Annual Sustainability Report

2018/19

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UNIVERSITY of GREENWICH

Contents

Highlights

14th in People and Planet's University League (up 5 places)

Ranked in the top 101-200 universities in the global Times Higher Eduction Impact Rankings

Fairtrade University Accredited since 2012

43 student volunteers receiving training and gaining skills through student switch off

40,595 kWh of electricity generated from Avery Hill's solar panels

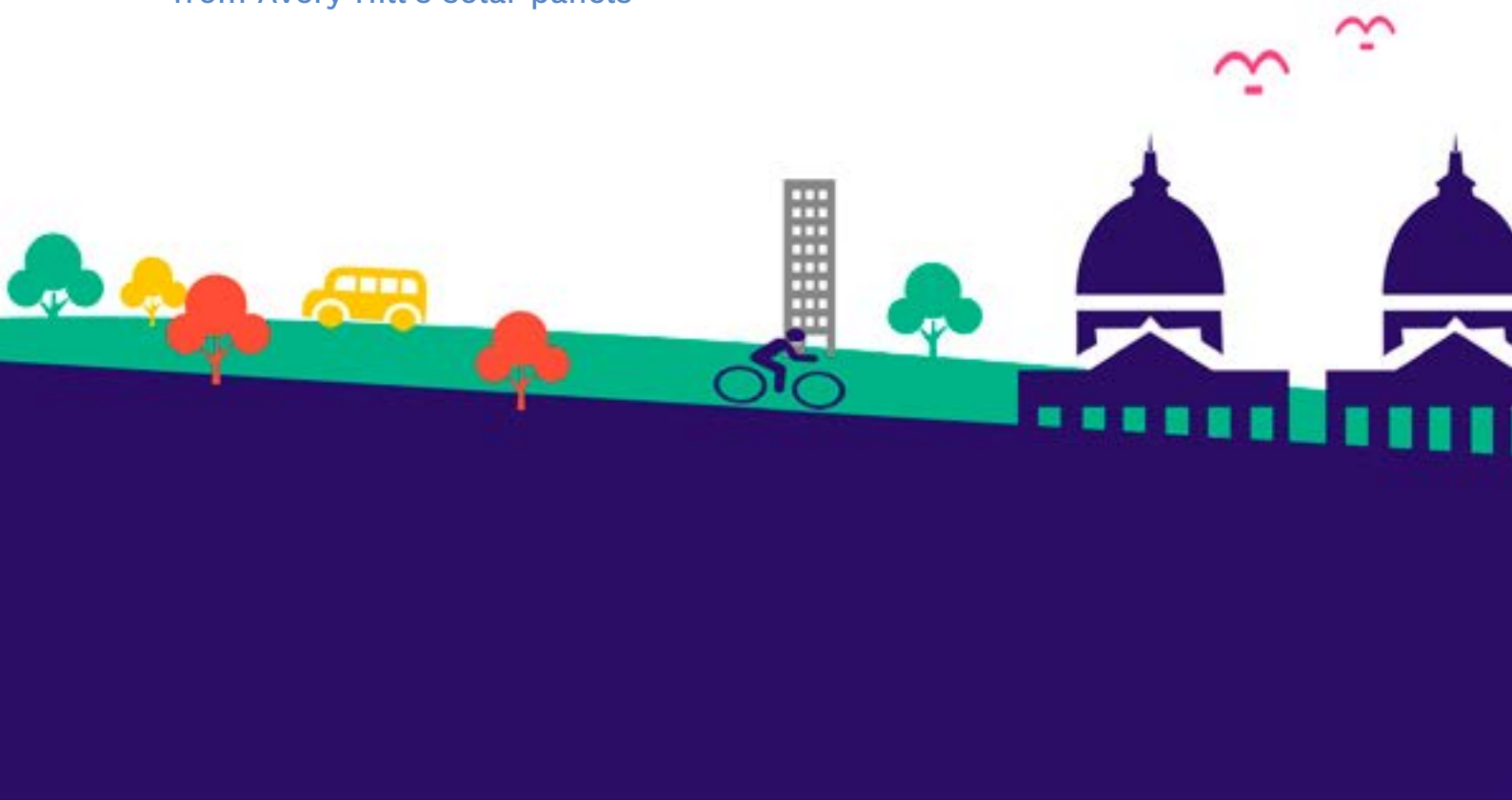
Carbon emission reduced by 52.4% based on 2005/06 baseline (scope 1 & 2 emissions)

6 Tonnes of clothes and items donated to charity

54% recycling rate

Supply chain emissions reduced by 31,920 tonnes (scope 3 emissions)

ISO14001 (2015) Certified



Foreword from Professor Jane Harrington

Vice Chancellor

Probably the single biggest challenge our world is facing is climate change. To succeed in tackling this emergency, people and institutions will have to adapt and reimagine the way we do things. At Greenwich we already recognise our role in being a catalyst for the positive change that is needed. We, our students, staff and, I hope, our partners are prepared to play a role in reducing the negative sustainability impacts.

