



Nottingham Trent
University

Annual Sustainability Report

2022-23

NTU - Sustainability at a glance

2022-23

3.5%

reduction in total carbon emissions compared to 2021/22

2nd

most Sustainable University in the World by UI Green Metric

1st

class ranking in People & Planet University League

Gold

accredited Hedgehog-Friendly campuses

Green

Flag status awarded to Clifton and Brackenhurst

16

LEAF accredited Labs

5

newt pond developments completed at Brackenhurst

12

new EV charging points installed

1.1m

unique clicks on the NTU FalconCam

111

bikes hired through NTU Cycle Hub

665

UNSDG aligned Research outputs in 2023

200

suppliers supported on sustainability via Engagement Tool

500

bags of household items upcycled and donated by students to charity

5,242

Green Rewards users engaged

1,897

'Sustainability in Practice' certified students



A message from our University Executive Team

At NTU, our commitment to sustainability is not only a strategic priority but also a shared responsibility that permeates every aspect of our University's work.

Our 'Embracing Sustainability' strategy is at the heart of our *University, reimagined* vision, driving us toward becoming the most environmentally responsible University in the UK by 2026.

We are dedicated to transforming knowledge into action, by working together with our students, staff, and the wider stakeholders and communities we work with.



Steve Denton
Chief Operating Officer and
Registrar and 'Embracing
Sustainability' strategic lead.

This report details our progress and initiatives delivered in sustainability across our University over the past year, highlighting our efforts to advance the UN's Sustainable Development Goals (SDGs) and our commitment to achieving Net Zero Carbon emissions by 2040. I hope that you will enjoy reading it and be inspired by it.

”
Everyone within the
NTU community has a
key part to play in
ensuring that our
University and the
legacy we are creating
is sustainable.

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1. Sustainability strategy



Embracing Sustainability is central to our University, reimagined strategy. The 17 United Nations Sustainable Development Goals (SDGs) play an integral role in guiding and supporting our work, ensuring that a sustainable and environmentally-responsible culture lies at the heart of everything we do.

The ambition of “Embracing Sustainability” is to curate an intergenerational conversation with our students, colleagues, and stakeholders and enable NTU to be recognised as the most environmentally responsible University in the UK. The four approaches NTU has adopted to achieve our “Embracing Sustainability” ambition are:

- We will align our **activities with the United Nations Global Sustainable Development Goals**, recognising environmental, social, and economic sustainability in a triple bottom line and supporting our partners and suppliers to do the same.
- We will reflect our social responsibility in our curriculum, our partnership with the Nottingham Trent Students’ Union, and our support for social action.
- We will set and meet specific and challenging targets for reducing our environmental footprint and ensure our campuses are exemplars of sustainable practice.
- We will prioritise research that promotes sustainability.



Environmental Management

NTU has held ISO14001 certification for its Environmental Management System (EMS) since 2012, recognising environmental risks and opportunities in the University’s operations, and helping to drive and continually improve performance across our campuses. It is guided by SMART environmental policies and targets, coordinated by the Sustainability Team, consulted with university-wide stakeholders and approved at executive level by the Chief Operating Officer.

2. Campus operations



Net Zero Carbon (NZC)

Achieving Net Zero Carbon (NZC) by 2040 is a key performance indicator for NTU, targeting Scope 1, 2, and 3 emissions. This includes addressing direct emissions from energy use and indirect emissions from activities such as procurement, waste and travel, detailed in the NTU Net Zero Carbon Roadmap.



Monitoring our carbon footprint

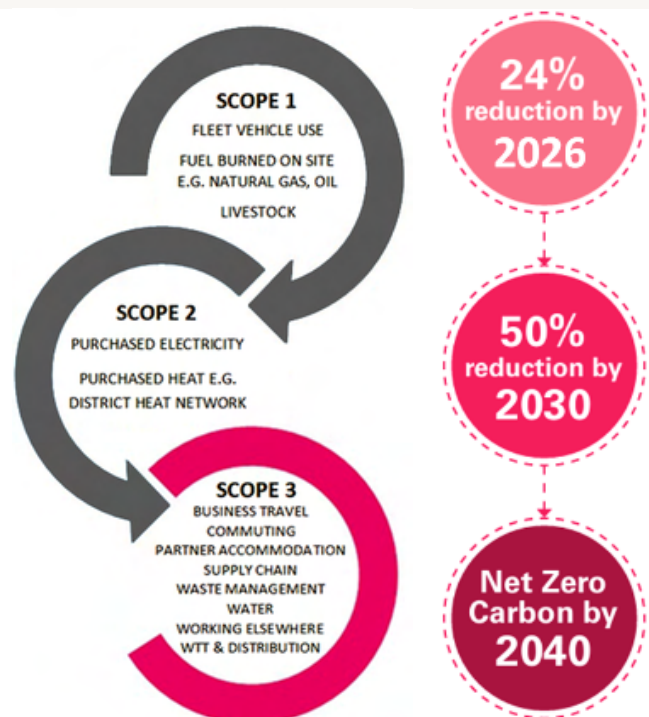
To track progress towards our NZC ambition, carbon footprint calculations are conducted yearly across all emission scopes. Our carbon footprint reporting for 2022-23 aligns with the Standardised Carbon Emissions Framework (SCEF) developed by EAUC, ensuring best practice and sectoral alignment.

Net Zero Carbon governance

We have a Net Zero Carbon governance structure focusing on four key work streams to reduce emissions at NTU: Energy and Water, Transport, Supply Chain, and Partner Accommodation. The Carbon Programme Group oversees these work streams, reporting progress to the University Executive Team regularly and externally annually.

Low Carbon Skills Fund (LCSF)

In 2022-23, NTU was successful in securing funding under Phase 4 of the Low Carbon Skills Fund (LCSF) to develop a Heat Decarbonisation Plan (HDP) for our estate. The HDP has so far identified £39 million worth of opportunities which could result in 2,119 tCO₂e being saved.



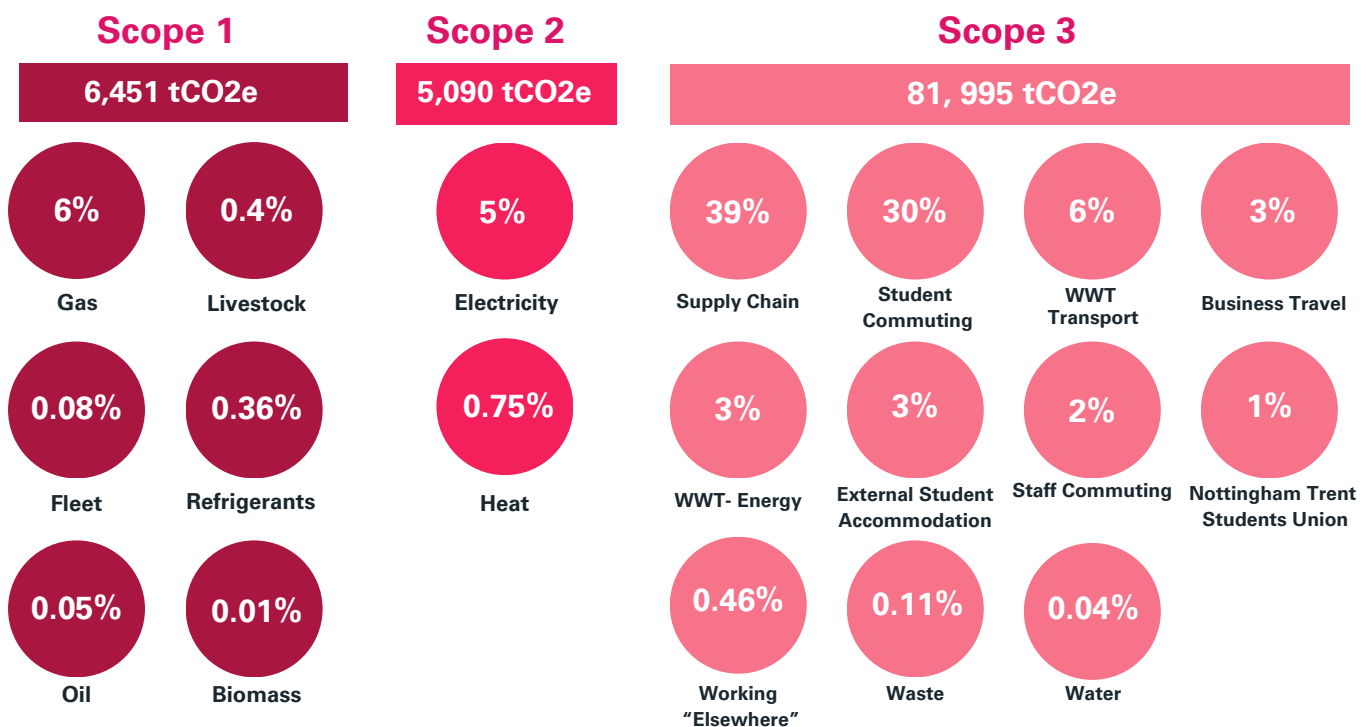
Renewable and low carbon energy

In 2022-23, NTU generated over 310,000 kWh of electricity via 15 on-site solar PV systems, saving 64 tCO₂e, over 6,400,000 kWh of electricity via our three combined heat and power (CHP) units at Brackenhurst and Clifton, and over 720,000 kWh of heat via our on-site biomass boilers at Brackenhurst and City. We also saved over 840 tCO₂e through the use of Nottingham's District Heating Scheme. These measures saved over £1 million from our 2022-23 energy bills.

