




University of  
Nottingham


UK | CHINA | MALAYSIA

# Operational Sustainability Report 2021-22

[www.nottingham.ac.uk/sustainability](http://www.nottingham.ac.uk/sustainability)

 [@UonSustain](https://twitter.com/UonSustain)

 [@UoNSustainability](https://www.facebook.com/UoNSustainability)

 [@UoNSustainability](https://www.instagram.com/UoNSustainability)



## Introduction

Over the last decade, the University of Nottingham has demonstrated a strong commitment to environmental sustainability. Consultation on the University Strategy demonstrated that sustainability is highly valued by our University community and this was a major factor in its inclusion in the goals of the strategy:

*We will make an outstanding contribution to supporting the United Nations Sustainable Development Goals (SDGs) through our research and education, our engagement with partners and our behaviour on campus and in our communities. We will place a special emphasis on environmental sustainability, supporting the City of Nottingham's desire to be a net zero carbon city by 2028 and working with partners in China and Malaysia to improve sustainability within their regions.*

*Extract from the University Strategy Goals*

In March 2020 the University declared a climate emergency and building on this and to support the delivery of the University Strategy in February 2021 we published an Environmental Sustainability Strategic Delivery Plan.

The Environmental Sustainability Committee is responsible for setting expectations, agreeing and setting policy, enabling and encouraging action and monitoring performance but, it is the **collective responsibility** and actions of all members of our University community that will be key to successful delivery of our sustainability ambition.

Over the last academic year we have slowly emerged from the global pandemic and a number of major global events have helped us to focus our thinking and sustainability priorities.

More locally the acquisition of a new campus provides us with an opportunity to showcase and embed operational sustainability and continue to deliver year on year improvements in our operational performance.

This annual report highlights some of the key achievements and activities during 2021/22 to improve the sustainability performance of our University.



## COP 26 and the University Of Nottingham

For nearly three decades the United Nations has been bringing together almost every country on earth for global climate summits – called COPs – which stands for ‘Conference of the Parties’. In that time climate change has gone from being a fringe issue to a global priority.



**UN CLIMATE  
CHANGE  
CONFERENCE  
UK 2021**

IN PARTNERSHIP WITH ITALY

In November, COP26 took place in Glasgow with world leaders coming together to act on climate change and commit to new carbon reduction targets to keep the rise in global temperatures below 1.5 degrees.

Ahead of COP26, we joined 140 universities across the UK to back a new set of commitments on climate action. We are fully behind the UK’s aim to reach net zero by 2050. Our own target is to reduce our carbon emissions by 63% by 2030 and we support the city of Nottingham’s ambition to be a net zero carbon city by 2028.

We also reaffirmed our pledge to champion the UN Sustainable Development Goals (SDGs). Our Beacons of Excellence were created in 2017 to bring researchers together from across disciplines and accelerate our strategic response to global challenges. Our six beacons address the 17 SDGs, which include clean energy, climate action and sustainable communities.



## 2<sup>nd</sup> place for the University in global ranking



In December the University was ranked 2<sup>nd</sup> in the world in a list of the most sustainable universities.

The UI Green Metric, produced by the Universitas Indonesia, is the only university ranking in the world that measures each participating university's commitment in developing an 'environmentally friendly' infrastructure. The rankings look at six indicators: setting and infrastructure, energy and climate change, waste, water, transportation and education.

Since first taking part in 2010, Nottingham has consistently been placed in the top four. Over 956 universities from 84 countries took part in the 2021 rankings.

## Go! Switch Off winners 2021/2022

Over the last years we have continued to engage with students who reside within our halls of residence to instil positive behaviours, a key part of this has been our go! Switch Off halls competition. Students living in Melton Hall on Jubilee Campus hall won the 2021-22 energy-saving and recycling competition.