Through our teaching we have the potential to enable our students to apply themselves fully in their time with us. We want our graduates to take with them knowledge and skills to improve the planet whilst progressing in their careers.

Our research is often applied to help better understand and solve many of the sustainability challenges we face. Across all of our faculties we have staff working on sustainability issues in their specialist academic areas that can and will contribute to a sustainable planet. However, the Natural Resources Institute stands out as an exemplar, renowned throughout the world for the expertise and application of its research staff, helping solve issues of global importance.

We are also proud of the work our staff do in helping reduce our own operational footprint in improving the sustainability of their direct areas of work in our Directorates and Faculties.

This is now our Fourth Annual Sustainability Report. It illustrates the progress made so far, which has been achieved thanks to all our staff, students and partners. We hope it not only informs but encourages stakeholders to do more to help the University get closer to our sustainability goals.

Just to pick a few highlights that you can read about in more detail throughout the report, we achieved the Environmental Management System ISO 14001 (2015) standard for the Estates & Facilities Directorate, illustrating our commitment and action to integrate sustainability principles in our work and deliver against these. The carbon footprint of our energy use has continued to fall, and we are now 52.4% below our 2005/06 HEFCE baseline, against a target of a 40% reduction. Sustainable design and operation within our estates have helped improve the performance of the Dreadnought building and this work continues with the Avery Hill, Southwood Site redevelopment.

As a university, we cannot do this without our wonderful students. We have continued to work with them on initiatives that have saved and reused items. For example, in 2018/19 student residents saved five tonnes of carbon through energy efficient actions and collected over six tonnes of clothing and other items with a value of over £10,000, which was donated to the British Heart Foundation.

Our efforts have been recognised by various external organisations. In 2018/19 for the 7th consecutive year we're proud to have achieved a First Class award in the People and Planet University (Green) League and we achieved 14th position of all universities and colleges in the UK, climbing 5 places. Additionally, the University ranked in the 101-200 range in the Times Higher Education Impact Rankings, an assessment of universities contributions to the application of the United Nations Sustainable Development Goals. We are proud that for some of these goals we were scored well within the top 100.

All of this is just the start of our journey. We are in the process of refreshing our university wide strategy and sustainability will be a key part of fit. One of the commitments that I have already made is joining the One Planet Pledge aiming to hit Net Zero Carbon Emissions by 2030.

Introduction

At the University of Greenwich our mission is to transform lives through inspired teaching and research. We seek to improve society and the lives of all those who study with us through the embodiment of our values of excellence, determination, inclusivity, creativity and ambition. Based at three historically important campuses, we combine rich heritage with significant high-tech learning and research facilities, providing an environment which stimulates enquiry, celebrates scientific endeavour, and promotes well-being.

Our progress is recognised externally in our University League placing (14th) and recognition for our contributions in contributing to the Sustainable Development Goals through the THE Impact Rankings where we did particularly well in the sections on Reduced Inequalities (64th), Gender Equality (81st), and Responsible Consumption and Production (88th). We were ranked in all the sections that we submitted and did well across the board.

Our approach to sustainability

The nature of our organisation is complex, and the social, economic and environmental impact of our activities and the extent of our academic influence are as far reaching as they are long lasting. However, so too are the influences on the University. This is why we take a risk management approach. We seek to anticipate regulatory changes, student needs, resource demands and internal requirements, as well as the longer term global mega-trends that will ultimately affect all our futures. Understanding and recognising these influences in the context of the University allows us to plan for the future, helps us achieve our goals and create a resilient institution. We are motivated by our ability to empower change, the difference we as individuals can make and the significance of our global contribution when we act together; from the smallest action to life-changing research. Our Sustainability Policy is ambitious and wide-ranging, providing high level aims and objectives that help drive efficiencies and raise awareness amongst the next generation of leaders.

How we are progressing on our policy is set out within this report.

Governance

The Sustainability Management Board (SMB) exists to help provide direction and accountability for the delivery of sustainability at Greenwich.