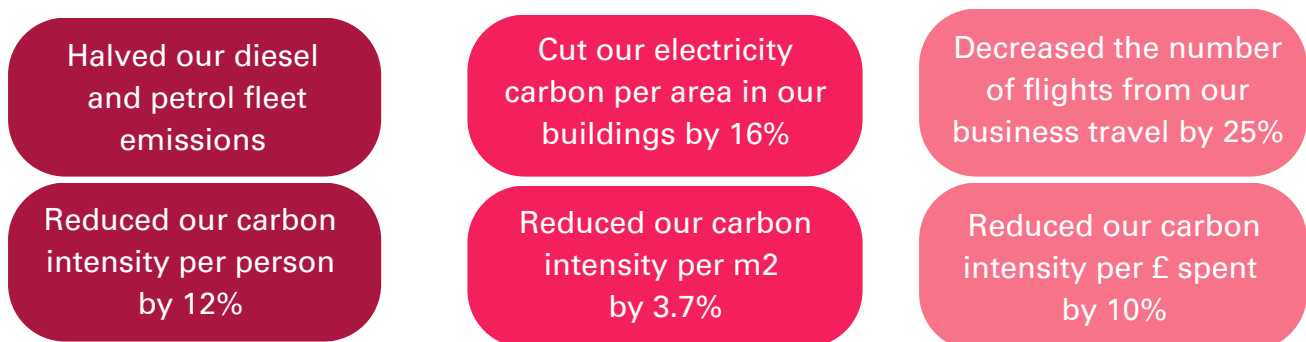
2. Campus operations



In 2022-23, NTU's total carbon footprint was 93,536 tCO₂e. This represents a 3.5% reduction compared to the previous year, with a significant reduction in our supply chain emissions, despite growing the size of our estate, expenditure, and staff and student numbers. A detailed account of NZC progress for 2022-23 can be found in the appendices.



Since our baseline year, we have...



Supply chain focus

Supply chain is NTU's largest emissions category, accounting for ~40% of our carbon footprint. Since 2022, NTU has been engaging suppliers to create a more robust reporting methodology for supply chain emissions. Our [award-winning Net Carbon Zero \(NZC\) Supplier Tool](#), developed with NETpositive Futures, collects data directly from suppliers to calculate our supply chain footprint. Use of the Tool, alongside increased scrutiny of spend-based emissions, enabled us to increase expenditure by £40 million whilst decreasing total supply chain emissions by 29%.

2. Campus operations

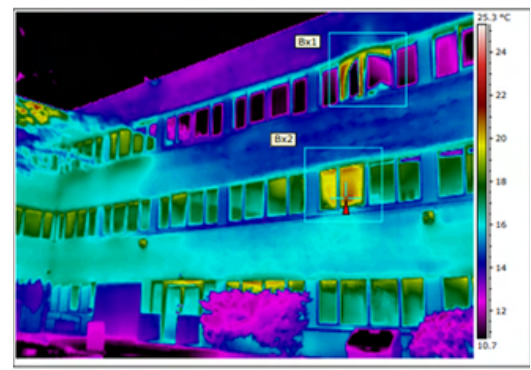


Buildings and estates

Over the past decade, we have invested over £350 million across our campuses, revamping historic buildings and building state-of-the-art facilities. Our [Sustainable Construction Policy](#) ensures that all new major developments and retrofit projects pursue high standards of performance for the benefit of site users, the wider community, and the environment.

Chaucer windows

In 2022-23, windows in the Chaucer Building on City Campus were replaced to improve energy efficiency, whilst also considering acoustic, glare, and thermal performance factors. The project resulted in saving 187,285 kWh energy, reducing carbon emissions by 36.2 tCO₂e annually, and saving £77,705 per year.



Building Management System (BMS)

NTU's Building Management System (BMS) controls and monitors our buildings' electrical and mechanical infrastructure such as heating and cooling, lighting, power and security systems.

We are continually expanding the use of BMS across campuses. In 2022-23, [University Hall](#), where NTU's graduation ceremonies take place, was upgraded with occupancy sensors allowing the heating and ventilation system to respond automatically. The BMS has helped to reduce the annual electricity consumption of our estate by 2,848,322 kWh, cutting 550tCO₂e and the associated utility costs.

Sustainable laboratories

NTU has adopted the [Laboratory Efficiency Assessment Framework \(LEAF\)](#), a nationwide sustainability standard for laboratory operations. Developed by University College London (UCL), LEAF has been designed to facilitate improvements in laboratory sustainability. In 2022-23, 16 NTU labs were awarded Bronze certification, 1 lab was awarded Silver, and together, they saved 28 tCO₂e.

2. Campus operations



Ecology, wildlife and biodiversity

NTU occupies 260 hectares of land across multiple campuses. As a Nature Positive University, we are working to conserve and enhance the biodiversity of our green spaces for everyone to enjoy, now and in future. Sustainable management of the grounds across our campuses is led by our Landscaping team.

Biodiversity enhancement highlights in 2022-23

- The expansion of 'rewilded' areas at Clifton, City and Brackenhurst campuses
- Wildflower planting across the estate, with over 27 different native species
- Standing deadwood retained to encourage invertebrates and fungi
- A number of new log piles in woodlands on our campuses to provide habitats for invertebrates, amphibians, and hedgehogs
- Environmental Land Management Schemes (ELMS) implemented across Home Farm at our Brackenhurst campus.

Great Crested Newt (GCN) conservation

NTU has collaborated with Natural England since 2017 to create a plan for Great Crested Newts at Brackenhurst campus. Activities in 2022-23 included building 3 new ponds and improving 2 existing ones, leading to the presence of Great Crested Newts in all ponds by summer 2023. Vegetation management by NTU students at Bramley Pond resulted in a medium-sized newt population, unseen since 2019.

Species monitoring on campus

NTU launched an [iNaturalist Biodiversity Monitoring Project](#) in 2022-23, with 176 research-grade observations of 107 species recorded across campuses. In 2023, the rare Barbastelle bats were spotted at Brackenhurst campus for the first time, documented by the NTU Conservation Society and Nottinghamshire Bat Group.

Natural dye garden

In winter 2022, NTU's School of Art & Design created a sustainable [natural dye garden](#) outside the Waverley Building. The garden uses recycled materials and is chemical-free. Plants grown are used to make natural dyes for student projects. It serves as a research and wellbeing resource for all staff and students.



2. Campus operations



Procurement

The University buys a wide range of goods and services to operate, deliver academic courses and undertake research. We are continually increasing our efforts to ensure that we consider and manage the environmental and social impacts of our supply chain. A Sustainable Procurement Manager was appointed in 2022 to lead on embedding sustainability into our purchasing decisions.

Sustainable procurement

In 2022-23, we focused [our Net Zero Carbon efforts in procurement](#) by category or business size, targeting engagement activity in specific areas where suppliers struggle the most, particularly supporting small and micro-businesses as well as identifying good practices that can be shared and taken up by others.

New guidance to enable NTU staff in [reducing their carbon footprint](#) through purchasing and suppliers was produced in 2023, and a new [external webpage](#) on sustainable procurement was launched to support our University partnerships.