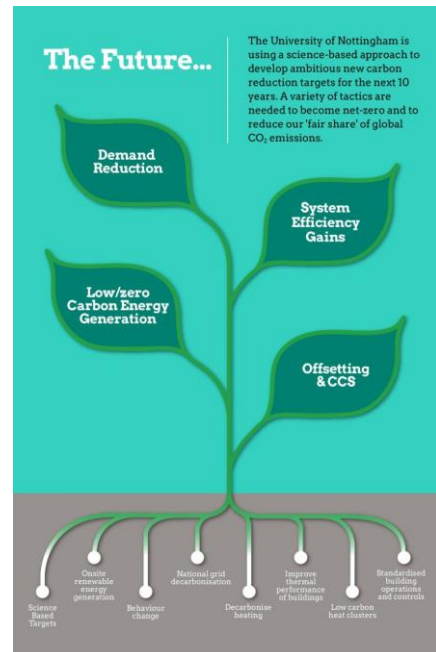
The competition challenges students living in halls of residences to take positive action on climate change, right in their accommodation, and encourages friendly competition between the halls to see who can save the most energy and recycle the most.



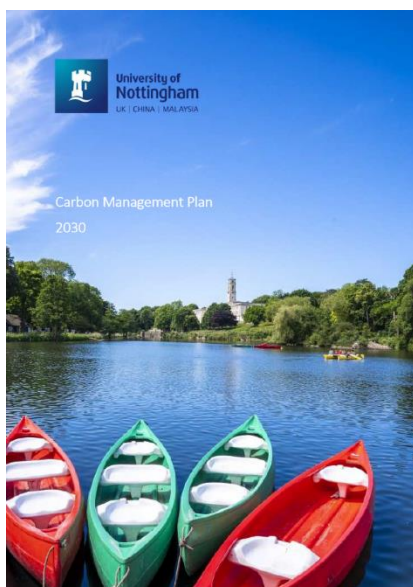
## Road map launched to meet our 2030 carbon target

In January we published our Carbon Management Plan – 2030 (CMP). Building upon our first carbon management plan, this new plan initially focusses on our onsite carbon emissions (scope 1 and scope 2) which are under our direct control, such as emissions from fuels and heating sources for our UK operations. Our carbon management plan lays out an ambitious, yet realistic and achievable, pathway to reach that target, which will:

- make real emissions cuts and minimal use of carbon offsetting;
- improve student experience through the investment in our estate;
- increase our resilience to market cost and supply pressures ; and
- be fully aligned with University values.



Over the last decade, we have seen a rapid decarbonisation of the national electricity grid because of government policy interventions that have promoted investment in renewable energy schemes such as wind and solar power. That has contributed to the delivery of our 2020 carbon targets. However, the national gas grid has seen no reduction in its carbon intensity during this time as the vast majority of currently installed boiler and heating technology are designed to be fuelled by 100% natural gas only.



Currently the majority of heat the University generates for space and water heating uses natural gas. The emissions from gas consumption make up around 50% of our total scope 1 and 2 carbon emissions.

To support and complement our CMP we published a **use-of-gas policy**. This states that all new build projects will be designed without natural gas supplies. Plus, deep refurbishment must include high levels of thermal insulation to all the main building elements.



Through the University's Capital Backlog Replacement Programme and deep refurbishment of buildings such as the Tower, we will actively reduce demand for gas to electricity. This will require extensive works that, in the short-term, might raise emissions but will ultimately deliver an ambitious and cost-effective pathway to net zero and improve energy resilience.

This reduces energy demand by allowing heating systems to operate at low temperatures which enables no-gas/ low-carbon heat sources (e.g. heat pumps) to operate effectively.

As a large complex organisation, 80% of the University's total carbon footprint relates to emissions that are not in our direct control (scope 3). Whilst we haven't set targets for these emissions yet, we have identified a number of key areas to target and action plans are in development.

- Construction and refurbishment
- Paper use
- Food and catering
- Business travel
- Laboratories
- Information, communication and technology

Together these account for more than half of our scope 3 emissions. Work is already underway to more accurately measure and manage emissions from these sources and over the last year we consulted with staff on opportunities too transition to a more climate conscious approach to Business travel.