The Board comprises professional services staff with responsibilities for key sustainability related impacts including Estates and Facilities, Finance, Procurement, and Information and Library Services. Importantly it also includes key representatives from our Faculties and the Students' Union to ensure the group can connect our students, academics (including teaching and research staff) to the potential that exist in the application of sustainability at Greenwich. It also helps us take advantage of the many opportunities that we can utilise coming from within and outside of the University relating to sustainability. To view a copy of the SMB structure visit: https://blogs.gre.ac.uk/greengreenwich/sustainability-management-board/

About this report

The University is fully committed to functioning as a socially responsible and sustainable institution, aiming to minimise our impact on the environment and to achieve significant cultural, economic, environmental and social contributions at local, national and international levels.

This report has been prepared by the Sustainable Development Unit to illustrate the University's performance against our most significant sustainability impacts for the academic year 2018/19 and includes examples of our achievements as well as tips that our students, staff and wider community can take to continue supporting our goals. The data for this report represents our owned activities only and is mostly sourced from the Estates Management Record 2018/19 that is publicly available from the Higher Education Statistics Agency (HESA).

It's important to us that we create materials that our students, staff and other interested parties want to engage with, therefore your feedback is welcomed and encouraged. If you have suggestions for future content or any questions regarding the data within this report and the work the University is doing then please contact us:

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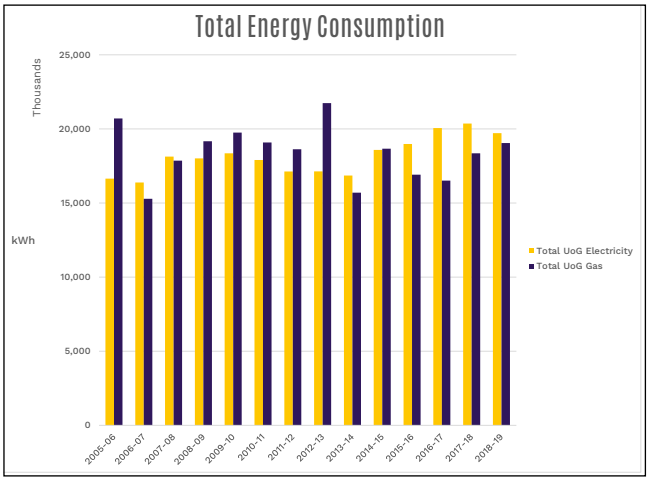
Energy

Target:

- **To reduce Non Residential Energy Consumption by 14% by 2022 from a 2015/16 baseline**

Our energy consumption has a significant impact on the environment as well as our utilities spend. Costing approximately £3 million a year, it is important that as a University we strive to meet our energy needs as efficiently as possible, ensuring we optimise resource use, deliver value for money and minimise our reliance on the burning of fossil fuels.

In 2018/19, we used 32.2 million kWh of energy, equivalent to meeting the annual energy needs of 2,580 homes. The vast majority of this energy, 93.8%, was used in our non-residential buildings.



Energy consumption in 2018/19 remained similar to previous years although between 2017/18 and 2018/19 the gross internal area of the estate increased by 8.1%.

The University has set a strategic KPI to reduce our energy consumption by 14% by 2022 across all non-residential areas. This has been set against a 2015/16 baseline as it best represented our operations at the time.

Having a focus on energy use is important as it provides a clear understanding of how efficient we are in using energy. It has implications on our carbon footprint, especially where energy comes from fossil fuels, such as gas for heating and power, or where from what the electricity is generated that we use to power our campuses many electrical needs. There's also a direct cost implication as for every unit we are able to save through energy conservation and efficiency actions we will save money that can be reinvested into our teaching, research and improve our student and staff experiences.

"To reduce energy use and to further explore the possibilities of less carbon intensive energy sources"

Since the baseline position in 2009/10 our estates have seen the addition of Devonport Halls, the Medway Student Hub and the Dreadnought building, all of which have inevitably contributed to increases in energy consumption across our estates.

The refurbishment of Dreadnought provided an opportunity to integrate energy efficient systems and technologies including: more efficient heating and cooling systems (without air conditioning), LED lighting throughout the building with infra-red movement sensors, energy efficient lifts and cold storage systems installed.

In 2018/19 an environmental 'reset' of Stockwell Street was undertaken to identify and act upon areas where energy was not being used efficiently, large boiler replacement works began at Greenwich and Medway campuses and the introduction of efficiency improvements within refurbishment works at Avery Hill.