Innovation and partnerships

- Nearly 200 of our suppliers are signed up to the [NETpositive Futures](#) Supplier Engagement Tool, helping to address sustainability issues such as waste, social value and modern slavery.
- Bespoke sustainability criteria were incorporated into 20 of our tenders in 2022-23. Sustainability scrutiny of tenders has now become business as usual at NTU.
- The innovative Net Zero Carbon Supplier Tool collated carbon data from over a fifth of our contracted suppliers, a figure that we will continue to build upon each year.



Purchasing

Our NTU purchasing agents have continued to improve the sustainability of goods being delivered, including implementing minimum order values to reduce delivery frequency, using local and UK based suppliers, and setting up university-wide delivery days for our largest suppliers.

2. Campus operations



Catering

In line with [NTU's Sustainable Food and Beverage Policy](#), we offer seasonal, local, and ethically sourced meals across our catering outlets. In our meals, we promote diverse and plant-based ingredients, support cultural heritage, source locally, and buy sustainably-reared meat with high animal welfare standards.

Sustainable catering

Our [Catering](#) outlets offer free tap water to all customers, recycle food waste and cooking oil, and use environmentally-friendly takeaway packaging wherever possible. The [NTU Catering team](#) have also developed several partnerships with local organisations to provide meals, resources and work experience opportunities to the community.

Surplus food solutions

In 2022-23, efforts were made to reduce food waste by redistributing surplus food:

- Donations were made to local charities like Mathew 24:40 and the YMCA.
- Unsold products from cafes were offered to students for free at reception desk pick-up points.
- Unusable food was processed at Colwick Anaerobic Digestion facility to generate electricity instead of it going to landfill.

Key sustainable catering practices

- In 2022-23, we increased the plant-based options in our campus catering outlets by 14% and delivered fully plant-based events to internal and external parties.
- The Catering team produce food parcels containing a range of everyday essentials and make these available to any NTU student experiencing hardship.
- NTU are certified to produce dishes with the Marine Stewardship Council (MSC) sustainably-sourced accreditation.
- NTU Catering have collaborated with Campbell's R-Oil, a UK-produced rapeseed oil supplier, reducing the carbon emissions from mileage and production methods of this foodstuff compared to international alternatives.



2. Campus operations



Materials and waste

NTU generates a range of waste streams from a variety of operational and research activities. The Sustainability and Facilities Teams, working alongside our waste management providers, ensure that most waste arising from these activities follows the principles of circularity by either being reused or recycled, and is also managed in line with waste duty of care and other legal requirements.

WARP-It

NTU uses the web-based platform [Warp-It](#) to redistribute unused furniture items internally, reducing waste and saving money. In 2022-23, this initiative saved 19,690 kgCO₂e, £40,144 in avoided costs, and diverted 7,313 kg of waste from landfill.

Plastic Person

In 2023, a sculpture named [Plastic Person](#) was installed on NTU city campus, representing the average annual plastic waste produced per person in the UK - circa 96 kg per year. Created by Senior Research Fellow Richard Arm in collaboration with Backlit Gallery alumnus Matthew Chesney, it serves as a reminder to reduce single-use plastic reliance and prioritise waste recycling.



Community liaison

In 2022-23, an Off-Campus Waste Coordinator was hired by NTU's Community Liaison team to engage students in private rented housing on waste and recycling issues, promoting best practice on and off campus, and improving community relations.

Worm farm

In 2022-23, the NTU Security team at Brackenhurst campus voluntarily took on and managed an unused worm farm on-site. They used recyclable waste and paper shreds in the wormery to produce compost and plant fertiliser which was then used on the campus grounds.

Book exchanges

In 2022-23, NTU Arts launched a [book exchange](#) on our City campus, making use of an unused telephone box. Staff and students have been welcome to donate or take books free of charge, allowing books to find a new lease of life and avoiding them going to landfill. There are now further book exchanges on Level 1 of the Pavilion on our Clifton Campus, and on Level 2 of the University Centre at Mansfield Campus.

2. Campus operations



Travel and transport

NTU is committed to the development of sustainable travel and transport solutions on all of our campuses and in the surrounding areas. This commitment not only supports our strategic plans, but also supports wider local ambitions, such as [Carbon Neutral Nottingham 2028](#).

NTU Cycle Hub

In 2022-23, [NTU's Cycle Hub](#) loaned 111 standard bikes and 12 e-bikes to staff and students. Our Cycle Hub supports sustainable and active travel and enables staff and students to receive maintenance on their personally-owned bikes. Bike riders could find 906 bike spaces across all our campuses. In this year, 47 staff members purchased a bike through the [Cycle to Work scheme](#). The [NTU MyBenefits](#) offers different ways for staff to borrow or purchase a bike.



Internal policy changes

In 2022-23, changes were made to the University's policies and guidance to further promote sustainable travel at NTU. The New Fleet guidance states consideration to purchasing a Low Emission vehicle must be made, in line with the fuel hierarchy provided. Our NTU Travel, Expenses and Benefits Policy was also updated to state that if travelling from mainland UK to Northern Europe, staff and students should travel by Eurostar rather than flying.

Public transport uptake

Between 2021-22 and 2022-23, there was a 62% increase for NTU students who purchased an NCT Academic bus pass, with 2,895 sold. The bus patronage levels for the academic year were 780,403. 215 NTU staff members purchased the NCT Easyrider card which is available through [NTU MyBenefits](#).

EV charging

During 2022-23, the 32 electric vehicle (EV) charging points placed across all NTU campuses used 19,345 kWh of electricity. By the end of the year, there were 10 charging points at City campus, 16 at Clifton and 6 at Brackenhurst. These are available for staff and student use and also charge our 13 NTU EV Fleet vehicles.



2. Campus operations



NTU Mansfield and Confetti

In 2023, NTU Mansfield and Confetti Nottingham became part of NTU's Environmental Management (EMS) scope, meaning an increased alignment of their campuses to NTU's ISO14001 procedures. These sites provide further and higher education courses to our student population and have implemented a number of new sustainable initiatives during this period.

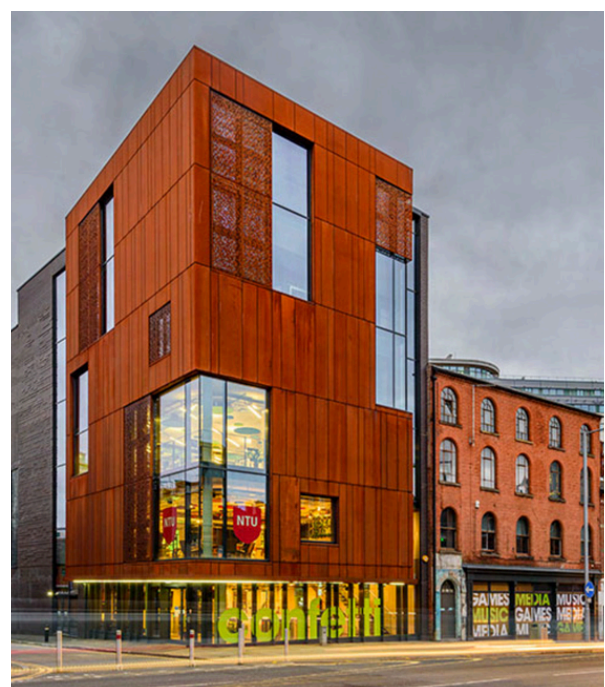


Confetti

In 2022-23, Confetti Nottingham reported an increasing amount of their environmental performance data as part of NTU's overall carbon footprint and EMS, including waste arisings F-Gas use. Expansion of the site for Confetti X was subject to NTU approved site checks to ensure compliance with environmental standards. Staff from NTU Confetti also partook in Eco-Campus training to better understand environmental management requirements. Staff on site have also developed a roof garden and a plant swap scheme accessible to all colleagues and students.

NTU Mansfield

Since 2022-23, NTU Mansfield have been working towards becoming a Bronze Hedgehog Friendly Campus, focusing on wildlife enhancement with plans to rewild grassland on site. Senior leadership undertook Climate Fresk training to improve their knowledge of climate change, with further plans to deliver sessions to students. Professional service staff undertook pollution prevention training to reduce environmental risk. NTU Mansfield also started trialling a confectionary package recycling scheme.



2. Campus operations



Nottingham Trent Student's Union (NTSU)

In 2022-23, Nottingham Trent Students Union (NTSU) developed their first Sustainability Strategy to outline objectives and actions from 2023 to 2025. The strategy covers seven headline commitments for: Governance and Leadership, Net Zero Carbon, Energy, Waste and Recycling, Partnerships, Procurement, and Student Engagement.



