacts, increase efficiency and integrate sustainability thinking into operations. It requires senior leadership in addition to operational innovation and collaborations to allow developments without overusing limited resources. Waste is a core feature of all EMS's. Our Estates & Facilities Directorate (EFD) is proud to have **operated to ISO14001 standards since 2012** and has assisted us in driving through area improvements.

b) Sustainability Management Committee

Lead by a Deputy Vice-Chancellor, our **Sustainability Management Committee (SMC**) has senior representatives across our Faculties and Directorates for a collaborative approach to sustainable development. Students are represented by the elected officers of the Greenwich Students' Union (GSU) to ensure everyone has an equal voice in making strategic decisions regarding sustainability at Greenwich.

c) Waste Hierarchy

The **Waste Hierarchy**, as defined by the UK Government is: "*ranks waste management options according to what is best for the environment'* and has been a legal requirement for businesses and public bodies to involve since 2011. Collaboration and innovation are required, alongside auditing to identify how waste can be reduced.

d) Resource Efficiency and Circular Economy

Traditional business uses the **'Linear Economy'** model; following a linear path of **Take, Make and Dispose,** but this model exhausts raw materials, leading to energy wastage and higher emission generation alongside the wastes' threat to the environment.

'Circular Economy' is focussed on using natural resources in the most effective way; **Make, Use, Recycle**, as many times as possible whilst minimising the impact of their use on the environment. We must shift towards a circular model to achieve a sustainable organisational system, both from what we generate and procuring supply chains.

e) Integrated Facilities Management (IFM)

In May 2020, the university entered an Integrated Facilities Management Contract, awarded to Sodexo. Sodexo operate the facility services including waste. A dedicated Sustainability Manager is budgeted to provide a contractual oversight over these elements.

In addition to this IFM contract, Medway halls and a section at Avery Hill (Howard, Tudor, Parr, Cleeves) are under operation of a Private Finance Initiative (PFI) contracted to another branch of Sodexo. These halls are managed separately, with differing waste contractors, though the university has influence and are included in behavioural change campaigns.

6. University Waste Streams & Disposal Routes

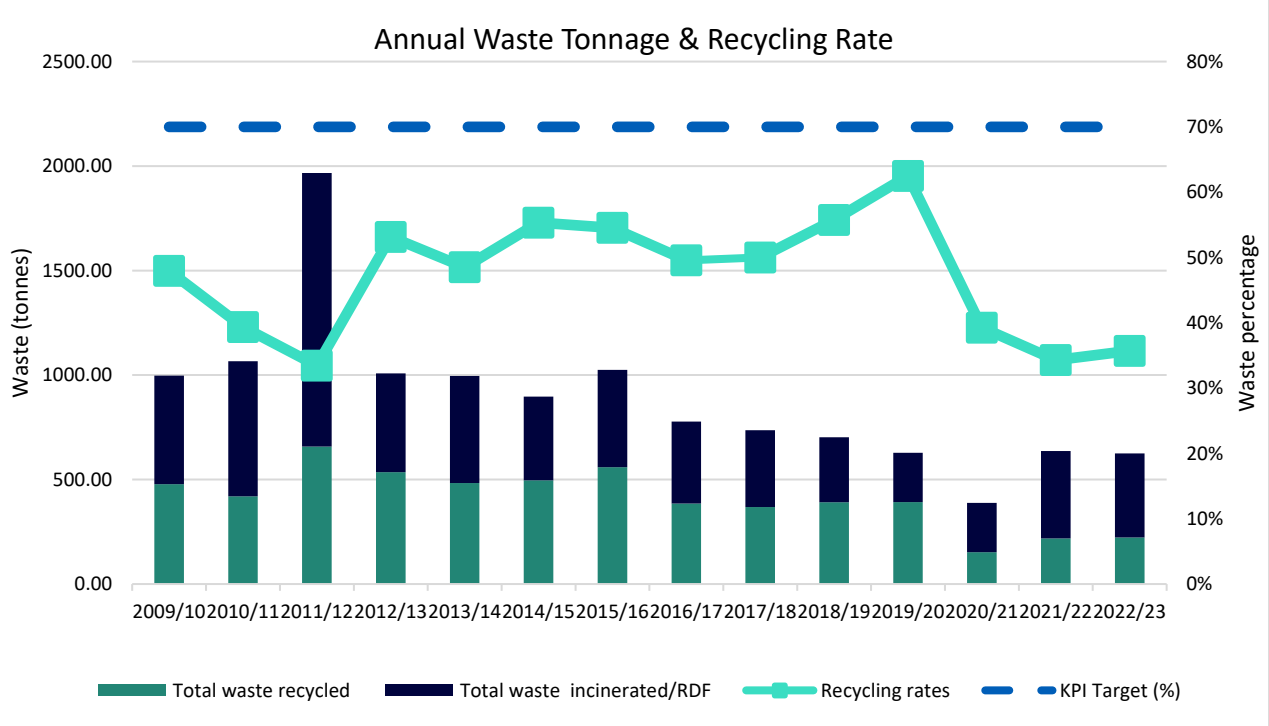
Together, our three campuses provide teaching facilities for over 25,000 students with over 2,000 staff. Through all these activities our waste stream portfolio includes:

Waste Stream	Disposal Route	Hazardous
Dry Mixed Recycling (aluminium foil, cans & tins, cardboard, paper and clean plastics labelled 1,2 or 3; PET, HDPE or PVC)	Separated & recycled at Mixed Recycling Facilities (MRFs)	No
General waste (dirty packaging, coffee cups, plastics not listed above, food etc.)	Sent to incineration for energy production (RDF)	No
Food waste (all cooked & raw leftovers)	Sent to anaerobic digestion	No
Glass waste (clean bottles & jars)	Sent for recycling	No
Cooking oil waste	Sent for filtering & specialist recycling	Yes
Battery waste (assorted household batteries)	Sent for specialist recycling	Yes
Confidential waste (paper shredding).	Shredding & then recycled	No
Clinical waste (wastes that have been contaminated with body fluids, sharps etc)	Sent for incineration for energy production (RDF)	Yes
Hygiene waste (sanitary waste).	Sent for incineration for energy production (RDF)	Yes
Green waste (all grounds relating materials).	Sent for composting	No
Lab or chemical waste	Sent for incineration for energy production (RDF)	Yes
Wood waste (pallets, furniture etc.)	Sent for recycling	No
Metal waste (accepting metal components)	Sent for recycling	No
Toner cartridges (all MFD printer cartridges)	Sent for specialist recycling	Yes
Electrical waste (all electrical parts and appliances not holding sensitive data	Sent for specialist recycling	Yes
Electrical waste (all electrical items holding sensitive data i.e. CPUs, Tablets, Laptops	Sent for data wipe and then specialist recycling.	Yes
Bulky waste (all large and multi component waste which cannot be divided up into specific components and placed in the streams mentioned above)	Sent for separation if possible & then recycling or incineration for energy production (RDF)	No

7. University Waste Monitoring & Analysis

The UK's national recycling rate was 44% (2021 – from local authority data from residences), though research has shown that if correctly cleaned and segregated up to 70% of all wastes can be recycled. Our recycling rate KPI target is aligned to this figure of 70%. However, the university has yet to reach this target. The university's Sustainability Policy sets a requirement to meet the 'Waste Hierarchy', whilst also aiming for zero waste to landfill and adopting a zero-waste mentality (utilising the waste hierarchy and rethink, reduce, reuse, recycle principle).

The below analysis highlights our progress through the years.



Though the university had consistently beaten the UK national average, it has yet to reach the set KPI target of 70%. Recycling rates showed an increase to 2019/20 to 62%, rising 6% since 2016/17, but drastically fell during 2020/21 to 39% and currently sits at 36% during 2022/23, 8% lower than the national average.