The university recruited a Building Services Manager to help focus energy efficiency and identify opportunities. The University rationalised some of its inter-campus travel requirements and also purchased an additional electric van and the university subscribed to the National Union of Students' (in 2019/20 this became the Students for Sustainability) Student Switch Off campaign. This is an initiative promoting energy efficient behaviours of our students living in UoG halls.

For the past five years the University has been working with Student Switch Off to influence the energy using behaviour of our students in our halls of residence.

This year project trained 43 of our students to become energy saving ambassadors who influence residents to save energy through simple but impactful measures. These can include turning down heating and putting on an extra layer, putting lids on pans, having shorter, cooler showers, switching off electrical items etc. Residents are incentivised through the awarding of prizes (tubs of Ben & Jerry's ice cream). Adelaide and Parr 1-6 won prizes for topping the energy saving leader-boards for their campuses.

Five tonnes of carbon and 15,017 kWh of electricity were saved, equating to 500,000 cups of tea. Over 2,300 students living in our halls were reached.

Contributing to the SDGs

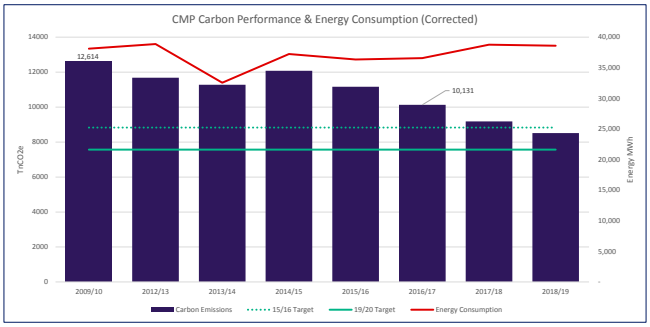
Carbon

Target:

- **To achieve a 40% reduction in Scope 1 & 2 emissions by 2020 against a 2009/10 baseline (Carbon Management Plan target)**

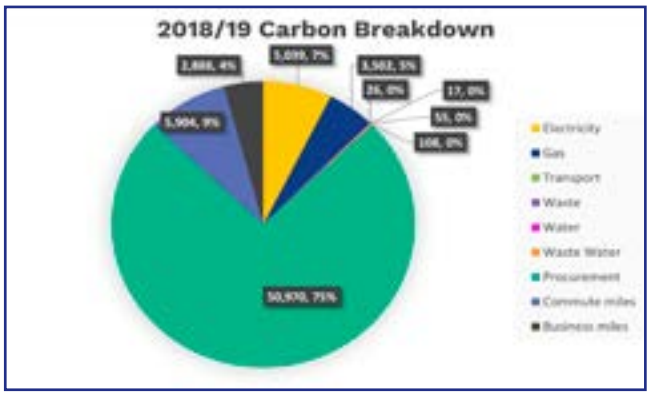
Our Scope 1 and 2 carbon emissions, that's the carbon produced directly from emission sources owned by the University (i.e. gas used for our boilers and fuel in our vehicles) and purchased electricity, have reduced by 52.4% as compared with our 2005 Higher Education Funding Council for England (HEFCE) target of a 40% reduction to be achieved by 2020.

A separate Carbon Management Plan (CMP) target that includes a wider scope of carbon contributions from our estate has continued to improve, with a 32.4% carbon reduction against our 2009/10 CMP baseline. The 40% reduction target to be achieved in 2019/20 will require a number of significant improvements to the efficiency of our estate and operations.



Reducing carbon emissions is essential to help us seek to avoid the significant implications of climate change. We encourage staff and students to help us reduce our energy use which reduces our carbon footprints. We make investments in equipment and systems that help us save carbon and put in place systems such as WarpIt that will help further reduce our overall carbon footprint by reducing the amount of items we need to buy in which all have a carbon footprint. Improvements to the efficiency of our vehicle fleet and reductions in the wastes we generate again reduce our carbon footprint though institutionally we have a lot more to do to make the savings the planet will need if we are to avoid climate breakdown. We ask all staff and students to help by doing simple tasks such as switching off lights and non-essential equipment when not needed.

"To reduce energy use and to further explore the possibilities of less carbon intensive energy sources"



The Dreadnought building was operational from 2018/19 adding to our absolute emissions although energy efficient design has meant that energy use and carbon emissions have not greatly increased.