As further commitment to become more environmentally-sustainable, NTSU signed with EcoCampus to achieve the ISO14001 Environmental Management System through an incremental approach, they achieved Bronze Award in 2023. NTSU also achieved 'Excellent' status in their first year with Green Impact Students' Union in 2022-23.



In 2022-23, NTSU supported various engagement opportunities, including:

- **Give it a Go Week(s)** - including willow weaving, a guided bike ride to Holme Pierrepont in Nottinghamshire, and planting over 120 trees with the NTU Sustainability team.
- A **Dr Bike Stall** on Union Square in the City campus - enabling students to bring their bike along for a free health check and help them get out on the roads safely.
- 462 students completed a **recycling attitudes survey** to lobby the City Council and UPP to improve the provision of recycling facilities in student accommodation.



3. Knowledge and education



Since 2009, NTU has embedded Education for Sustainable Development (ESD) into the curriculum and across the whole university. The Future Thinking Framework was developed to foster abilities to contribute in meaningful ways towards current and future challenges - whether in a local or global context.



The NTU Green Academy, established in 2013, work with course teams and professional services across NTU to embed sustainability into the curriculum and co-curriculum offer.

Future Thinking Framework

In 2022-23, the Green Academy focused on courses at the approval or reapproval stage, incorporating UNESCO competencies, SDGs, and other frameworks. The mandatory 'Future Thinking and the SDGs' course for new NTU colleagues introduces integrating SDGs into teaching and includes action planning.

Education for Sustainable Futures Network

The NTU Education for Sustainable Futures network, a practice and scholarship group within the Trent Institute for Learning and Teaching (TILT) met periodically throughout 2022-23. Their focus was to discuss and undertake work to progress on ESD competences and integration across academic schools at NTU.

In 2022-23, the School of Architecture, Design and the Built Environment and Nottingham Law School reviewed their ESD activities, mapping the UN Sustainable Development Goals in their courses. The Nottingham Business School collaborated with Green Academy to analyse ethics, responsibility, and sustainability content in the curriculum, leading to improvements in course design and delivery for 2023-24.

Sustainability in the curriculum

As part of Global Week 2023, NTU hosted a Sustainability Policy Masterclass for a visiting partners from China, India, Uganda, Ukraine, Taiwan, France and Canada. Colleagues from the NTU Sustainability team, the NTU Green Academy and NTU Knowledge Exchange contributed sessions on student sustainability consultancy, Net Zero Carbon, and integrating the SDGs across the curriculum. Partners from Université Catholique de Lille presented case studies on community engagement.

Transformational leadership

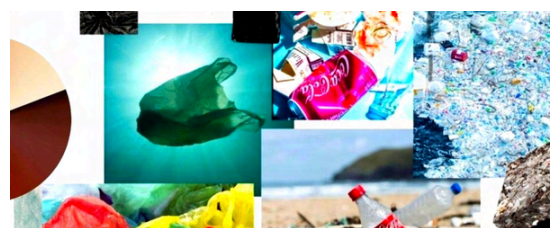
In July 2023, NTU Green Academy in collaboration with NTU Global led an online Expert Class on transformational leadership and the SDGs for students from our international partners. The workshops attracted attendees from Switzerland, Canada, Pakistan, Germany and China as well as the UK.

Best practice consultancy

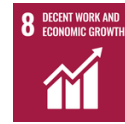
In 2022-23, NTU shared ESD approaches with external colleagues through workshops and consultancy. The University of Hamburg and WSB University, Poland, visited to discuss ESD strategy. The visit from the University of Hamburg led to a cross-departmental focus group discussion involving NTU Procurement, Volunteering, Estates, and Education.

NTU colleagues took a number of innovative approaches to integrate sustainability into the curriculum/co-curriculum in 2022-23, including:

- In a BA (Hons) Childhood module, students selected SDGs and sustainable childhood aspects to explore through professional practice.
- Students on Product Design and Civil Engineering courses reached the final of a 'People Design Challenge' run by the organisation Engineers without Borders.
- May 2023 saw the third Green Game Jam co-led by the Confetti Institute of Creative Industries and NTU, students created prototypes of sustainability-themed games, apps or VR experiences on the theme of SDG 15 Life on Land
- Students in Nottingham Law School researched legal solutions to global sustainability challenges such as fast fashion, food security and energy regulation.
- Nottingham School of Art and Design continued to offer the interdisciplinary 'CoLab' module. ['Rebel Tartan'](#) saw students create designs on the theme of climate and ecological emergency



3. Knowledge and education



Training and development

There are many ways our NTU community can and does work to improve their sustainability knowledge and skills, from formal learning opportunities to informal events and self-led learning.

Thrive

The University uses the online training platform Thrive. A [sustainability portal](#) was developed by various teams for upskilling, offering modules on sustainability awareness, curriculum design, research alignment with SDGs, and environmental management.

Climate Fresk

In 2022-23, colleagues from the NTU Sustainability team and Nottingham School of Art and Design invested in becoming [Climate Fresk](#) Facilitators. Climate Fresk is a collaborative workshop teaching the basic science behind climate change. It is accessible to anyone at any level in the organisation.

Sustainability and Employability

The NTU Employability team encourages sustainable careers for NTU students. The NTU Sustainability Employability Award certificates extracurricular activities which directly align with the SDGs.

Sustainability in Practice

Throughout the academic year 2022-23, NTU's [Sustainability in Practice \(SiP\)](#) module, led by the NTU Green Academy, was available to students and staff. The module, nominated for a Green Gown Award, focuses on sustainability challenges aligned with Sustainable Development Goals. Participants choose a pathway (food, clothing, or energy) to explore sustainability concepts, leadership, and values. In 2022-23, 1,897 students obtained the SiP certificate. The module is integrated into some degree courses and offers credits for the NTU Employability Sustainability Award.



Carbon Literacy Training

The [NTU Carbon Literacy Training](#) for Educators, Communities, Organisations, and Students (CLT-ECOS) program, developed in collaboration with the UN Global Compact PRME Working Group, empowers participants to integrate impactful climate solutions into their personal and professional lives.

3. Knowledge and education



Events and engagement

Several opportunities to learn, discuss and participate in sustainability action took place throughout 2022-23, welcoming audiences from across our campuses, the city of Nottingham, the East Midlands region, nationally and internationally.

Great Minds

In February 2023, Professor Dame Jane Francis [discussed her work](#) in polar regions sensitive to climate change at Metronome as part of the Great Minds series. In June 2023, [Colin Grant spoke about](#) documenting stories of the Windrush generation, attended by over 200 people, mostly from Nottingham's Global Ethnic Majority community.

Bonington Gallery

In March 2023, Bonington Gallery showcased archive materials from [Nottingham Women's Centre](#) and a film by Onyeka Igwe, highlighting the history of the centre and female activism against colonialism in post-War London.

WRAP

In 2022-23, NTU's [WRAP programme](#) highlighted an all-female author series focusing on intersectional issues like class, race, and sexuality, promoting female empowerment. The program also included a Q&A with author Ashley Hickson-Lovence as part of NTU's Black Leadership program, encouraging connections and expression of diversity across various identities.

Green Week 2022

Green Week 2022, organised by the NTU Sustainability team, aimed to address climate change through events and workshops. Activities included a sustainability fair, online lectures, wildlife walks, gardening opportunities, and a cycle safety drop-in.

Sustainability Action Week 2023

In February 2023, a university-wide week of activities took place including a Green Forum, tree planting, and sustainability stands, to engage colleagues and students in giving back to the environment and community.



