



University of
Nottingham

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Sustainability Report 16-17

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 UoNSustainability

 @UonSustain

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1. Governance

Our sustainability agenda is supported by a formal Sustainability and Environment Committee which is chaired by a member of the University Executive Board and includes representatives from a range of faculties, professional services, functions and campuses (see Appendix 1). This last year saw an increase in the number of submissions to our Environment Initiatives fund. This fund is administered by the University's Sustainability and Environment Committee has a budget of £100,000 to award to student or staff-led sustainability projects each year.

As well as measuring our own internal progress we utilise a number of external benchmarks to measure our progress and performance.



We continue to be in the top two of the UI Green Metric World University Ranking carried out by the University of Indonesia, narrowly missing out to University of California, Davis. This year 516 universities from 74 countries took part, with an increase from last year with 407 universities from 65 countries. The ranking includes over fifty indicators across 6 categories which included:

- Setting and Infrastructure (15%)
- Energy and Climate Change (21%)
- Waste management (18%)
- Water usage (10%)
- Transportation (18%)
- Education (18%)

2. Environmental initiative Fund

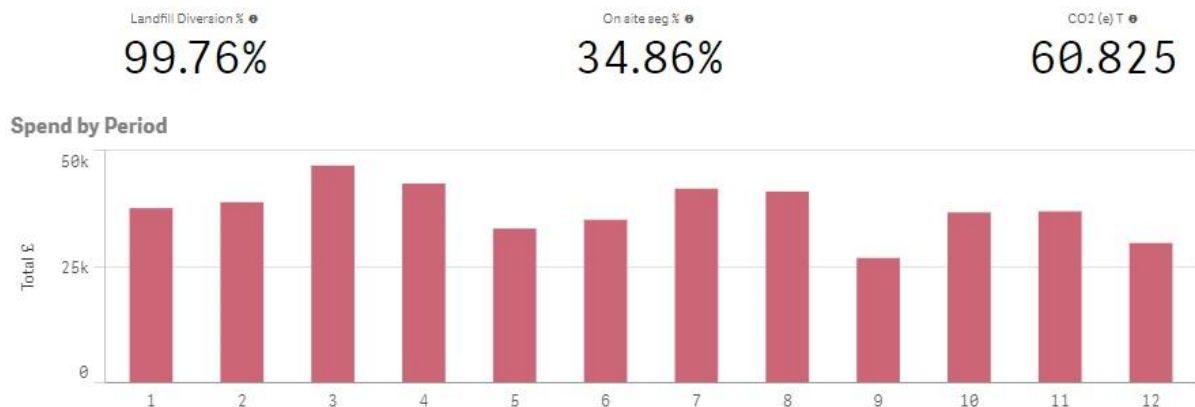
Each year, the University's Sustainability and Environment Committee awards around £100,000 to student or staff-led sustainability projects that help to deliver projects aligned to our Sustainability strategy. In the 2016/17 academic year 14 bids were submitted to the Environment Initiative Fund, with 10 projects receiving funding – ranging from £500 to £40,000. Below is a brief overview of some of the projects funded in 2016 2017 in a broad areas across the University and demonstrates the diversity of student societies, professional services and academic departments with an interest in sustainability:

- **Health, Food and the Environment exploratory workshop** – to engage local stakeholders in developing innovative learning resources to support undergraduate teaching in the Faculty of Medicine & Health Sciences on the topic of food, health and sustainability. [Read more about the initial workshop](#)
- **Wortley Hall Close passive house** – to retrofit a domestic house on University Park campus to meet Passivhaus standards, benefitting tenants and also offering a demonstration site as part of the Department of Architecture and Built Environment's [Creative Energy Homes project](#).
- **#BeastsofUoN photo competition** – to run a competition as a focal point for those interested in the biodiversity of our outdoor spaces, highlighting the wellbeing benefits of our campuses and encouraging people to explore these spaces. Working with student group [CropUp Gallery](#) to exhibit photos allows us to illustrate the wildlife and high quality of the University's green spaces as captured by students and staff. [View the winning photographs](#)
- **Biodiversity internship** – to train an internship student in aspects of biodiversity management, including monitoring techniques and habitat valuation assessments, to establish a robust baseline for habitats on University Park. Members of the [SU Conservation Society](#) and [Friends of University Park](#) will also be trained to carry out surveys of selected species.