The Coronavirus pandemic needs to be mentioned from 2020, with a significant impact; industry shortages resulted in recycling being diverted to general waste and incineration for several months. Despite a reduced footfall, hygiene and touchpoint cleaning increased with a higher percentage of general waste production as a result. As Covid impacts lessened so has the associated pressures and general waste production.

In the university, waste volumes have been decreasing steadily since 2015/16, illustrating a positive reduction of waste generation. **The waste per FTE** student and staff follows this same trend, with below 25kg per FTE since 2015/16 with a rapid reduction to 10kg FTE during 2020/21 (due to the Covid pandemic) and a slight bounce back to 11kg FTE for 2022/23. The reduction in waste generation will continue to be analysed against FTEs in the university's expanding estate; 25,000 students are supported by 2,000 staff.

a) The Carbon Footprint of Waste

The carbon footprint of any organisation is split into three scopes; Scope 1, 2, and 3 emissions. **Waste falls into Scope 3;** indirect emissions to which there is limited control due to the behaviours and needs of the stakeholders.

Each waste stream emits a differing amount of carbon, based on how it is treated; landfill for example has a footprint x25 larger than recycling and provides additional backing for removing waste to landfill. Though waste contributes a small fraction of our total footprint; less than 1% it must not be forgotten

with its inclusion within the university's Net Zero Carbon target of 2030. Our waste footprint for the past 5 years can be found below, though it should be noted that our construction waste can see high fluctuations due to capital project development and the inaccuracy of some of its collected data.

Waste		2018/19	2019/20	2020/21	2021/22	2022/23
	Recycling	8.20	7.25	2.89	4.14	4.34
tnCO2e	Incinerated /RDF	6.64	5.02	5.02	8.89	8.55
	Total	**14.84**	**12.26**	**7.91**	**13.04**	**12.89**
Construction waste	Recycling	0.01	0.15	0.17	0.02	0.09
tnCO2e	Incinerated /RDF	0.05	0.00	0.26	0.05	0.44
	Landfill	0.00	1.24	0.00	0.04	0.00
	Total	**0.6**	**1.39**	**0.43**	**0.11**	**0.53**
tnCO2e	Recycling	8.21	7.40	3.06	4.16	4.43
	Incinerated /RDF	6.69	5.02	5.28	8.93	8.99
	Landfill	0.00	1.24	0.00	0.04	0.00
	Total incl. construction	**14.90**	**13.65**	**8.34**	**13.15**	**13.42**

a) Waste Improvements

Improvements and notable changes include:

- Refreshment, and alignment of waste posters across campuses .
- Annual Porter and Cleaner training provided by IFM contractor Sodexo.
- Roll-out of improved recycling training to Estates & Facilities staff.
- Internal bin mapping for better segregation and bin provision.
- Behavioural change 'Make Your Change' campaign.
- Enhanced circular economy and donation campaigns (see appendix).
- Disposable cup removals (see appendix).
- Improved waste audits.

b) Waste Challenges

Strategic reviews of processes have identified the following challenges of segregation:

- Waste management needs a clearer focus with increased resource.
- Continued poor waste behaviour, with frequent contamination reports.
- Engagement is complex and waste is not a priority issue to our stakeholders, with students only on campus for a few years.
- In some areas the bin provision and style does not meet requirements.
- The continued perception of waste being 'waste' and lacking financial or environmental value, not assisted by local to international news of recycling failures.
- An inconsistent reporting of contaminated hotspots with associated action plans or feedback to IFM contractor of university staff.
- An inconsistent approach to furniture/item/equipment purchasing and use of internal reuse schemes, with no financial resource placed against the internal schemes.

8. Living Labs & Waste

For a university, a Living Lab brings an opportunity for students, academic staff, professional staff and external bodies to collaborate on projects looking at real-life sustainability problems. They offer real life research opportunities and provides students with a transformational educational experience and real-world skills to increase their employability. All of our waste data is available upon request from students or staff. For anyone looking to assist with analysis to improve waste stream innovation, our Living Lab pages here will provide more information.