This pie chart breaks down our carbon footprint into a range of categories. Procurement (Supply Chain) (categorised as Scope 3 emissions) has a significant impact on our carbon emissions suggesting we need to buy less or buy items or services with a lower carbon footprint. Travel is also significant particularly private transport (cars) for commuting and the use of business flights.

Contributing to the SDGs

SDG7

- Solar (photovoltaic) cells generate zero carbon energy on the roofs of Avery Hill Halls, Stockwell Street and the Wolfson Centre (Medway). Since installation our Avery Hill PV cells have generated over 370,000 kWh of electricity, enough to power nearly 25 3 bedroom houses for a year
- The carbon footprint of our electricity is 1,283 tonnes with 83% supplied by zero carbon sources.

SDG9

- More efficient boilers installed in Medway & Greenwich
- Carbon reducing research undertaken by UoG academics includes Carbon8
- Providing space for graduate carbon negative road surface testing

SDG13

- Carbon Management Plan in place
- Research delivering lower carbon world in many faculties
- Carbon reduction in our estates work

Transport and Travel

Target:

- To achieve a 40% reduction in Scope 1 university vehicle fleet emissions by 2020 (2009/10 baseline) 10% reduction achieved by 2017/18
- To achieve a 20% reduction in Scope 3 work related travel emissions by 2020 (2012/13 baseline) 45% reduction achieved by 2017/18
- To achieve a 20% reduction in Scope 3 commuting emissions by 2020 (2007 baseline) 2% reduction achieved by 2017/18

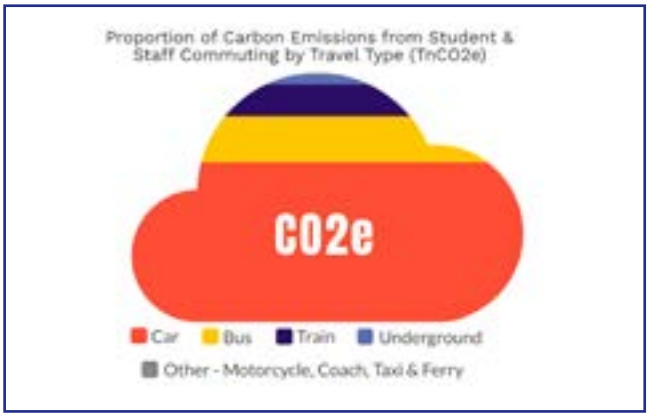
Our transport needs have substantial environmental impacts but through changing behaviours or modes this can be reduced. Impacts include traffic congestion, carbon emissions, air, water, noise and light pollution, road casualties, stress and the fracturing of communities that can come through high volume road use.

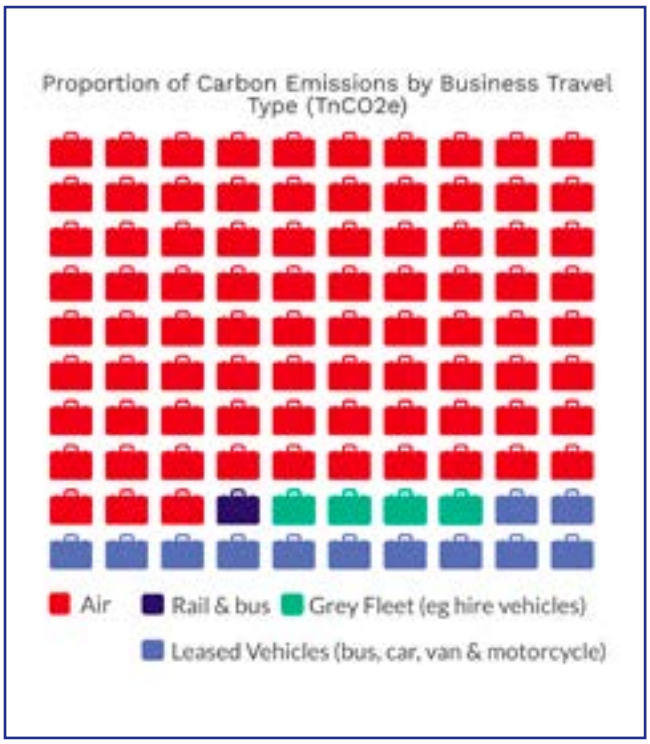
Having three campuses does create challenges for us as many students and staff travel between sites. Having a large commuter student community plus employees travelling into campus all have transport needs. The University can influence travel needs and habits through improvements in the services we provide and the advice and incentives we offer.