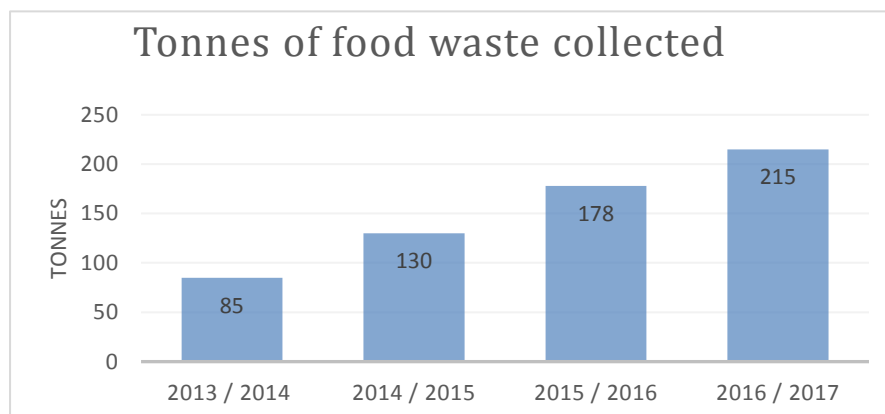
- **Santander Cycles bid** – to provide support in submitting a bid to the Santander Cycles Competition for setting up a smart hire scheme on campus for short-term bike hire.
- **Environment & Social Justice Week** – to promote the ESJ Week organised by Nottingham Pro Bono and Sustainability societies, in collaboration with other ESJ Network societies. A range of informative and engaging events took place throughout the week, aiming to enhance students' awareness and understanding of sustainability and broader environmental and social justice issues, and encourage sustainable lifestyle changes.
- **Improving and promoting recycling facilities in libraries** – to make recycling easier in Hallward Library and Djanogly Learning Resource Centre by providing recycling bins that are fit for purpose, consistent in design and signage with facilities within cafés and common areas across the University, and promote a pleasant study environment.
- **NET Positive supplier engagement tool** – to access information on the sustainability actions of over 700 of the University's suppliers through a tool that supports supplier development and good practice and will enable the University to demonstrate how suppliers, particularly SMEs, are responding to the challenge of eradicating Modern Slavery.
- **Bitesize RLO suite** – to run a 'storyboarding' workshop as the first stage in developing a suite of three linked reusable learning objects (RLOs) related to health, food and the environment.
- **Sustainable Development Goals scoping exercise** – to undertake a desktop study of the University's current position – across teaching, research and operations – in relation to the UN Sustainable Development Goals.

3. Waste and Recycling

We continue to see our overall landfill diversion rates increase with more than 99% of the total waste generated through our main waste contract being diverted from landfill, with just under 35% of that waste segregated at source through our comprehensive bin provision for recyclable material and food waste.



Further recovery and recycling by the waste contractor ensures less than 1 % of waste is sent to landfill, resulting in a very low carbon waste disposal process.



We have seen a continued year-on-year increase in the amount of food waste that is being diverted from general waste to dedicated food waste collection,

which not only cleans up the general waste but also allows the waste to be processed and its energy recovered via anaerobic digestion thereby creating usable energy.

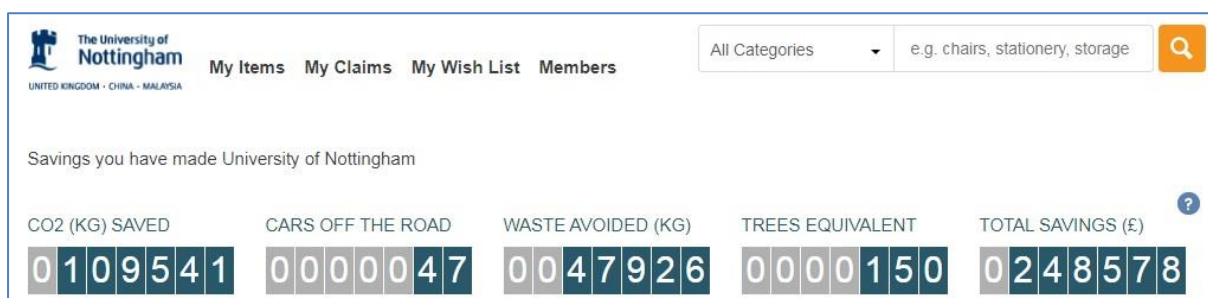
University of Nottingham students donated bags of unwanted clothing, books, shoes and electrical items to the British Heart Foundation (BHF) at the end of term and throughout the year at donation bins across our campuses. Donations across all Nottingham sites (including Nottingham Trent University, UPP, street banks in neighbourhoods and private accommodation providers) are worth over £250,000 to BHF, and overall donations this year were up almost 100% on June 2016. Our on-site collections doubled from 1,219 bags in 2015 / 2016 to 2,584 bags in 2016/2017



The Off-campus team led a group of students going door to door in Lenton giving waste management advice to students preparing to leave Nottingham for the summer and providing British Heart Foundation donation bags to residents

Students living on campus were able to donate unwanted items in each of the halls to Beeston based Moving On, a community interest company who provide supportive volunteering opportunities to individuals in the local community.

