



University of  
Nottingham

UK | CHINA | MALAYSIA

A photograph of a modern, curved building facade with large glass windows and white panels, set against a clear blue sky. The building is the central focus of the upper half of the cover.

# University of Nottingham Operational Sustainability Report 2023-2024

A photograph of a paved walkway curving through a green lawn with many white daisies in the foreground. The scene is bright and sunny, with shadows cast on the path.

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# QS World University Sustainability Ranking 2024

The QS published its second year of Sustainability Rankings in 2024. Nottingham was ranked 33<sup>rd</sup> out of 1,394, dramatically improving on last year's result of 118<sup>th</sup> out of 700.



As in the first year, the QS Sustainability Rankings use a methodology that consists of indicators measuring environmental impact, social impact, and governance.

The highest scoring indicators for the university were:

- Good governance (99.6%)
- Health and wellbeing (99.4%)
- Knowledge exchange (98.3%)

The table below shows the scores (out of 100) in the measured categories in 2023 and 2024 to show a marked improvement in the overall score.

| Measure                         | 2024        |
|---------------------------------|-------------|
| environmental sustainability    | 66.2        |
| environmental education         | 70.8        |
| environmental research          | 97.3        |
| equality                        | 97.6        |
| knowledge exchange              | 98.3        |
| impact of education             | 78.6        |
| employability and opportunities | 97          |
| health and wellbeing            | 99.4        |
| good governance                 | 99.6        |
| <b>Overall score</b>            | <b>89.2</b> |

# Energy and Carbon



## Highlights

- 33,701 tonnes CO2 emissions (scope 1&2)
- Grid electricity consumption of 77,486,904 kWh
- 693,370 kWh generated by on- site renewable sources
- 615,933 m3 of water usage
- 33% reduction in fugitive emissions
- Expansion of Building Management System reducing steam consumption by 16%.

Aligned to a science-based approach and focusing on scope 1 and scope 2 emissions, the university has set the following targets (using 2018/2019 as the baseline year):

**2030 – 63% reduction in emissions (science-based target)**

**2040 – Net zero carbon target (with offsetting)**

**2050 – Absolute zero carbon target (without offsetting)**

The graph below shows our progress towards the above target in 2023/24.