The University's Travel and Transport Team has been busy working on improving and expanding our inter-campus bus and coach services with the aim of encouraging higher ridership and reducing the need for private car usage.

Staff and students were encouraged to use active travel modes (and car sharing) through the Better Points app that incentivises walking, running, cycling and car sharing. Further to this Dr Bike provided bike repair services and the university continues to use the 'Cycle to Work' cycle and accessories purchase scheme.

Proportion of Carbon Emissions from Student & Staff Commuting by Travel Type (TnCO2e)





"To minimise harmful emissions arising from business travel, commuting & deliveries"

Contributing to the SDGs

SDG3

- Initiatives (e.g. Better Points) rewarding staff and students to walk and cycle (and catch public transport) an leave car at home
- Dr Bike provided so bikes can be fixed and used
- Investment in low emission and electric vehicles reducing health impacts of community.

SDG11

- Improvements to UoG public transport provision reducing pressures on local public transport
- Green Travel Plan helping reduce congestion and pollution

SDG13

- Reductions in UoG fleet carbon emissions
- Working with faculties to reduce business travel (including flights).

Waste and Recycling

Target:

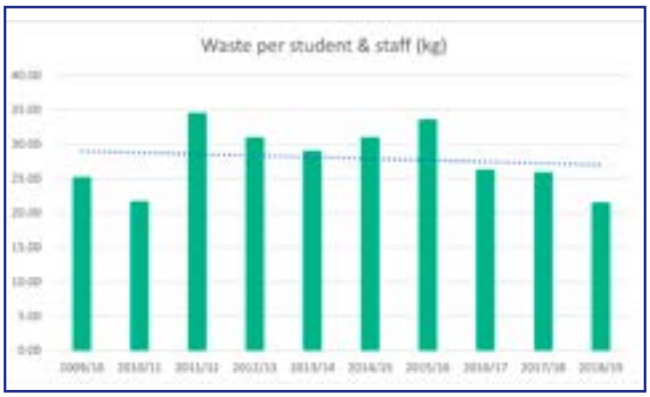
- To achieve a 70 % recycling rate (by weight) of non-construction wastes
- Reduce total weight of non-construction wastes by 5% annually

The above graph shows we are continuing to generate and dispose of less waste than ever, with a 30% reduction since 2009/10. Although we have missed the reduction target the improvement is impressive and we continue to expect further reductions through initiatives, such as our work to encourage a switch from disposable to reuable hot drinks containers and the surplus reuse platform Warp-It, that are in the planning stages. Possible reasons for this improvement includes reductions in procurement and the use of paper as increasingly we are moving towards more electronic processes.

The graph also illustrates that our recycling rate has remained steady at 50%. Although this is a very slight improvement it is below what we could expect. Evidence from bin audits indicates that there continue to be high levels of recyclable materials that are put in our general waste bins. There is also, in some places, high contamination of non-recyclable waste in our recycling bins, meaning that sometimes the whole recycling load is deemed contaminated and must be incinerated (with energy derived from this).

The University recycling target of 70% is achievable but means that all waste generated by staff and students must be separated effectively and put into the correct waste bin to avoid contamination.

The University is exploring how it can use the Circular Economy approach to seek to avoid generating wastes and where these are generated to maximise their reusablility and recyclability. We are undertaking work to identify our research and operational strengths.



"To prevent pollution and to promote 'zero waste', encouraging Reduce, Reuse, Recycle to minimise our impact"

Contributing to the SDGs

SDG11

- Our aim is to reduce our waste generation to reduce associated impacts on London
- We support resource re-homing between our campuses and local community groups, including local charities and schools

SDG12

- We have internal systems to reuse resources and work with the British Heart Foundation to take useful items to be sold in their shops
- We buy carpets tiles that are made from 'ghost' fishing nets

SDG13

- The less waste we create the less carbon is emitted
- We also aim to increase our recycling rates that will reduce our carbon footprint
- None of our waste goes to landfill

SDG14

- We have litter management systems in place to avoid wastes entering watercourses
- We have banned disposable plastics from our catering outlets reducing impacts of ocean plastics

SDG15

- We encourage reusable hot drinks containers and promote zero littering actions.

Water

Target:

- **To reduce water consumption by 1% per annum**

Water is a commodity that is often overlooked yet is essential to our survival. It is also scarcer than we think and it is likely both through the increasing demands for water in London and with the impacts of climate change, that water shortages could soon become common in London and the South East.