4. Research



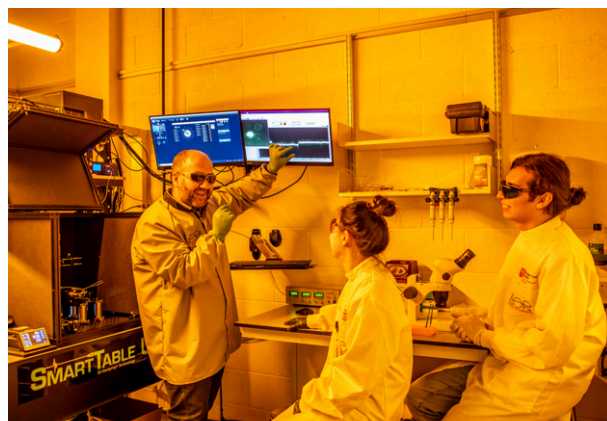
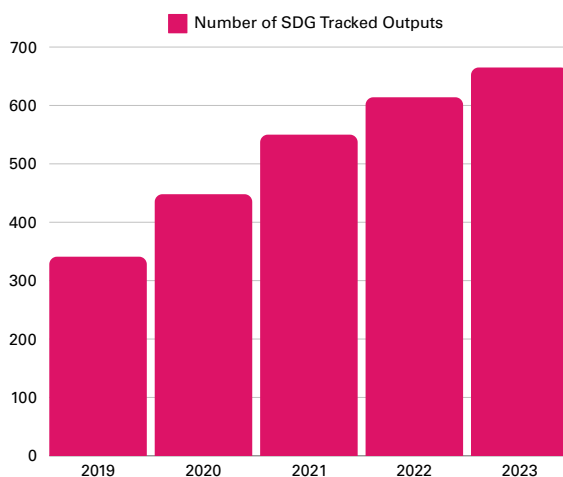
Our research is transdisciplinary. We bring together the brightest minds from across the University to offer holistic solutions and unique approaches to address the complex sustainability challenges the world is facing.

A NTU researchers and academics contribute to sustainability in various ways, often utilising our campus as a living laboratory environment. Sustainable Futures research strand is led by academic colleagues to monitor and showcase relevant research at NTU. The [Sustainable Futures Research Strand](#) spans all our academic schools and is broken down in to five key areas of focus:

- Sustainable consumption and production
- Ecosystem sustainability
- The built environment and sustainable mobility
- Behaviour, values and norms
- Leadership, governance, participation and policy

NTU research outputs and alignment with SDGs

Ongoing work has taken place to encourage NTU researchers to better tag and track those SDGs relevant to their research projects. In 2022-23, 665 NTU published outputs were tracked as aligned to at least one SDG. Tagging SDGs not only highlights the increasing contribution of our University's research to achieving sustainable outcomes, but also enables external parties to search and locate research that may benefit further projects in advancing the SDGs. Data at NTU is tracked by SciVal, where single outputs can be tagged to multiple SDGs.



4. Research



Examples of Sustainable Research 2022-23

Wildlife and crime

Criminology researchers at NTU found a decline in wildlife crime prioritisation is risking animals. [The study](#) commissioned by IFAW in the UK led to the 'Make wildlife matter' campaign urging government and public action for wildlife protection.

Bees and parasites

Scientists from NTU School of Science and Technology [discovered the unique walk pattern](#) of a parasitic honeybee mite. The mite contributes to the decline of honeybee colonies, along with factors like habitat loss, pesticides, and climate change.

EV batteries

NTU's ADBE researchers are involved in a £4.5 million project to [recycle electric vehicle batteries](#), aiming to reduce battery waste. The ADMEC received a £582,000 grant as part of the European REBELION project to give EV batteries a 'second life' or recycle them efficiently.

Peatlands and windfarms

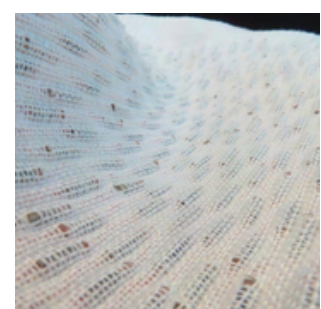
Researchers from NTU's [School of ARES mapped windfarm infrastructures](#) on blanket bogs in Europe, revealing over 640 wind turbines and 250km of tracks. Blanket bogs act as carbon sinks and are vulnerable to potential damage from windfarm developments, raising concerns about their long-term impact.

Solar powered clothing

Research overseen by Dr Theodore Hughes-Riley, at NTU's School of Art & Design, [led to the development](#) of a woven textile embedded with 1,200 photovoltaic cells. The cells combined together are capable of harnessing 400 milliwatts (mWatts) of electrical energy from the sun – enough to charge a basic mobile phone or smartwatch.

Land in literature

NTU BA students collaborated with Kwantlen Polytechnic University students to [create a special issue of Literary Cultures journal](#) on land representations in modern literature, emphasizing its vulnerability.



5. Partnerships and collaborations



Partnerships can be found across our campuses as well as locally, nationally and globally, where we support and develop responses to global challenges in collaboration with a variety of stakeholders.

On Campus

Green Rewards

[NTU Green Rewards](#) program engages staff and students in sustainable actions through an app, rewarding points for logging behaviours and participating in challenges. Over 5,000 participants have logged 360,000 actions, helping avoid 704,550 kgCO₂e since 2019.

The [Universities for Nottingham Civic Agreement](#) has since seen the development of a Nottinghamshire-wide Green Rewards platform which is now available for anyone with a Nottinghamshire postcode.



NTU Global

NTU Global has donated £1 to sustainability projects for each student attending [Global Week fairs](#) since 2020. This has funded initiatives such as beehives on the library roof, e-bikes at the Cycle Hub, wildflowers at City Campus, and in 2022-23, it funded improvements at the outdoor classroom near the Clifton allotment.

Foodshare allotment

The [Foodshare Allotment](#) is a food-growing project at our Clifton campus open to all students and staff every Wednesday afternoon during term time.

In 2022-23, dozens of students and staff grew a range of crops through the year, from tomatoes, beans, cucumbers and chards in summer months, to squashes and berries in winter. Food grown was donated to local charities including Guru Nanak's Mission and Windmill Community Gardens, used for both community meals and cooking sessions.



Catering and Sport

In 2022-23, the NTU Catering team collaborated with NTU Sport to support charity Rackets Cubed by providing sport, education, and nutrition programs for vulnerable families' children. They offered an afterschool tennis club, math sessions, and nutritious meals at Clifton Sports Hall on the Clifton campus.

5. Partnerships and collaborations



Local

Partner organisations

In 2022-23, the [Centre for Student and Community Engagement \(CenSCE\)](#) worked alongside an array of local organisations to recruit volunteers, arrange community action and coordinate student-led projects. These included but are not exclusive to:

- Age UK Notts
- Bulwell Forest Gardens
- Canal & Rivers Trust
- Emmanuel House
- Food Cycle
- Framework
- Emmanuel House
- Himmah
- Notts Refugee Forum
- Notts Wildlife Trust
- Reach UK
- SustTrans
- White Rose

The Big Clear Out



In 2022-23, NTU, NTSU, and UPP collaborated for "The Big Clear Out" in student halls, donating 800 kg of food to local food banks, giving over £7,000 worth of items to the British Heart Foundation, and diverting 4,000 kg of waste from landfills.

Universities for Nottingham

In 2022-23, the [Universities for Nottingham Civic Agreement](#) continued to bring together the combined strength and civic missions of our 10 signatory partners; the City and County Councils, four NHS organisations, the D2N2 LEP, Vision West Notts College and both Universities. All partners have signed a commitment to deliver three initiatives within the overarching theme.

- Drive a zero-carbon research and innovation agenda
- Encourage large-scale low/zero carbon infrastructure and design
- Support behaviour change among our community

Nottingham Green Partnership

The Nottingham Green Partnership, established in 1992, marked its 30th anniversary in 2022. Comprising 40+ organisations like Nottingham Trent University, it focuses on carbon reduction strategies in Nottingham. NTU's efforts in sustainability continued to align with Nottingham City Council's goal of achieving ["CN28" - Carbon Neutral Nottingham by 2028.](#)

5. Partnerships and collaborations



Local

Nottinghamshire Wildlife Trust

For over 20 years, NTU has worked in partnership with Nottinghamshire Wildlife Trust on various projects. The partnership allows us to enhance our green spaces, support wellbeing and encourage young people to become wildlife champions. Our most notable collaboration is caring for a breeding pair of [Peregrine falcons](#) on our City campus, with 3 chicks born and successfully fledged in 2022-23.



The High-Level Skills programme

[The High-Level skills programme](#) was a collection of projects that in 2022-23 offered dedicated support, advice and funding to help up-skill employees of SMEs and provide businesses with access to graduate talent in the area. NTU worked as part of the High-Level Skills consortium and courses were delivered by the NTU School of Architecture, Design and the Built Environment (ADBE), the School of Animal, Rural & Environmental Sciences (ARES) and Nottingham Business School (NBS).