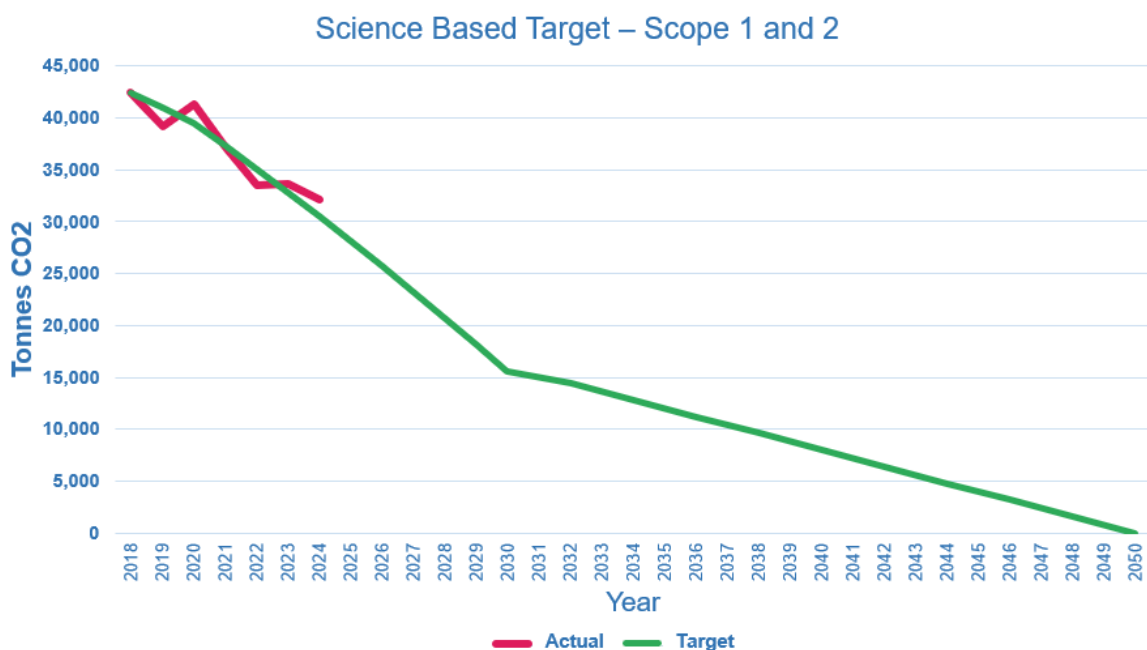


Fig 1. Progress of carbon reduction for scope 1 and 2 emissions against Science Based Target.

Scope 1 and 2 carbon data comprise eight primary sources, with electricity, gas, and steam accounting for 97% of total carbon emissions. This year we recorded a total energy consumption of 77,486,906 kWh from the grid. This is higher than 2022-2023 usage, attributed to a higher number of students and staff, increased space utilization

and a greater number of engagement events throughout the academic year. In contrast, gas emissions have decreased by 8% (79,769,295 kWh down from 84,460,373 kWh) due to the ongoing replacement of end-of-life gas boilers. Steam consumption has also reduced by 16%, supported by continuous monitoring through our Building Management System (BMS).

Carbon emissions by site are shown in Fig 22, with the highest emissions recorded at University Park, followed by Jubilee Campus and Sutton Bonington. Utilities and resource usage vary depending on the specific teaching environments.

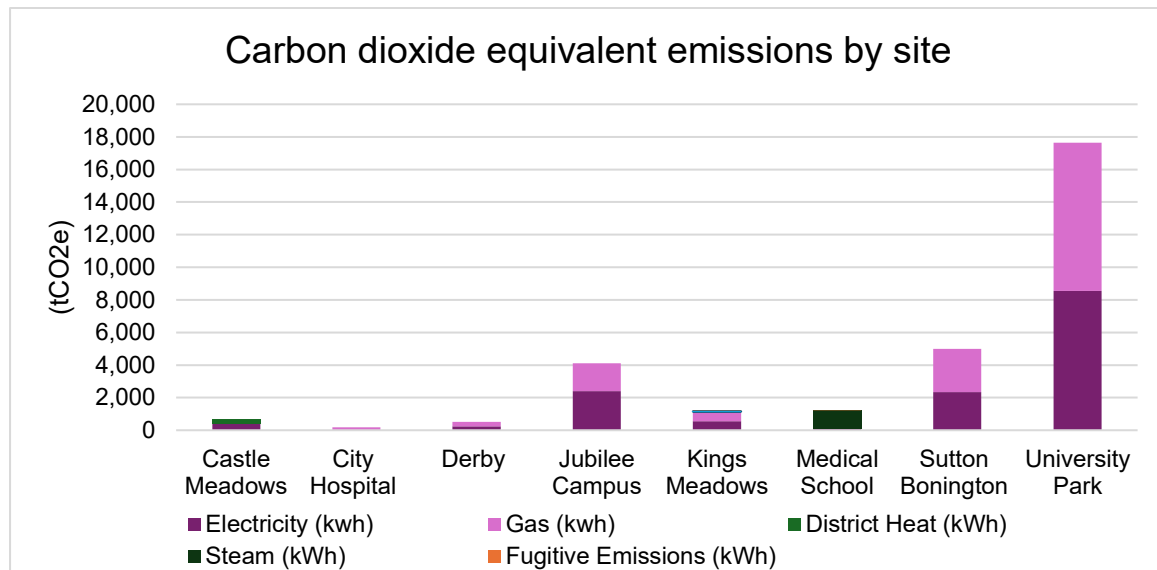


Fig 2. 2023-2024 carbon emissions comparison by UK site.

The university’s Asset Replacement Programme continues to invest in our estate and delivers carbon co-benefits through the replacement and upgrade of ageing engineering plant/infrastructure and building fabric. It replaced 85 split system air conditioning units, resulting in an electrical energy efficiency saving of around 135,000 kWh and a carbon saving of 28 tCO2e.