It hasn't all been about recycling and recovery, we have been working with suppliers to reduce waste associated with products and goods we receive and also reuse more items. The Warp-it online waste exchange facility continues to attract more and more users and now has over 480 active members.

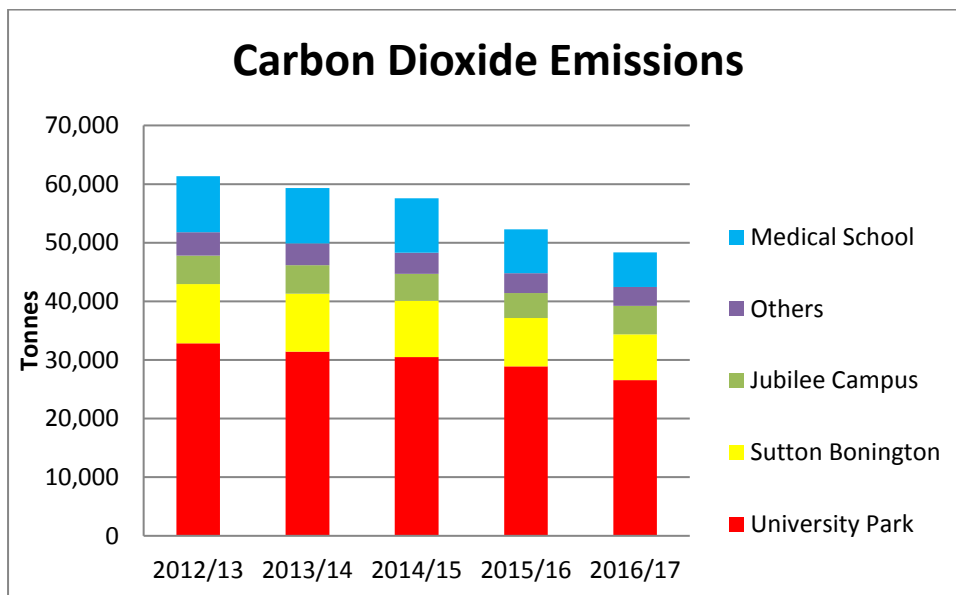


It facilitates the reuse of furniture and other equipment across all five faculties, our campuses and professional services and over the last year it has helped divert over 47 tonnes of material from landfill and save more than £248,000 in avoided costs.

4. Carbon Management

In 2016/17 our Scope 1 and 2 carbon dioxide emissions have shown an absolute reduction of 7% or 3,914t from 2015/16 and down 19,628 t from 2009/10 baseline of 67,998 t CO₂.

In the programme's seventh year the University continued investment of £3.04m in projects across all areas of the CMP. Since 2010 our CMP has now invested in excess of £18.2m, with estimated annual savings in the region of 13,601 tonnes of CO₂.



The new 800kW combined heat and power (CHP) at our Sutton Bonington Campus completed first full reporting year of operation and achieved annual savings of 1,230t CO₂.

Improving the thermal performance of our buildings has continued with a number of significant insulation projects carried out. Several large buildings including the Medical School and Chemistry have continued to see single glazing replaced with double glazing improving the thermal performance of the building and improving the comfort for occupants.

We have continued to deliver investment in the laboratory fume cupboard efficiency programme with further works to reduce fan speeds with full variable speed extracts to deliver reduced electricity use and, as a consequence, reduced gas from space heating.