## Technical Sustainability Working Group grows



The Technical Sustainability Working Group (TSWG) is a group of lab technicians (35 members) from across the University's Nottingham and Derby campuses, working to embed sustainability within labs.

Our technicians are at the forefront of University labs and therefore well-placed to lead green initiatives and share best sustainable practices and ideas. This is shared not just with each other via the working group but also with the University Sustainability Team and external partners to make the work we all do greener and more sustainable.



Recognising the importance of the role of our technical staff in delivering the University's sustainability ambition, we have seconded a technical member of staff into the Sustainability Team to lead and drive sustainability within laboratories. Throughout the last year the working group have:

- Purchased waterless condensers for labs in Biodiscovery Institute and Chemistry. These save three million litres of water going straight down the sink per year.
- Purchased a solvent recycler and started using green solvents in the chemistry labs.
- Signed the University up to LEAF (Laboratory Efficiency Assessment Framework) as a way of benchmarking efficient and sustainable lab practices.
- Started moving -80 freezers to -70 to save 25% in energy usage. Plans to audit freezer contents are being established to confirm all the freezers are needed.
- Begun using Unigreen Scheme to recycle lab equipment.
- Set up writing instrument recycling. Recycle points are now located across University Park and Jubilee, with a local school benefiting from the scheme.
- Created tip box recycling (plastic that Star and Alpha Labs will not take) and lab plastics recycling e.g. chemical containers, Winchester lids etc.
- Established a polystyrene recycling scheme to save large amounts of waste from going to landfill.

## We're a Silver Hedgehog Friendly Campus



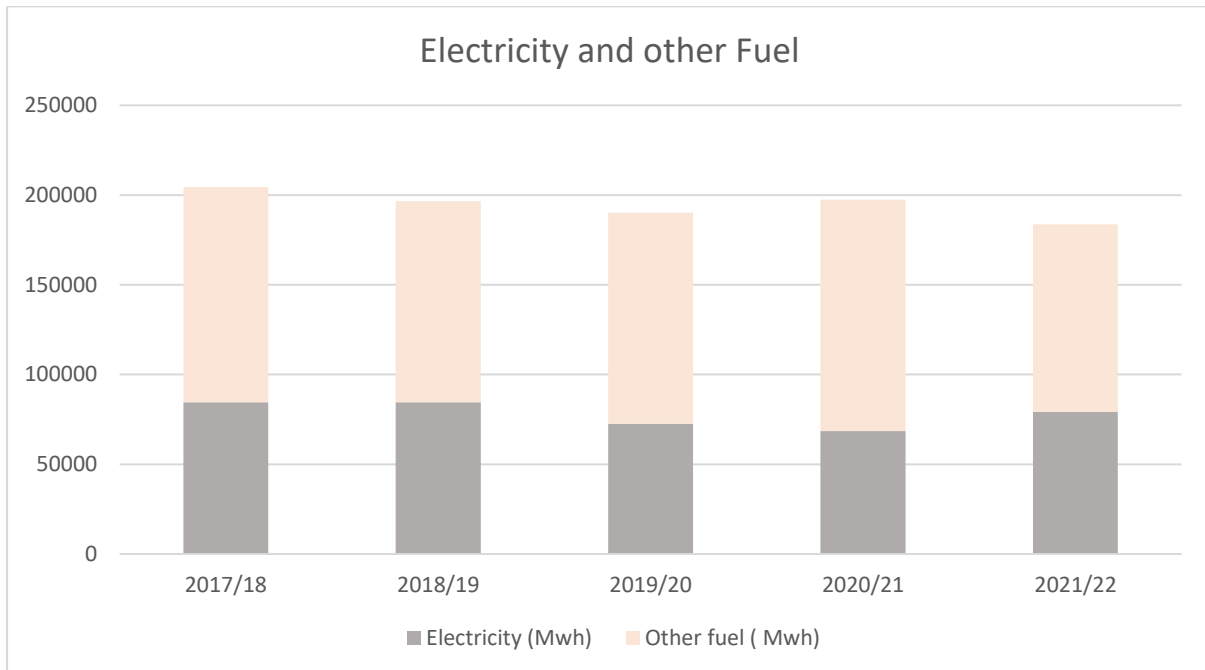
Since 2019 a small group of passionate members of the University community have been working hard to raise awareness of the plight of hedgehogs by participating in the Hedgehog Friendly Campus Scheme.