In 2018/19 we missed our water consumption reduction target where we aim to reduce our water

consumption by 1% a year. The increase was in large part due to an irrigation system being left on. Often leaks are hidden yet can have a significant negative impact on our performance. There is also a cost as water is not free. Lower flow taps, toilet cisterns and waterless urinals have been integrated within the Dreadnought building, and improvements to water leak monitoring have been put into place.

As we have a large number of students living n our halls of residences we know there is a large amount of water used domestically, for washing-up, flushing toilets and showering and washing. Through Student Switch Off we encourage students to shorten their showers and wash up using bowls and putting plugs in sinks. This has the potential of not only reducing waster use significantly but for hot water we can also save energy and carbon too.

We closely manage watering our grounds and only do so in the goal mouth areas of our football pitches and the Community Edible Garden both at Southwood site in addition to watering the planters outside Drill Hall Library at Medway and some of the living roofs on the Stockwell Street Building. We select more drought tolerant plants for our beds and do not water our grass areas even in the hottest and driest of years.

We invested in waterless urinals at all campuses which have saved significant volumes of water in addition to replacement of taps with low flow alternatives. We encourage staff and students to avoid wasting water by not leaving taps running and reporting drips and leaks.

We are looking into how to integrate rainwater harvesting to utilise water falling on our estates, especially to irrigate the Community Edible Garden at Avery Hill. We would also like to investigate this for larger new-builds and redevelopments where we can store rainwater and use for toilet cistern flushing and other non-potable uses.

"To reduce water use and establish a utilities monitoring and targeting system"

Contributing to the SDGs

SDG6

- Provision of free water at all outlets and in increasing numbers of water fountains around our campuses

SDG11

- Research undertaken to increase the amount of green-spaces on buildings as living walls and roofs reducing storm run off
- Ongoing investment in sustainable drainage schemes reducing peak flow incidents and potential local flooding incidents

SDG12

- Ongoing initiatives looking at circular economy and reuse actions to reduce manufacturing resource impacts including water use.

SDG13

- Reductions in water use will cut our scope 3 carbon emissions

SDG14

- Regular audits of process and procedures to ensure water is used efficiently and that we avoid pollution incidents
- Research undertaken in many parts of the university aimed at improving water quality and water habitats.

Sustainable Food

Target:

- **Fairtrade Foundation University status maintained**
- **Food for Life Gold maintained**
- **Marine Stewardship Council Award for sustainable fish maintained**

The provision of delicious and sustainable food is really important to us and we are proud of the progress we have made.

We have retained Food for Life Gold at all our outlets and for all our menus, as well as being a Fairtrade Foundation University since 2012. We also retain our MSC certification as all seafood comes from MSC certified stocks.

Working in partnership with our caterers BaxterStorey (who provide food at all campuses apart from Southwood Site), Sodexo (who provide catering at the Dome) and the Students' Union we have collaborated to develop initiatives and partnerships that are recognised externally. Our Sustainable Food Steering Group continues to work together to continually improve our food and drink offer.

In 2018/19 we opened our first disposable free cafe at Queen Mary. This was also one of the first disposable free cafe's in the whole of the UK. The University has been actively engaging our customers to use reuables in our outlets and although we have made good progress through giving people the choice to use disposables or reusables we took the decision to see if we could run an outlet that had a not a no disposables policy. Customers at Queen Mary were given notice over the summer that we would be going disposable free and we found when this launched there was very little push-back with users understanding the reasons why we did this and either drinking in more using china mugs or using 'Keep-Cups' for takeaways. Anyone who really wanted a disposable still had the option of going to Dreadnought to use their cafe. Feedback was really positive and we found that many customers valued the opportunity to not rush off with a takeaway, and instead take a break in the cafe to drink their coffees away from the computer.

The opening of Dreadnought meant that we have improved kitchen facilities so that we are able to extend our menus in addition to having more space front of house and also to promote issues around sustainable food.

"To work with catering contractors to ensure our food policy is met and our Fairtrade accreditation maintained"

Contributing to the SDGs

SDG2

- Research undertaken by the university's Natural Resources Institute has lead to significant reductions in food wastage and poverty reduction in less developed countries

SDG3

- At our outlets we have sought to continually improve the healthiness of diets, increasing the amount of plant based ingredients

SDG6

- We provide free drinking water at all outlets and have increased the number of water fountains on our campuses

SDG11

- Our food provision, delivery and partnership working has delivered sustainability befits for London and the region. Where possible we use local suppliers and reduce delivery frequencies

SDG12

- We promote principles of the circular economy in our outlets through reuse and recycling

SDG13

- Food wastage is managed to avoid this wherever possible and food waste is bio-digested generating energy and fertiliser. No food waste is sent to landfill where it could rot and generate the greenhouse gas methane

SDG14

- Having MSC accreditation means we source seafood only from sustainable fish stocks

SDG15

- Our accreditations require responsible farming practices. We stock organic, Rainforest Alliance and Fairtrade products all having lower impacts upon nature and promote plant based diets.