Sustainable Communities Lab

The Employability team conducted the Sustainability Community Lab (SCL), offering talent grants to local SMEs to enhance sustainability. The project, partially funded by ERDF, ran from 2022 to June 2023. NTU supported 91 graduate roles in these businesses, integrating sustainability KPIs to aid their progress.

Sustainability in Enterprise

Between 2021 and 2023, the [NTU Sustainability in Enterprise project](#) supported over 200 small and medium-sized enterprises (SMEs) in [Greater Nottingham](#) on their journey to Net Zero, reducing annual carbon emissions by almost 1,000 tonnes. Part-funded by the European Regional Development Fund (ERDF), NTU colleagues and over 500 students helped businesses understand their carbon emissions and identify effective carbon reduction measures. The project provided interdisciplinary support from sustainability specialists from across the University.

5. Partnerships and collaborations



National

Net Zero Carbon Suppliers Tool



Developed in-house and in collaboration with NETpositive Futures, NTU Procurement and Sustainability rolled out the [Net Zero Carbon Supplier Tool](#). The Tool provides institutions with more accurate supply chain (scope 3) carbon emissions data and influences its suppliers to reduce their emissions.

In 2022, the Tool launched to 252 of NTU's suppliers and was presented to 70 sustainability professionals within HE and FE. In Autumn 2023, NTU and NETpositive Futures launched a 1-year Action Research Project with over 30 partner universities to improve supply chain sustainability in HE.

En-ROADS and Climate Literacy

Prof. Petra Molthan-Hill from Nottingham Business School has conducted En-ROADS climate simulator workshops since 2020 for various national organisations. She also developed a free online training called ["Climate Literacy and Action for All"](#) on Future Learn for those interested in effective climate change solutions.

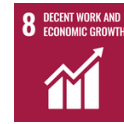
Queen's Jubilee Challenge

NTU was one of 21 UK institutions invited to contribute to a key report commissioned as part of the Queen's Platinum Jubilee to accelerate the higher and further education sector's path to Net Zero Carbon.

The "Accelerating to Net Zero" Report was released in January 2023 and uses detailed analysis to highlight target areas for higher and further education institutions to report and reduce carbon emissions. The report has 14 clear recommendations for the Government and priorities for the sector.



5. Partnerships and collaborations



Global

PRME

Nottingham Business School (NBS) became a signatory to the United Nations supported Principles for Responsible Management Education (PRME) in 2015. PRME raises the profile of sustainability in business schools globally and equips business students with understanding and ability to deliver change. NBS has been awarded PRME Champion for three terms (2018-2023) due to strategic commitment and leading work in responsible business and management education.

Sustainable Development Academy

In 2022-23, NTU Global also provided two scholarships for students to participate in the University of [Potsdam's Sustainable Development Academy](#). Students from across Europe travelled to Germany, to develop skills that will enable them to create approaches to achieving the SDGs at the local level.

East Africa Network

Students and staff from partner universities in our East Africa network joined NTU in 2023 for various sustainability-focussed activities including workshops, project jams, and visits to local sites of sustainability interest as part of the 'Connecting Globally' conference.

Global Responsibility week

In Spring 2023, NTU's Nottingham Business School hosted [Global Responsibility Week 2023](#) with academics from across the globe. The theme event was 'Transitioning to Net Zero' whereby business topics such as supply chains, finance and leadership were explored in sustainability.

25 visiting professors from our partner schools from all over the world to deliver sessions for our postgraduate students on the theme of net zero.



European Towns Challenge

NTU Global's ["European Towns Challenge"](#) involves students and academic mentors travelling to and researching sustainable projects in Europe to bring back proposals to local councils. In 2022-23, students collaborated with Ashfield, Bolsover, and Mansfield District Councils on sustainable initiatives, pioneering student knowledge exchange with policymakers.

6. External recognition



Nottingham Trent University is recognised as one of the world's most sustainable universities both in the UK and in the world. The following accolades reflect the University's vision, ambition and leadership in sustainability, and provide evidence of how this external recognition has continued to be achieved during 2022-23.

Rankings

UI Green Metric

NTU was ranked the second most sustainable university globally in the 2023 [UI Green Metric World University Rankings](#) for the second consecutive year out of 1,183 institutions. Since 2010, the rankings have assessed sustainability policies and performance in six broad categories.

QS Sustainability Rankings

NTU improved its position in the [QS World University Sustainability Rankings](#), moving from 401-450th in 2022 to 246th in 2022-23 out of 1,403 institutions. The rankings evaluate a university's commitment to sustainability by considering its environmental, social, and governance (ESG) impacts across various areas.

People and Planet

NTU has been a top university in the [People and Planet University League](#) for over 10 years, ranking 14th in the UK in 2022-23. The league evaluates universities' environmental and ethical performance based on various criteria such as staff and student engagement, workers' rights, and sustainability education.

Times Higher Education

NTU ranked 86th out of 1,591 institutions globally in the [2023 Times Higher Education Impact Rankings](#), which evaluate universities based on the UN's Sustainable Development Goals (SDGs).

6. External recognition



Awards

Hedgehog Friendly Campus

NTU received the Gold Award across our City, Clifton and Brackenhurst campuses, for our commitment and contribution to helping the UK's Hedgehog population through the Hedgehog Friendly Campus Initiative in 2023. Work to achieve this included:

- Hedgehog surveys
- Pond audits
- Hedgehog crossing signs
- Sharing work with the sector
- Landscaping team training
- Warning labels on equipment



Green Flag campuses

In 2022-23 and for the 12th consecutive year, NTU received 'Green Flag' accreditation for the quality of our green spaces at our Brackenhurst and Clifton campuses. NTU is one of only 23 universities in the UK to have achieved this prestigious award.

Ark Wildlife study

In 2022-23, NTU was recognised as one of the most wildlife-friendly universities in the UK by Ark Wildlife in a study of over 120 UK universities. NTU achieved the top 'Platinum tier' for its wildlife conservation policies, partnerships, funding for local wildlife causes, biodiversity activities, and ecological surveys.

Catering

NTU received the Silver 'Food for Life' award in 2023 for sustainable ingredient sourcing in catering, recognising the sustainable sourcing of ingredients in our catering activities (in 2022-23, this was 22% local, 72% UK-based, and 11% organic).

Digital Technology

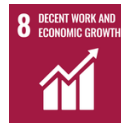
In 2023, NTU won a UCISA (Universities and Colleges Information Systems Association) award for its efforts to increase sustainability by replacing the previous model of laptops with Microsoft Surface laptops. This change has saved 38,208 kg CO₂e throughout the device's life and 1,672kWh of energy annually.

Beacon Site status

In 2022-23, Dr Sheri Stott pioneered the Sustainability in Quality Improvement (SuSQi) in the Biomedical Science curriculum, achieving the Centre for Sustainable Health Care (CSH) Beacon Site status for NTU - the first university in the East Midlands to achieve this.



6. External recognition



Certifications and accreditations

ISO14001

In 2023, NTU maintained EcoCampus Platinum and ISO14001 certification for its campuses after an external audit. The [auditor praised NTU's strong culture of sustainable development and effective management system.](#)



The SDG Accord

In 2022-23, NTU remained a signatory of [The SDG Accord](#), by which we demonstrate our commitment to embed and advance the SDGs through our University's work, reporting on progress annually and sharing lessons learnt with the sector.

Race to Zero

In 2022-23, NTU continued to be an official [Race to Zero](#) signatory, through our public commitment to achieving Net Zero Carbon (NZC) by 2040 across all carbon scopes, aligning with global efforts to combat climate change in the education sector.

Sustainability Leadership Scorecard (SLS)

In 2022-23, after a self-assessment, NTU [achieved Platinum level for all Sustainability Leadership Scorecard \(SLS\) frameworks.](#) SLS, by EAUC and AUDE, measures sustainability in education institutions to drive innovation and knowledge transfer.

Fairtrade

NTU remained a Fairtrade accredited university and was awarded 1 star in the [2022-2024 SOS-UK Fairtrade University and College Award programme](#) for our commitment to Fairtrade across both NTU and NTSU.

Nature Positive Universities Alliance

In 2022-23, NTU joined the [Nature Positive Universities Alliance](#), initiated by the University of Oxford and UNEP, and launched at COP15. The alliance aims to leverage universities' influence for positive environmental impact during the UN Decade on Ecosystem Restoration and bring higher education institutions together to drive change.