Over the last year the group have been working hard to complete certain initiatives, from surveying for hedgehog activity on campus, to putting hedgehog ramps into ponds, ensuring log piles are left on campus (good hibernation spaces, and they attract insects AKA hedgehog food), to encouraging people to have hedgehog friendly gardens, to name a few!



## Our Energy and Carbon Performance

Over the last 12 months we have seen our campuses increase in occupancy with more and more people on campus and teaching and research across the estate increasing. In the later part of the year as covid restrictions have been eased and removed we have seen a significant reduction in the amount of gas used and an overall reduction in the total amount of energy used.



Generally we have seen an increase electricity use across the estate as more and more people are back on campus and teaching and research increased.

Over the last year we have rising global natural gas prices exacerbated by the conflict in Ukraine and the action of Russia, diverged LNG shipments, inflation caused by Brexit and COVID-19, and adverse weather conditions across Europe impacting on energy production have contributed to soaring energy prices over recent months.

Prior to the pandemic our annual utility spend was typically circa £ 12 - 14 million per year. Over the 2021/22 financial year we saw this increase to around £18 million as a result of energy market conditions. This has been against the backdrop of relatively static energy consumption.

Current forecasting put our costs for financial year 2022/23 at circa £25 million, (this includes an allowance for Castle Meadow Campus - £1 million).

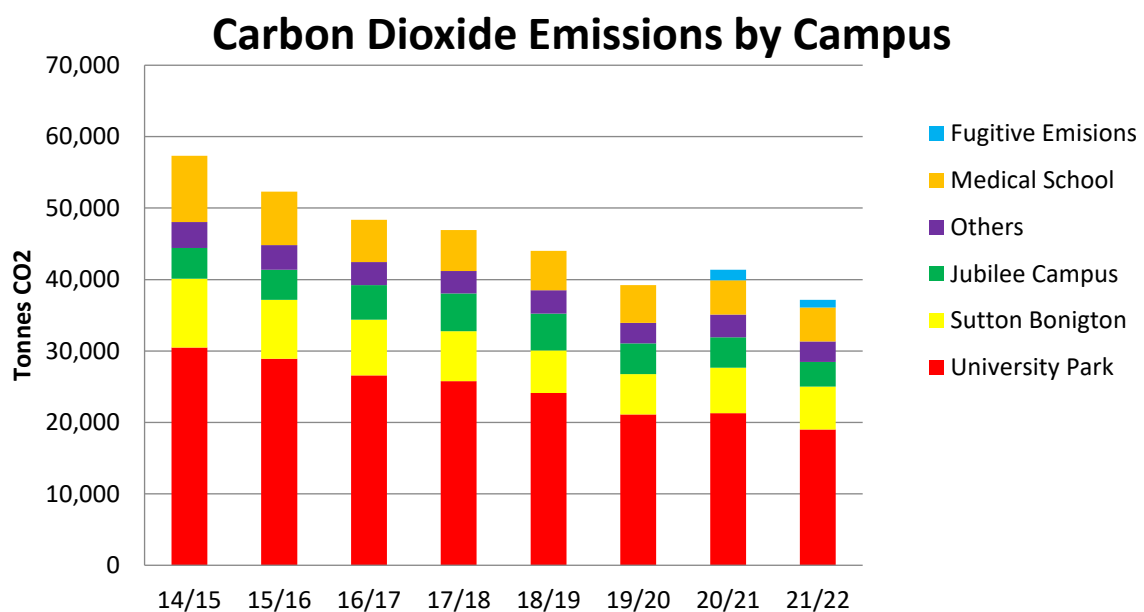




Forecasting further ahead this could rise to £46 million as early as financial year 2023/24.