Replacing old air conditioning units/chillers with modern energy efficient units not only saves operational carbon emissions but also reduces the potential escape of refrigerant gas, which have significant global warming potential. Loss of refrigerant gases or ‘fugitive emissions’ this year were 244 kg which, when converted to carbon equivalent for the various gases equates to 496 tCO2e, creating a 33% reduction compared to the previous year.

In 2023-24, we generated 693,370 kWh of renewable energy. We have 39 renewable energy sources across University Park, Jubilee, and Sutton Bonington campuses, which utilise photovoltaic (PV) systems, biomass, bio-oil, Ground Source Heat Pumps, and solar thermal technologies.

# Engagement



**Green Rewards** is the university-wide sustainability engagement platform encouraging and rewarding staff and students' positive environmental behaviors. In 2023-24 we saw a 40% increase in CO<sub>2</sub>e savings through the actions of staff and students compared to last year.



## Sustainability Action Week

During 18 to 22 March 2024 a week of events encouraged staff and students to engage with environmental issues and act for the climate. It was a collaboration with the University of Nottingham Faculty of Arts, culminating in a Sustainability Showcase at the Royal Concert Hall in Nottingham and a performance of 'Wild Isles' by the BBC Concert Orchestra. The interactive exhibitions showed how academics from the University of Nottingham and Nottingham Trent University are addressing issues of sustainability in innovative ways.

Over 1,070 staff, students and Nottingham residents attended and more than 2,830 people listened to a special installation at Highfields Park. These Lakeside listening posts were taken over by two university researchers, with music and poetry inspired by nature.

## The go! Greener Halls Competition

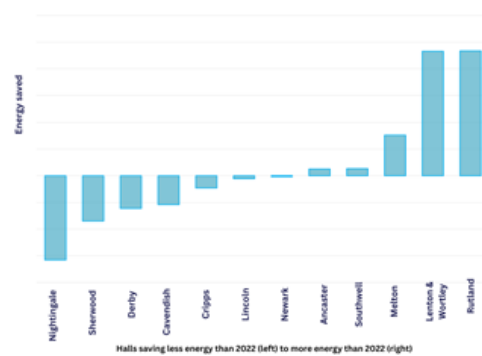
We continued to engage with students residing in halls of residence to instil positive behaviours. **The go! Greener Halls Competition** encourages students to actively save energy and reduce waste in a friendly competition.

Rutland Hall reduced their energy consumption the most during the Autumn, with Lenton and Wortley Hall a close second. The top two halls alone saved over **31,400kWh of electricity** during the competition.

Florence Boot Hall won the Spring waste reduction competition. All halls reduced their waste by a combined **902kg**.

## go!Greener Halls Competition

25th Sep to 31st Oct



## Sustainability training

The Sustainability Team, funded through the university's Strategic Innovation Fund, delivered training on environmental sustainability for all university staff. The following was delivered over the year:

- Development of an interactive eLearning module '**Introduction to environmental sustainability**'.
- Creation of an online **Sustainability Knowledge Hub**, with a range of resources and information about environmental sustainability topics.
- Creation of a departmental toolkit to help embed sustainability across the university.
- Delivery of **Carbon Literacy Training**. 22 members of staff attended, 17 accreditations awarded, and 10 attendees showed interest in becoming facilitators.
- Improvements made to the Estates in-person training for new starters and delivered to a further 158 staff.

## Climate Fresk

Climate Fresk brings together participants to learn about the science of climate change and the levers of action within their context, through a game-style workshop. Based on the latest IPCC reports, participants take an active role in building up the Fresk (mural), linking the causes and effects of climate change, before stepping back to examine the interconnected and systemic nature of the challenges we face.



12 UoN staff and students have been trained as Climate Fresk facilitators who can deliver further sessions in a variety of civic, community, and education settings.