6. External recognition



Sustainability success stories



Peregrine Falcons

A pair of Peregrine Falcons have nested on NTU's Newton building for over twenty years. NTU, in [partnership](#) with [Nottinghamshire Wildlife Trust](#), protects these legally-protected birds. Current resident falcons Archie and P9 hatched three chicks in 2023, with two females and one male successfully fledging after 7 weeks. The falcons have been featured on BBC's Winter Watch and ITV News.

Student-led climate commission with Galala University, Egypt

NTU Global and NTU Green Academy completed the student-led climate commission with partner institution Galala University, Egypt during 2022/23. Students worked together on consultation activities and completed a series of workshops aimed at fostering student leadership on sustainability issues.

In February 2023, students and staff from the project team hosted a creative session at the NTU UN75+2 conference which generated more than 50 pieces of student artwork.



Sustainability Society

The Student Sustainability Society won the NTSU Society of the Year award in 2022-23. It consists of over 100 members, who hold meetups to discuss and create a sustainable future, collaborating with NTSU, other societies, and local businesses for activities like clothes swaps, up-cycling sessions, nature walks, and guest speaker events on sustainable topics.



7. Looking ahead

While numerous initiatives across our operations, curriculum, and research have helped us to maintain and advance NTU's status as a leading sustainable university, this work is not without challenge. In 2022-23, several factors have made us reconsider, adjust or reflect on our actions, which we have drawn lessons from to apply going forward.



Growth of our institution

NTU is still seeing significant change in staff and student behaviours following the COVID-19 pandemic. In 2022-23, we have seen a higher frequency of commuting, increased business travel, a higher number of events held at NTU, and an increasing utilisation of the estate. These patterns have impacted our University's resource consumption and by association, our carbon footprint.

Evolving stakeholder needs

With over 35,500 students and over 4,500 colleagues, we have continued to invest in growing our campuses and their facilities to meet the evolving needs of our NTU community. This growth has included the completion of a number of building refurbishments across all campuses, installing new electric vehicle charging points, and the construction of new facilities to meet our growing space provision demand.



Managing our impacts

We recognise that our University has direct impacts on the environment, as well as on the communities we are part of. In the face of ecological damage, rising climate change, increasing consumption patterns, and mounting socio-economic inequalities, we are researching, teaching, and implementing ways to use resources more efficiently, minimise pollution, cut carbon, prevent waste, enhance biodiversity, promote greater equality, create opportunities, and drive innovation



I am incredibly proud of the dedication and hard work shown by our colleagues, students and partners this year. From cutting our carbon emissions in our supply chain to enhancing our green spaces for the benefit of people and wildlife alike, we continue to make our campuses and operations exemplars of sustainability.

Through our curricular and research activities, and by working closely with our communities, we remain firmly at the forefront of developing and driving innovations that address the world's greatest sustainability challenges, at a time when meaningful action has never been more urgently needed.

"Thank you" to all those who have contributed to the contents of this report - a true celebration of our collective commitment to sustainability as an NTU community".

Laura Mayhew-Manchón
Head of Sustainability



8. Contact us

NTU Sustainability Team

For any queries relating to the report itself, Net Zero Carbon (NZC) and/or operational environmental performance at NTU, contact:



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Email
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NTU Green Academy

For any queries relating to Education for Sustainable Development (ESD) and/or sustainability in the curriculum/co-curriculum at NTU, contact:



Website
[NTU Green Academy](#)



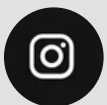
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Architecture, Design and the Built Environment
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Nottingham Business School
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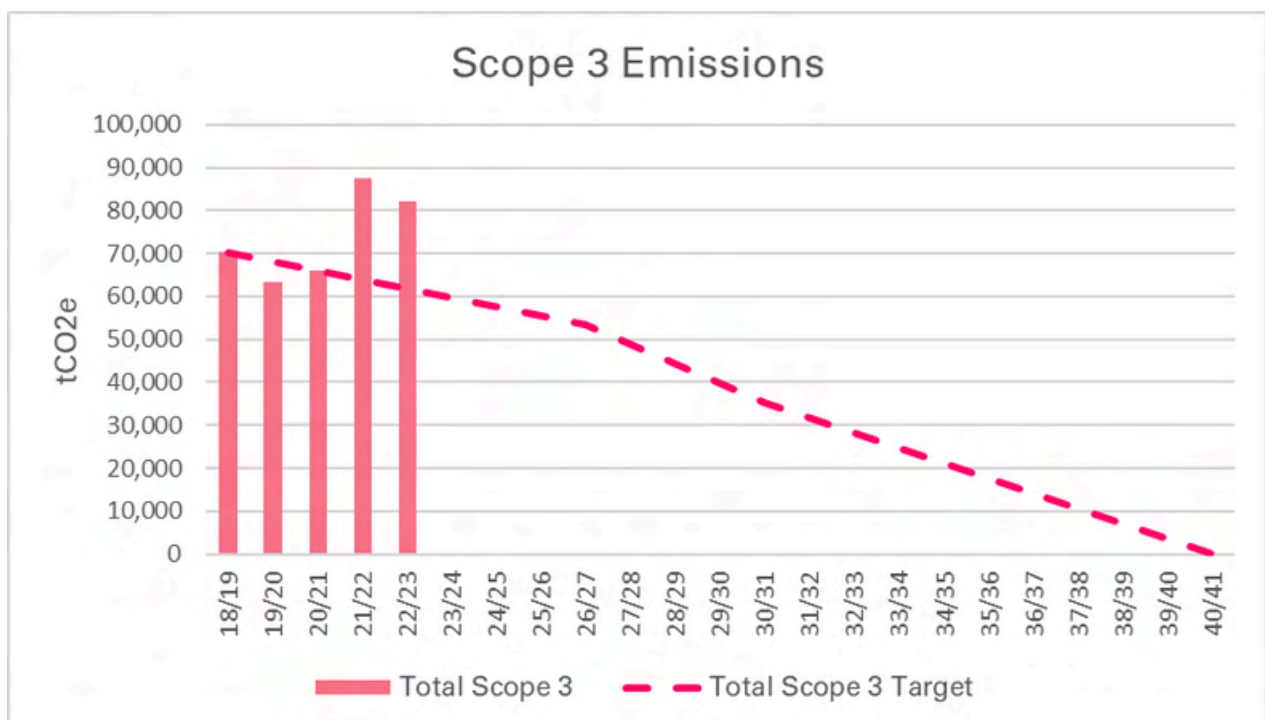
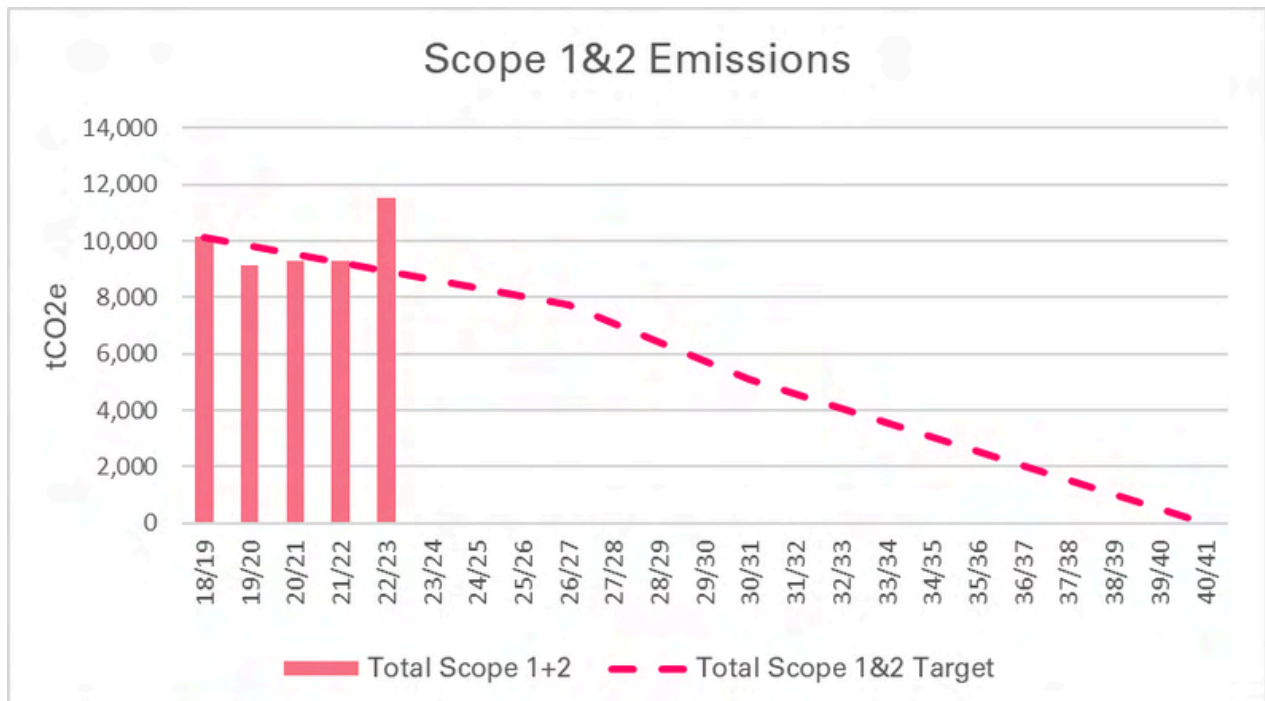
Appendices

Annual Sustainability Report 2022-23

Appendix 1 - Progress on Net Zero Carbon by 2040



NTU's progress in 2022-23 to reduce Scope 1, 2 and 3 emissions towards meeting Net Zero Carbon (NZC) by 2040.