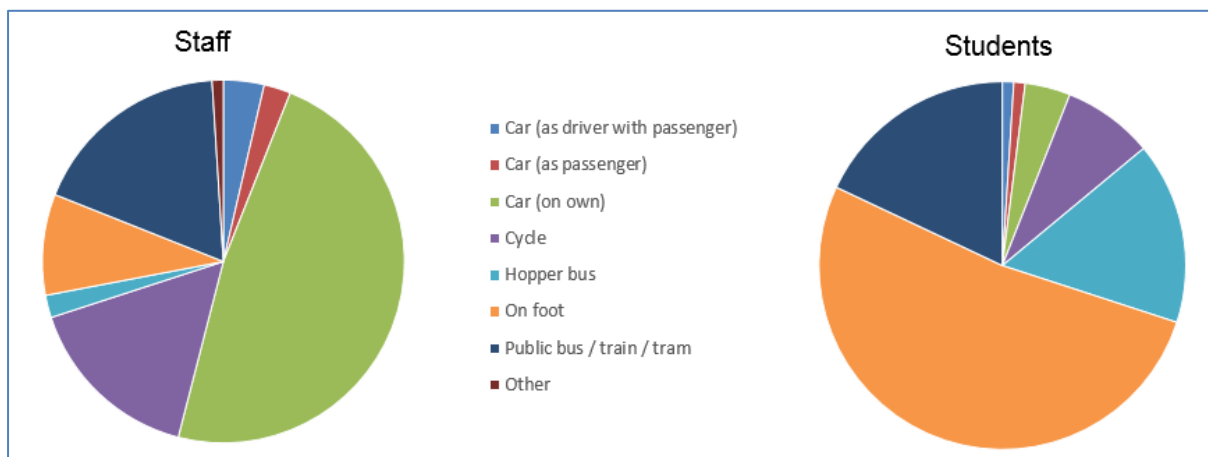
The replacement of old plant, both chillers and boilers, has resulted in improved efficiency across the estate and this rolling programme will continue over coming years. This year's installations included replacement water heaters to Ancaster and Cripps halls of residence along with boiler replacements in the Arts centre, Hemsley, Sir Peter Mansfield and Hugh Stewart House.

The Medical School received an additional third Chiller to complement the installation of two high-efficiency chillers that replaced the aging steam absorption units. This switch from steam generated cooling to electrical systems has led to a significant reduction in gas (which is used to generate steam). The system was fully commissioned November 2016 and along with other projects over the last 3 years has reduced steam consumption in this first full year of reporting by almost 50%. The combination of projects has seen steam consumption drop from 25,295MWh to 13,484MWh resulting in an annual cost saving of £405K and carbon reduction of 3,516 t CO₂

As well as investing in carbon reduction projects work is carried out to produce our own energy on campus reducing the reliance on grid supply. We have over the years invested in a range of technologies including photo-voltaic cells, solar thermal and biomass; these installations have saved 231 tonnes of Carbon by displacing electricity that would have been provided by the 'Grid'.

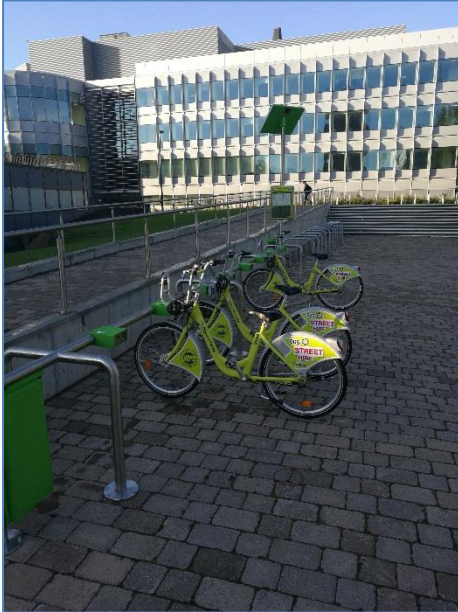
5. Travel and Transport

Staff and student travel continues to be a large focus of work with continual investment in facilities to support active and sustainable travel. During this last year we undertook our biennial travel survey, attracting more than 3,200 responses, our highest response rate to date. Below are some snapshot results



- 25% of staff respondents commute on foot or by bike
- Car use continues to be the dominant mode for staff commuting to the University.
- 60% of student respondents commute on foot or by bike
- Students commuting by car on their own has decreased from 7% in 2015 to 4% in 2017
- 67% of staff respondents consider they are required to travel between campuses as part of their work.
- 28% of student respondents consider they are required to travel to other campuses as part of their studies.
- 40% of student respondents travelling by public transport pay a cash fare on the day and 38% hold NCT's academic year pass
- 79% of staff respondents are aware of the University's cycle to work schemes for purchasing a bike
- 29% of respondents who are cyclists have used the free Dr Bike service
- 41% of respondents who are cyclists are aware of the Brighten Up campaign

Cycling continues to be a well utilised travel choice for staff and students and we have continued to support this through a range of measures. We continue to run events and provide advice to staff and students including our annual 'Brighten up!' campaign, Dr Bike events and cycling roadshows.