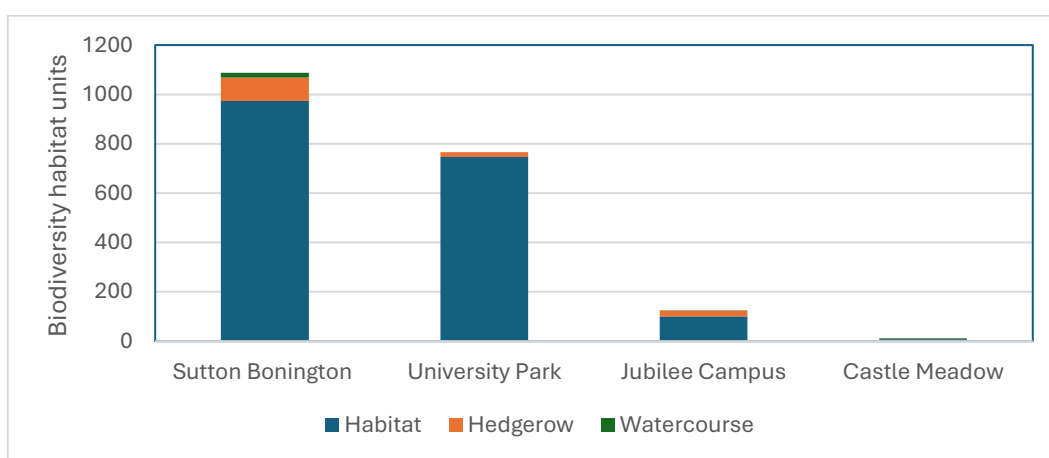
# Biodiversity



The university continues to make progress in line with being a [Nature Positive University](#) to:

- REDUCE negative impacts on nature
- RESTORE species and habitats
- RENEW ecosystems

Following comprehensive ecological assessments of four of our UK campuses (University Park, Jubilee, Sutton Bonington, Castle Meadow), we have established biodiversity baselines to enable us to develop meaningful targets that benefit and increase the nature on our campuses.



*Fig. 3 Biodiversity habitat units across university campuses. Note that these are total biodiversity units rather than per unit area, so bigger campuses tend to have more.*

## Wilding Campuses Project

The University of Nottingham is part of an exciting new campus rewilding project led by Student's Organising for Sustainability (SOS-UK).

With funding from the National Lottery Heritage Fund, this Nottingham-based pilot focuses on restoring nature into spaces where staff and students work and learn. It is a partnership between the University of Nottingham, Nottingham College and Bluecoat Aspley Academy.

Over two years (May 2024 – May 2026), the project aims to increase the abundance and diversity of threatened species on and around our campuses. Crucially, it will also empower students, staff and young people across Nottingham to reconnect with nature and tackle the ecological crisis through practical sessions for skills and well-being.



## Riverside tree planting

During the winter, further trees and whips were planted at Riverside Sports complex to extend the native, species-rich hedgerow being established. Funding from Severn Trent Water is enabling 2.6km of hedgerow to be planted as well as a small orchard. In collaboration with the university Sports Department, student volunteers from across the university are helping with the planting.



## Climate adaptation and resilience



Climate adaptation and resilience is becoming an increasingly important issue for the university. As well as aiming for our net zero target, we need to consider the risks and opportunities to our built and natural environment posed by the impacts of a changing climate, including floods, extreme temperatures, wildfires, increased storm intensity, power and water availability. This will enable us to become more resilient as an organisation in the face of an uncertain future.

Work has continued in 2023-24 to develop our approach to climate adaptation and resilience. Climate risk has also been embedded into risk registers relating to the university's sustainability performance and Estates & Facilities. This means that our approach and management of these risks can be regularly reviewed and updated.

## Food and Catering



Our catering operations continue to embed sustainability principles across all outlets, focusing on responsible sourcing, reducing waste, and encouraging low-carbon choices among staff and students. Over the past year we have:

- Maintained a 2-star **Food Made Good** rating for catered accommodation, recognising progress across sourcing, energy efficiency, staff wellbeing, and community engagement.
- Introduced more plant-forward, seasonal, and whole-food options through the **Menus of Change** framework, promoting healthier and more sustainable dining.
- Expanded use of the **Too Good To Go** app to 16 outlets, with 1,769 surplus ‘Magic Bags’ sold in 2023–24 saving 4,334 kg CO<sub>2</sub>e.
- Continued the **Latte Levy** initiative to drive reusable cup use, with 66,240 hot drinks served in reusable cups, saving 2,440 kg CO<sub>2</sub>e and 218.6 kg of plastic.