Never has there been a better time to drive down energy use for both cost and carbon benefits.

We have seen an increase in our electricity consumptions compared to last year and our gas use has reduced significantly our overall energy consumption has dropped considerable. The impact of this on our scope 1 and scope 2 carbon emissions has been a 10.2 % reduction in carbon emissions compared to last year. – This is in part due to the continued decarbonisation of power, a milder winter but also several positive interventions that have been delivered over the last year.



Last year it was disappointing that we didn't meet our carbon reduction target, however **this year we have exceeded our carbon reduction target** of 37,324 tonnes of carbon, with our overall scope 1 and scope 2 carbon emissions for 2021/22 being 37,166 T Co2.

Since setting our baseline in 2018 / 2019 we are slightly ahead of our overall carbon budget and it is essential moving into this next year that we continue to drive down consumption across all areas of the estate.



## Tackling food waste with Too Good to Go!



The University has teamed up with Too Good To Go to tackle food waste. Every day, unsold fresh food goes to waste at cafes on our campuses. Whilst this waste is minimal, it adds up over time and now is instead being offered to staff and students at a discounted price.

Globally more than one third of all food produced is wasted. This is a staggering environmental problem. If food waste were a country it would be the **third largest emitter** of greenhouse gases, behind the US and China. Climate experts agree that reducing food waste is one of the most important things we can do to address global warming.

This app lets students and staff buy food that would otherwise go to waste at a great price. For every 'Magic Bag' of food rescued through the Too Good To Go app, we're helping to save **2.5kg CO<sub>2</sub>e**.

## Sustainability Action Week

Sustainability Action Week took place at the University from Monday 28 February – Sunday 6 March. This week of activities and events encourages staff, students, and alumni to engage with environmental and social issues and take action for the climate.

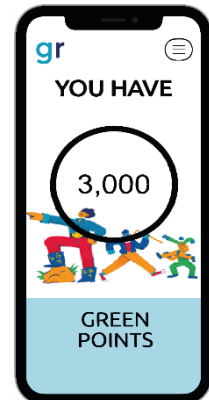
Under the Universities for Nottingham Network, this is a collaborative event with the University's Sustainability Team and the Students' Union teaming up with Nottingham Trent University and Students' Union and Nottingham City Council to host events and share advice and guidance for sustainable living. UoN, NTU, Nottingham City Council and Nottingham County Council, joined their Green Rewards programmes together for the **March Sustainability Challenge**, to coincide with Sustainability Action Week, avoiding more than **43,923 Kg of CO<sub>2</sub>**.



## Green Rewards

Since its launch last year, we have seen our Green Rewards program grow, with more than 1,400 active members across the University. This interactive programme for all staff and students at the University, rewarding behaviours that improve individual and university-wide sustainability and wellbeing. Over the last year we have combined our actions and activity with partners across the city so we can influence behaviour across all our communities.

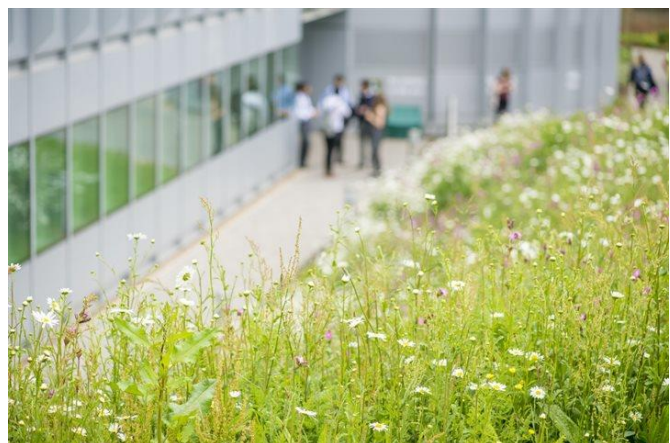
To date the programme has over 1,448 active users and collectively there have been more than **78,000 positive actions, saving over 96,000kg of Co2.**



## Biodiversity

Biodiversity is the living fabric of our planet. It plays a significant role in human health and being outside and immersed in nature has been shown to improve our mental wellbeing.