We continue to invest in our cycling infrastructure to support those who choose active travel. The availability of cycling parking continues to grow with there being 4,951 cycle parking spaces, a growth of 25% since 2009/2010.

We continue to support the Enactus run Ucycle student bike hire scheme. This has been complemented over this last year with the installation of City Card smart cycle hire bikes on our campuses enabling ease of connectivity between Jubilee and University park. The uptake of these has been very encouraging with the George Green Library station recording the second highest use across the city.

Our travel pass schemes continue to prove popular with both staff and students and this support for public transport users was further enhanced with the installation of Robin Hood top-up ticket machines being installed on campus, enabling user to purchase and top-up Robin Hood PAYG cards and check the current balance on the card. Machines are located outside The Exchange Building at Jubilee campus and on East Drive at University Park campus.

6. Capital Development

The University has one of the most expansive capital development programmes in the UK Higher Education sector. This last year has seen a number of projects on site. The University continues with its commitment to minimising the environmental impact of its capital program through passive design and environmental accreditation through the use of the Building Research Establishment Environmental Assessment Methodology (BREEAM) to assess our progress. Building on the LEED scheme adopted on the The GlaxoSmithKline Centre for Sustainable Chemistry the University has committed to building a new research building to the German Passivhaus Standard.

The Research Acceleration and Demonstration (RAD) building is a brand new £5.4m research facility being developed in conjunction with the Energy Research Accelerator (ERA) initiative. The RAD building will be one of the most energy efficient research facilities in the UK. The development will include roof mounted PV cells, a full height internal 'Green wall' and potential re-use of an onsite existing bore hole.



Passivhaus is based on the creation of a building with excellent insulation and a high level of airtightness, in which air quality is maintained via a whole building mechanical ventilation system.

7. Landscape and Campus Grounds

The University is renowned for its attractive campuses worldwide, something that is cherished by the University. Both University Park and Jubilee campus have retained their Green Flag status and the University has been a key component of the Nottingham in Bloom success.

Building on the success of the Friends of University Park group 2016 /2017 saw the formation of The Friends of Jubilee Campus group to encourage the local community to visit and enjoy the campus grounds and gardens. The friends groups have hosted and supported a number of events over the last year, including:



- Architectural tours of Jubilee Campus
- Photography workshops
- Wildlife walks
- Evening bat walks
- The annual 'Picnic in the Park' event
- Summer Spectacular in conjunction with the NGS

Trees have always been an integral part of the landscape across the University Park Campus. It has benefited from planned tree planting that dates back to its origins in the 12th Century as the Lenton Priory estate and in the 19th century tree planting for the then private villas found across the site. This rich heritage comes with a great responsibility to manage, maintain and enhance the campus. The University plans to further enhance the campus by establishing an arboretum resource of regional and national value for the benefit of both students, staff and visitors to the campus.

The first phase of our planned works saw the removal of a number of mature trees in poor health or at the end of their natural lifespan around the north-west of the campus and along the edge of Beeston Lane. By doing this it provides the opportunity for the planting of new trees to extend their longevity of the remaining trees and introduce new collection of trees. The removal of approximately 50 trees will be matched by the replacement planting of around 80 large specimen trees. These have been selected to offer seasonal and visual interest to users of the campus and will include an avenue of Lime trees to mark the Universitas 21 AGM and Annual Presidential Meeting hosted by the University in May 2017. Other trees include Redwoods, Persian Ironwoods and less common species such as the Japanese Zelkova tree with its attractive smooth grey bark naturally flaking to reveal beautiful orange patches.

Operationally we continue to minimise our environmental impact through a variety of gardening practises and manage our grounds and gardens to encourage biodiversity and in keeping with the rich and diverse habitats we have. Baseline Biodiversity survey work has been carried out over this last year funded through the Environment Initiative fund and this will be built upon over coming years as we further develop our Biodiversity management plans for our campuses. The campuses continue to provide safe, secure and sustainable habitats for a wide range of both rare and more common species including: the Nottingham Crocus, hornet moth, foxes, badgers, kestrels, owls, peregrine falcons, bats, butterflies and the ubiquitous squirrels and geese. Much of this wildlife has been captured in our #beastsofUoN photography competition.

8. Engagement & Partnership

As well as supporting many events of the last year we have been actively increasing use of our social media channels to engage and communicate with the wider University community.