9. Mapping the Stages of Waste Hierarchy & Responsibility

The Waste Hierarchy can be applied to staff roles and student behaviours. By considering the hierarchy throughout everyday operations, decision-making and processes substantial improvements and innovations can be made. This mapping exercise reflects the hierarchy against waste related behaviours.

10. Importance of Engagement & Behaviour Change

All new initiatives aiming to tackle climate change and environmental issues need 'behaviour change enabling plans' for guaranteed success. At Greenwich, but wider culturally there is a disconnect between the producer of waste and the waste itself. Once an item of waste enters a bin, it is immediately forgotten with a lack of knowledge to the journey that item subsequently makes and what it becomes.

Closing this gap is crucial for energising and enabling positive uptake of the waste hierarchy.

Simplifying the action will also create improvement; especially when it comes to recycling with only a few seconds spent deciding which bin is appropriate. Bin placement, visibility and access to knowledge (posters) have large roles to play and will be considered within any engagement programme. The university will review and conduct market research to ensure a variety of methods are available to reach the widest possible audience.

11. The Action Plan

The overarching objective is to meet our 70% recycling rate KPI. The legal compliance is a necessity and will continue to be managed through the Environmental Management System.

Collaboration and communication are crucial for achieving this target. Anyone visiting our campuses has the potential to generate waste and its collective reduction must be a shared responsibility. Supplementary targets and actions to assist in the overarching aim can be found below, against timescales and stakeholders. It is important that these targets are flexible, to consider changing technologies and behaviours, and these actions will therefore be reviewed annually to ensure they keep the university on target.

Action	Lead(s)/Team(s)	Est. Costs	Deadline
To meet & maintain People & Planet scoring criteria on recycling.	Sustainability Sodexo IFM	Subject to below	Annually
Ensure compliance elements of ISO14001 are upheld alongside legislation.	Sustainability Sodexo IFM Estates & Facilities	Aligned to EMS budget	Annually
Complete a review of IFM Contracted Waste Collectors for quality of service	Sustainability EFD Monitoring Sodexo IFM	No initial cost	Annually
Undertake 3 external audits every 2-years to contracted waste collectors for compliance.	Sustainability Sodexo IFM	No cost	Bi-annually
Map all waste bins for correct positioning & review.	Sustainability EFD Monitoring Sodexo IFM	£2-5k annual new bins	2023/2024
Audit all labs, teaching spaces & areas of high generation (PFI, catering etc.) to assess waste improvements & compliance leading to local targets.	Sustainability Faculties	No initial cost	Sept 2026
Achieve an annual £50k furniture reuse scheme avoidance & add in a reuse sub-category into the recycling KPI.	Sustainability Procurement All Areas	£9k platform & £4k annually	Annually
Capital Project tender waste spec review to increase accuracy of evidence in line with ISO14001.	Capital Projects Sustainability	No cost	Sept 2024 Review Annually
Assess the impact of construction waste arisings & implement a plan for reducing waste within all stages of a construction or refurbishment project.	Capital Projects Sustainability	No cost	Sep 2024 Review Annually