But Earth's biodiversity is in decline, which threatens both nature and humans alike. The main drivers in the loss of biodiversity are climate change, invasive species, over-exploitation of natural resources, pollution and urbanisation. Our campuses are diverse with a rich habitat and throughout the year we have been celebrating biodiversity and encouraging wildlife across them.



Following on from success in 2021, during May of this year more space on campus were left unmown to benefit wildlife including two lawns outside Derby Hall. Pathways through the middle will allow visitors to walk through and enjoy the flowering display and buzz of the insect, building on this a new wildflower meadow is being created adjacent to Lenton Hurst.



Over the past century, the number of wildflowers in the UK has drastically declined. Since the 1930s, Nottinghamshire has lost 97% of its flower-rich meadows and pastures. This has a cascade effect on our wildlife, with fewer pollinators and fewer insect-eating birds. Close to 35% of invertebrate pollinators, particularly bees and butterflies, and about 17% of vertebrate pollinators, such as bats, face extinction globally.

The wildflower area by Lenton Hurst will be a habitat for many of the species we have on campus and provide more nectar to our pollinators. On top of the environmental benefits, it will be a great place to relax and spend time surrounded by nature, helping to support the mental health of our staff and students. *As well as benefitting the campus' biodiversity, the reduction in mowing will save 96 litres a year in fuel and 225kg CO<sub>2</sub>!*

Lenton Hurst's large lawn is suitable to become a wildflower meadow because its existing grass species are good 'companion grasses' alongside perennial wildflower species (wildflowers that live longer than 2 years). This means that no major intervention or change in grass species is required. Instead, wildflowers will be planted and the existing grassland will be managed appropriately for cultivating the meadow.

## Bats in the basement

Last summer, bats were found roosting in the cellar of the 19th century Lenton Hurst Building. They were discovered when workmen entered the basement and soon realised, they weren't alone.

All UK bat species are protected by law. This means it's illegal to disturb, injure or kill them, or to damage or recklessly disturb a roost.

Lenton Hurst is one of the University's heritage houses on the north side of University Park, near to Wollaton Park. The wooded grounds of both parks provide excellent foraging habitat for bats. Large areas of grassland and water are perfect for several bat species, including common pipistrelle, soprano pipistrelle, brown long-eared bat, noctule bat and Natterer's bat and Daubenton's bat. Ecologists from EMEC went in search of the bats in residence, equipped with torches, low intensity light (light with red filters) and a night-vision camcorder. It didn't take long to find the flying mammals, for as soon as they entered the cellar, brown long-eared bats were spotted perching on a smoke detector.

The main bat roost location was found within a brick wall gap. The colony has since been left undisturbed.



## 19 in a row for Green Flag Award



During this last year the University has been awarded Green Flag status for the 19th year in a row. This international award by Keep Britain Tidy recognises well-managed parks and outside spaces and sets the standard for their management. The Estates Grounds Maintenance Team do a fantastic job of caring for our green havens and this year they have been more needed than ever for our health and wellbeing.

University Park has 19 consecutive Green Flags to its name Jubilee campus has received the Green Flag award consistently since 2017.

## Pack for Good scheme

Despite the challenges posed by the pandemic, 2021 has seen a remarkable effort from students at both the University and Nottingham Trent University. Working with NTU, together this year we have saved 2,819 bags with a combined total of more than 22,000 tonnes of waste from being sent to landfill – the equivalent of 229,462 kg CO<sub>2</sub> emissions – and have raised £39,466 for the charity.

This contribution is in addition to the 9,280 bags collected by Nottingham City Council, representing 74.2 tonnes of waste – the equivalent of 755,540 kg CO<sub>2</sub> emissions – which has raised £129,920.



Since first becoming involved in the initiative, goods donated by Nottingham students have raised a staggering **£1,257,193 for the charity** and have saved the equivalent weight of 119 African elephants in waste being sent to landfill.