The Sustainable Nottingham Newsletter now has a direct distribution list of over 1,500 (having doubled in the last 12 months), every month the breadth of articles covered in the newsletter grows reflecting the broad range of both staff and student sustainability projects that are happening at the University.



The @UoNSustain Twitter account now has 1,770 followers, increasing by over 25% in the last year. Twitter continues to be the most effective medium promoting events and short updates of campus upgrades and investment.

The Sustainability team in conjunction with the NUS took part in the Student Switch off campaign.



Halls of residence compete to see who can save the most energy and recycle by taking easy and effective actions. The Hall that saves the most energy and has a

high recycling rate wins an end of year party and Ben and Jerry's ice cream for everyone in the Hall. Students living in Florence Boot hall of residence won the 2016-17 Student Switch Off competition. Collectively the small energy-saving and recycling actions that students completed have added up. Together, residents have reduced carbon emissions by 49 tonnes which is equivalent to making 2.8 million cups of tea!

Other notable wins have been achieved by Southwell and Willoughby halls of residences. During the first and second academic terms Student Switch Off run a national Climate Change Quiz, where the top 4 halls across the UK each win a delivery of 100 tubs of Ben & Jerry's ice cream. Southwell Hall scooped the prize during term 1 and Willoughby during term 2!



#beastsofUoN continues to be a very popular engagement tool with both staff and students. Earlier in the year we saw an April fool's joke with our Estates team "building" a goose tunnel under the road to accommodate #beastsofUoN wishing to cross the road. The stunt reached more than 300,000 people with the original story.

We also launched a #beastsofUoN photo competition to inspire staff, students to inspire staff, students and visitors from the local community to explore the University of Nottingham's great outdoor spaces and reveal how enriching and inspiring our campuses can be. There were 5 categories

- Celebrating the #beastsofUoN and campus wildlife
- Abstract and details
- Social Media smartphone
- Young Photographer (6-15 years)
- International Campus

We received hundreds of entries, which were whittled down to a shortlist of 41, with five finalists and an overall winner. A large number of these images were displayed at the University's community event 'Wonder', with a number of the images being used to create the 2018 Campus Wildlife Calendar.

#BeastsofUoN Overall winner



Photographer: An Cuypers, staff
Squirrel on a bench between the lake and Jubilee Avenue

Abstract and details winner



Photographer: Prof. Mark Searle, staff
Orange Tip (male) taken in early May 2016 in the Old Orchard, University Park.

Young photographer (6-15) winner



Photographer: Olivia Thomas-Neher, member of the public
Photo taken of sleeping duck on University Park.

Social media winner



Photographer: Azriq Aiman Bin Azman, staff
Photo taken at the Lakeside, University Park campus.

International campus (UNNC and UNMC) winner



Photographer: James Pickering, student
Photo of a blue-tailed bee-eater, perching on a champaca (joy perfume tree) at the Malaysia Campus, showing the Trent Building clock tower in the background

Appendix 1

Environment Committee Membership 16-17

Chris Jagger	Chief Estates and Facilities Officer
Andy Nolan	Director of Sustainability
Gavin Scott	Environmental Manager
Tim Rudge	Energy Management Engineer
Dr John Sutherland	Safety Office
Emory Cunnington	Students' Union Environment & Social Justice Officer
Philip Smith	Students' Union staff member
John Saunders	Member of University Council
Nicola Penn	Commercial Services representative
Lucy Burrow	Information Services representative
Tara De Cozar	Marketing/Communications representative
Prof Sarah Speight	Teaching and Learning representative
Prof Pete Licence	Research representative
Caroline Blackman-Edney	Procurement representative
Rachel Greatrix	Campus representative
Dr Mandy Roshier	Campus representative
Prof Sally Hibbert	Campus representative
Sue Law	Campus representative

Further detail on the committee can be found at:

www.nottingham.ac.uk/sustainability/strategy/environmentcommittee.aspx

Contact us

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<u>Richard Mitchell</u>	0115 846 8791	Energy Management Officer

Sustainability

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<u>Serena Brown</u>	0115 951 3568	Environment Officer

Grounds Management

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<u>Gregory Smith</u>	0115 951 3656	Grounds Maintenance Manager - Sport
<u>David Parkhouse</u>	0115 951 3637	Assistant Grounds Maintenance Manager
<u>Lee Reed</u>	0115 748 4547	Assistant Grounds Maintenance Manager

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