Appendix 2 - NTU total carbon emissions 2022-23

Emission Source	2022/23	2021/22	
	tCO2e	tCO2e	% Change
Scope 1	6,450.59	5,301.30	22%
Scope 2	5,089.67	3,985.05	28%
Scope 3	81,995.49	87,643.81	-6%

Emission Source	2022/23	2021/22	
	tCO2e	tCO2e	% Change
Natural Gas	5,606.91	5,041.74	11%
Fleet – Diesel	70.92	109.07	-35%
Fleet - Petrol	2.00	2.17	-8%
Oil	47.10	77.60	-39%
Biomass	7.80	11.07	-30%
Refrigerants	337.41	59.65	466%
Livestock	378.46	Not calculated	
Total Scope 1	6,450.59	5,301.30	22%

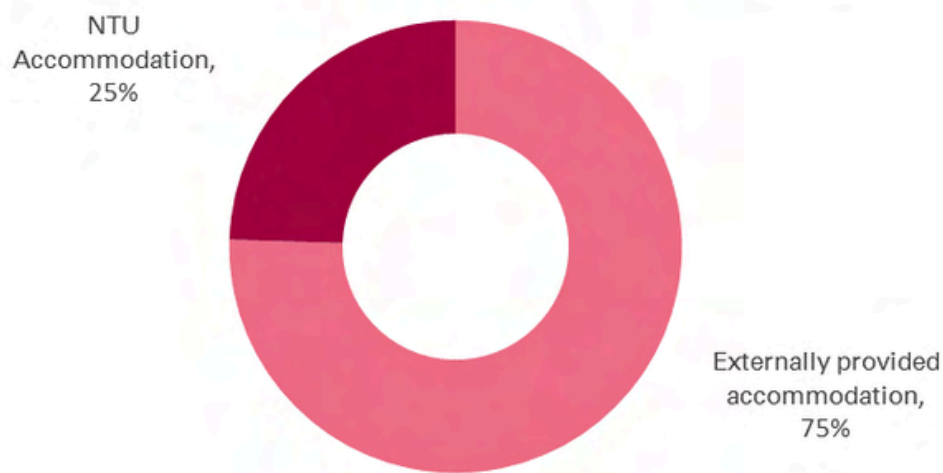
Emission Source	2022/23	2021/22	
	tCO2e	tCO2e	% Change
Electricity - Location Based	4,391.87	3,593.41	22%
Electricity - Market Based (-REGOs)	285.38	310.66	-8%
District Heat - Market Based	697.79	391.64	78%
District Heat - Location Based	1,517.63	857.24	77%
PV Generation	68.37	59.07	16%
Total Scope 2	5,089.67	3,985.05	28%

Emission Source	2022/23	2021/22	
	tCO2e	tCO2e	% Change
Business Travel	3,043.43	1,041.21	192%
Daily Commuting - Staff	1,819.67	1,145.65	59%
Daily Commuting - Student	6,142.44	5,939.45	3%
Home Commute - Student	22,086.91	17,448.03	27%
Partner Accommodation	3,730.78	3,431.03	9%
Supply Chain	36,307.73	51,191.57	-29%
Waste	100.10	66.18	51%
Water	40.64	37.02	10%
Working Elsewhere	432.89	654.81	-34%
WTT & T&D – Energy and Transport	8,290.91	6,688.87	24%
Total Scope 3	81,995.49	87,643.81	-6%

Appendix 3 - NTU student accommodation carbon emissions in 2022/23

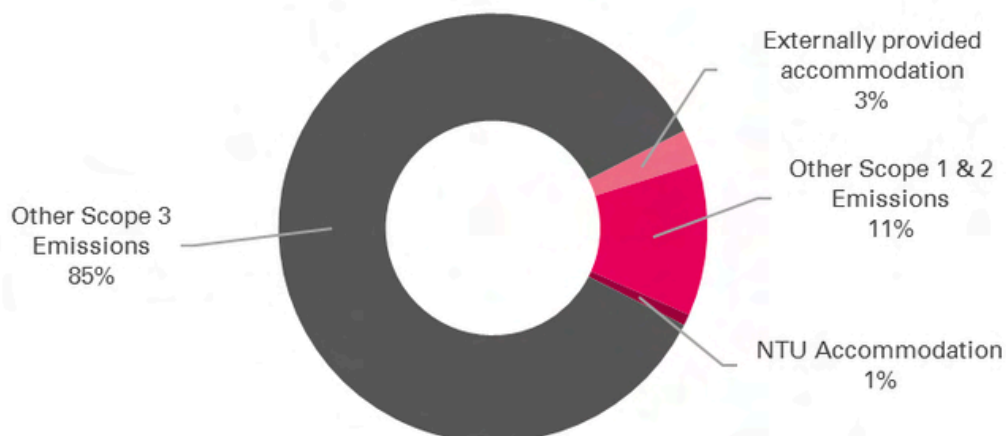
The total carbon emissions from Student Accommodation in 2022-23 was 3,225 tCO₂e, with 25% of these being attributed to NTU's in-house/owned accommodation, which are reported as part of our Scope 1 and 2 operational footprint. These emissions are broken down as follows:

Carbon Emissions from Student Accommodation



Carbon emissions from NTU's in-house/owned accommodation accounted for 1% of the total carbon footprint, while externally-provided accommodation account for 3%, as follows:

Total Carbon Emissions and Student Accommodation Emissions



Appendix 4 - Data sources for NTU carbon emissions

Emissions Category	Sources of Data
Business Travel	Calculated using data from contracted travel management companies, coach, taxis and hire car suppliers, and internal expenses claims.
Commuting (Staff & Student)	Calculated using data from the 2022 staff and 2023 student travel surveys. Includes student commuting from home address: Using a post code model for UK students; and flights from the capital city of country of origin for international students and travel from the UK airport to Nottingham.
Energy Use	Energy usage and renewable energy generation data sourced from meter readings and energy invoices, and then processed through energy management software. Quantity of fuel used in fleet vehicles from fuel records, or distance travelled if data is not available. Fugitive emissions from refrigerants extracted from leak testing records and servicing.
Livestock	Calculated using livestock data
Partner Accommodation (UPP & NTSU Buildings)	Electricity, gas and district heat consumption retrieved by Estates for NTU supplied energy and UPP's energy team. NSTU calculated their own carbon footprint. All 3 scopes included.
Supply Chain	Calculating through a hybrid model by collecting supplier-based spend data (i.e. CO ₂ e/£) through NTU's Net Zero Carbon Supplier Tool, and the remaining spend is converted using the HESCET tool. Embodied carbon data for goods purchased provided by suppliers when available.
Waste & Recycling	Waste composition and disposal methods from main waste contractors.
Water	Water consumption in m ³ provided. Wastewater generation presumed to be 95%
Well-to-Tank and Transmission & Distribution	Electricity, gas, district heating, fuel & biomass consumption obtained from Scopes 1 and 2. Distances travelled per mode of transport obtained from Business Travel and Commuting categories.
Working Elsewhere	Staff working from home estimated at 40% over 47 weeks, with 19 weeks considered to be 'heating weeks'

All data sources converted to tCO₂e using 2023 DEFRA/DESNZ carbon conversion factors.