# Sustainable Travel and Transport



The university continues to expand initiatives that encourage staff and students to travel by sustainable modes, reducing emissions from commuting and business travel. Uptake across key travel schemes increased in 2023–24, reflecting growing engagement and the impact of new infrastructure investments.

## Encouraging sustainable commuting

Several staff schemes have supported a shift toward lower-carbon commuting:

- **Cycle to Work Scheme:** Enables staff to buy bikes through salary sacrifice. Uptake rose sharply to **141 applications** in 2023–24, up from **25** the previous year.
- **Season Ticket Scheme:** Offers discounted public transport passes via salary deductions. **505 staff** benefited in 2023–24.
- **Tusker Vehicle Leasing:** Allows staff to lease **electric or ultra-low-emission vehicles**. **89 staff** joined in 2023–24 (up from 55 in 2022–23), with **84% choosing EVs**.
- **Dr Bike:** Provides free on-campus servicing and repairs. Over **350 staff and students** used the service in 2023–24.

Working with **Nottingham City Council** and **Lime**, e-bikes are now available for hire across Nottingham City campuses, with additional docking points introduced this year to support commuting, inter-campus travel, and visitor trips.

## Supporting electric mobility

To accelerate the shift to electric transport, 40 new EV charging points were installed across UK campuses in 2023–24. Eight are reserved for university fleet vehicles, with the remainder available to staff and visitors. A modest user charge helps recover the ongoing operational costs of the network. These installations complement the Tusker leasing scheme and support the university's fleet transition to EV.

## Reducing inter-campus car travel

The university funds Hopper Bus services offering subsidised travel for staff and students. A new evening Hopper launched in 2023–24, providing travel between University Park, Jubilee Campus, Lenton, and Beeston. Across all five services, total patronage reached 864,208 journeys and covered 447,130 miles, generating an estimated 679,813 kg CO<sub>2</sub>e. The services play a key role in reducing single-occupancy car trips between campuses.

## Managing business travel emissions

While the university continues to promote climate-conscious travel, some business travel remains essential. In 2023–24:

- **Flights:** 7,115 bookings generated 6,952,258 kg CO<sub>2</sub>e (including radiative forcing), plus 854,671 kg CO<sub>2</sub>e from well-to-tank emissions.
- **Rail:** 22,662 journeys generated 94,471 kg CO<sub>2</sub>e.
- **Car use:** Grey fleet mileage was 367,667 miles (down from 370,685), producing 100,498 kg CO<sub>2</sub>e; hire cars/vans totalled 222,849 miles (down from 262,436), producing 70,160 kg CO<sub>2</sub>e.

# Waste and circular economy

## Highlights

- Significant reduction in waste produced: 1,817 tonnes down from 2,512
- 43% of waste was recovered for recycling
- 101 tonnes of food waste collected (up from 96 tonnes in 2022-23)
- Water refill stations saved the equivalent of 2.3 million plastic bottles

1,817 tonnes of waste was produced by the university community in 2023-24, which is huge drop on the previous year's 2,512 tonnes. Part of this reduction is due to changes in use of buildings, including some hall closures, as well as increased levels of archive materials recycling last year.

43% of our waste was recovered on site for recycling and just over 10% was disposed via landfill. We collected a total of 101 tonnes of food waste (up from 96 tonnes in 2022-23) from across the university, including catered halls of residence.

Our food waste is processed locally by an anaerobic digester, generating renewable energy and producing biofertiliser.

**Water refill stations** across university campuses encourage the use of reusable water bottle and reduce single-use plastics. There are now 40 special bottle refill stations in place across our campuses, up from 5 in 22-23. In 2023-24, the filling stations saved the equivalent of 2.3 million plastic bottles. A further 20 machines will be installed this year.
























During 2023-24 the use of **WARPit** has continued. This is an online portal that makes it easy for staff to repurpose and share surplus items such as office furniture and consumables. 3,706 kg of would-be waste has been diverted for reuse amongst staff, saving 13.4 tonnes of CO2e.