Develop & maintain a suitable process for the donation of surplus items to local community organisations.	Sustainability Procurement Capital Projects	No cost	Annually
Review & rewrite of the Sustainable Procurement Policy to include focus on delivering circular economy outcomes.	Sustainability Procurement	No cost	Jan 2025
Review obsolete IT equipment and recyclability/reusable content.	Sustainability ILS	No initial cost	Jan 2026
Improve & maintain reusable cup rate at 50% through a disposable cup fee at all outlets.	Sustainability Catering & Caterers	TBC	Annually
Interim plastic water bottles sales reduction by 10% to overall target 30%.	Sustainability Catering & Caterers	TBC	Jul 2025 to target 2028.
Implement a reusable food container initiative across food outlets following pilot.	Sustainability Catering & Caterers	£30k annually linked with reusable cups.	2024/2025
Review and implement food waste monitoring in all outlets & within hospitality.	Catering & Caterers Sustainability	TBC	Jul 2024
Re-establish the collection of food waste within food outlets eating areas.	Sodexo IFM Sustainability	No cost	2025/2026
Implement a pilot & collection of food waste within halls of residence.	Sodexo IFM Sustainability	£13.5k for all IFM halls	2025/2026
Implement a halls of residence campaign (including PFI & waste escalation procedures) to achieve an improved 50% recycling rate.	Sustainability Sodexo IFM Accommodation	£5k annual posters & glass bags	Jan 2025
Instigate a suitable monitoring system for cleaners within academic buildings.	Sodexo IFM Sustainability	No cost	Aug 2024
Implement a suitable waste contamination escalation procedure for academic buildings & Faculties.	Sustainability Sodexo IFM Faculties	No cost	Sep 2024
Improve communications for non-student visitors (including summer schools & nurses staying in accommodation).	Sustainability Sodexo IFM Accommodation Events	£500-£1k for welcome comms	May 2024
Implement a compost bay at Avery Hill for grounds waste & achieve compost generation.	Sodexo IFM Sustainability Capital Projects	£9k annually for collected service	Dec 2024
Implement online staff training for recycling best practice.	Sustainability People Directorate	No cost	Feb 2024 to Annually
Implement a ‘clothes swap’ initiative.	Sustainability	£100 annually	Feb 2024
Improve the End of Term Reuse campaign; achieving at least 1,000 bags donation and reducing end of term waste arising by 5%.	Sustainability Sodexo IFM Accommodation	£200 annual for food donation cages	Annually
Enhance smaller waste projects (i.e. lost property, Bargain Corner).	Sustainability Sodexo IFM	£500-£1k annually	Annually

12. Appendix (specific projects tackling waste)

These are examples of the initiatives, innovations and collaborations taken by our students and staff to push towards a zero waste and circular economy approach in all activities.

a) Furniture Reuse

With offices and rooms in constant change, furniture items commonly come in and out of requirement within a university environment. Our Furniture Reuse Scheme was relaunched in November 2019 with the aim to relocate quality items surplus to one department, onto another. In 2023 the scheme achieved its £100,000 cost avoidance milestone. More information and how to access the scheme can be found here. Items that are no longer required internally, are donated externally where possible to further reduce waste.

b) End of Term Reuse

At the end of each year, students leave halls of residence and have typically accumulated items they do not want to take away with them. End of Term Reuse has been in operation since 2010 and involves providing collection points for students to donate suitable items to charity. Since 2018, the University has partnered with the British Heart Foundation; with donatable items including books, clothing, small electrical appliances, shoes, and a variety of kitchen utensils. From 2022, the University has also forged relationships with local food banks which will now take non-perishable foods. More information and student experiences of the campaign can be found here.

c) Removal of Disposables in Food Outlets

2.5 billion disposable cups and used in the UK annually, but less than 1% of them are recycled. With an inner plastic sleeve, disposable cups are difficult to recycle and are a commonly contaminated item in recycling waste streams. Pre-pandemic, Greenwich outlets were using 250,000 disposable cups a year and whilst a discount (10p) was provided for bringing reusables this only accounted for 20% or sales. In 2022, this reusable rate had fallen to 16%, with the Students' Union rate less than 5%.

Two outlets became 'disposable cup free' and from 2018 plastic straws and stirrers were halted from circulation. At the start of 2023/24 a disposable cup fee was introduced across outlets with any revenue re-invested for sustainable projects. The reusable rate hit a record high of 49.9% and alongside the fee, sculptures were installed to physically illustrate the daily volume of waste generated. More information can be found here.

d) Bargain Corner

The Chaplaincy at Medway run 'Bargain Corner', providing donated items at discounted prices to students. Running on an honesty box approach, the revenue is fed back into the shop's upkeep. Thousands of items have been sold and purchased through the project.

Approval Date: 21/06/2024
Approved By: Chris Forster (Director of Estates & Facilities
Re-Approval Timeframe: Updates within Annual Reports

UNIVERSITY OF GREENWICH