We have continued our partnership with the British Heart Foundation (BHF) to enable students to donate unwanted items to collection banks instead of sending them to landfill. In addition to supporting the **BHF's 'Pack For Good'** student campaign, the university has generously donated high-quality furniture and electrical items to the charity.

In 2024, the University of Nottingham offered the BHF over 600 tabletop fridges, with a total donation value exceeding £16,000. They were sent to local BHF Home stores, benefiting local residents and supporting the BHF's mission to fund lifesaving cardiovascular research.

## Our performance

The table below gives an overview of our performance trends between 22-23 and 23-24. The arrows in the righthand column indicate the direction of change and whether that change is positive or not. An upwards arrow indicates an increase over last year and downwards a decrease. A green arrow indicates a positive outcome for sustainability, and a red one indicates a negative outcome. A blue arrow pointing sideways indicates no change.

| Measure   | 22-23 performance            | 23-24 performance            |   |
|---|------------------------------|------------------------------|---|
| Scope 1 & 2 carbon Emissions                          | 33,501 Tonnes                | 33,701 Tonnes                |    |
| Total Energy Consumption                              | 179,045,373 kWh              | 172,124,014 kWh              |    |
| Grid Electricity use total                            | 70,701,946 kWh               | 77,486,904 kWh               |    |
| Gas Consumption                                       | 84,460,373 kWh               | 79,769,295 kWh               |    |
| Renewable Energy Generation                           | 584,092 kWh                  | 693,370 kWh                  |    |
| Total water consumption                               | 598,786 M3                   | 615,933 m3                   |    |
| Co2 from Air Travel (tonnes)                          | 5,914                        | 6,952                        |  |
| No of Electric vehicle car charge points              | 27                           | 40                           |  |
| Total Waste Generated (t)                             | 2,512                        | 1,817                        |  |
| % on-site waste segregation                           | 46%                          | 43%                          |  |
| Waste to Landfill %                                   | 9.1%                         | 10%                          |  |
| Waste diversion through WarpIT                        | 9,083 Kg                     | 3,706 Kg                     |  |
| Co2 saved from WarpIT system                          | 24.6 tonnes                  | 13.4 tonnes                  |  |
| Sustainable Restaurant Association rank               | Two Star                     | Two Stars                    |  |
| Total Food waste                                      | 96 Tonnes                    | 101 Tonnes                   |  |
| No of Food to go 'Magic Bags'                         | 1,502                        | 1,769                        |  |
| CO2 saved through Green Rewards App                   | 101,268.2 kg                 | 141,743 kg                   |  |
| Green Reward actions                                  | 66,449                       | 63,734                       |  |
| No of Staff who have received Sustainability training | 165                          | 158                          |  |
| People & Planet score                                 | 63 <sup>rd</sup> – 2:2 award | 91 <sup>st</sup> – 2:2 award |  |
| QS World Sustainability Ranking                       | 118th                        | 33rd                         |  |

## The year ahead

While we continue to make progress in improving our operational sustainability performance, we recognise there is still an urgent and important need to act and further embed sustainability across all aspects of university operations.

Below are the key pieces of work which will be delivered in the coming 2024-25 year.

We will continue to strengthen the role of sustainability in university governance, ensuring it is embedded in decision-making, planning, and everyday practice across all operations. Working alongside senior leadership and colleagues from every part of the institution, we will foster a sustainability culture one that is reflected in our policies, our behaviours, and the attitudes of staff and students alike.

We will start working on developing a Net Zero Delivery Plan to translate our strategic net zero targets into actionable pathways. Building on the existing Strategic Delivery Plan for Environmental Sustainability, this new framework will set out the milestones required for the university to achieve net zero emissions and demonstrate what it means to be a fully sustainable institution. The plan will be co-created with our academic experts and professional service specialists, ensuring it draws on the best evidence and insight from across the university.

We will also advance our plans for biodiversity and climate adaptation on campus. These action plans will outline short, medium and long-term measures to create nature-positive, climate-resilient campuses places where local wildlife can thrive and our estate is equipped to manage the risks of environmental heating and extreme weather.