Ecosystems Services

Target:

- **To develop and implement a biodiversity policy that seeks to protect and enhance wildlife on campus.**

We are fortunate to have three beautiful and varied campuses. Each of these offer opportunities to encourage nature to thrive.

Ecosystems services is a term used to describe the many and varied benefits that humanity freely gains from properly functioning ecosystems. These provide us with agricultural produce, timber, and aquatic organisms such as fish. They also provide us with clean drinking water, the decomposition of waste, and the natural pollination of crops and other plants, essential to our own success as a species.

Our landscape roofs at Stockwell Street provide us with research, teaching and leisure space, meet users well-being needs, provide food crops, support pollinators and other important insects and reduce the impact of flooding by storing rain water in the soil.

Our Southwood Campus at Avery Hill has many different habitats, including established woodland, laid hedges, wild-flower meadows and ponds. There is also an organic food garden and a forest garden, both cared for by volunteers. The diversity of habitats brings an abundance of insect, bird and animal species. This then brings opportunities to use the spaces for teaching, research and leisure and well-being, illustrating that the protection and improvement of our natural spaces is an investment vital to all our futures. The Edible Garden and forest garden welcomes our Primary Education and Early Years students every year to learn how natural spaces can be used to encourage children to connect with nature and also to realise its importance in their lives.

The beautiful Medway campus has woodland areas, green spaces, beehives, and is the home for a significant amount of critically important research and teaching on Ecosystem Services, farming and land use practices. We are keen to make further improvements to the natural value and the ability for our students and staff to engage with these spaces, If interested please get in touch.

“To protect and conserve the heritage buildings we occupy and to actively protect and enhance wildlife on campuses carbon intensive energy sources”

Contributing to the SDGs

SDG2

- Our volunteer run Community Edible Garden provides fruit and veg that are available for free for any of our students, staff and local community to harvest and enjoy

SDG3

- At Greenwich we encourage natural spaces and encourage people to use them to improve their physical and mental health

SDG4

- We provide a range of taught courses that focus on the importance of natural systems and the need and means to protect them

SDG6

- By improving our natural spaces we are better able to regulate water flow and maintain the water quality of water that passes over our estates

SDG11

- Our volunteers teach other volunteers how to grow their own fruit and vegetables and also encourage others to create their own gardens at home or in their own communities. We welcome volunteers from the University and beyond

SDG8

- We demonstrate and train people to be more self-sufficient and to learn how we can embrace natural systems to help us grow food organically and without waste

SDG13

- We encourage the increase of biological life that can improve the capacity of our estates to absorb carbon. Through our spaces we are also able to illustrate the impacts of climate change on natural spaces

SDG14

- Our operations and outreach work aims to reduce the amount of pollutants that can enter our ‘blue’ environment

SDG15

- Through our ecosystems related policies, plans and actions we continually seek to protect and improve our natural spaces.

Construction and Refurbishment

The University has a rich and varied estate, ranging from the historic 17th Century architectural masterpiece of Greenwich Maritime and the Edwardian redbrick splendour of Medway Campus to the parkland mosaic of buildings at Avery Hill and the futuristic and sympathetic BREEAM Excellent rated Stockwell Street building.

Many of our older and particularly our historic buildings have unique challenges, particularly in making them meet the dynamic nature of our teaching, student and staff needs. Our Estates Team works throughout the year consulting, designing, planning, building and reviewing our buildings. The team recognises how great the sustainability impacts of buildings can be unless they are designed with sustainability in mind. As we need to enter a net zero carbon world our decisions and actions will have huge potential for positive change.

The Dreadnought project, a £30m redevelopment of a Grade 2 listed building at our Greenwich Maritime campus has been the main estates project for the University. The aim was to build a student hub, a space containing all the elements that support our students to thrive at Greenwich. From Autumn 2018 it's the home of the Students' Union, including its offices and work spaces, bar, entertainment spaces and gym, Student and Academic Services, ILS, plus part of the Faculty for Education and Health. The space will also be the main catering outlet for the campus and it will provide exhibition and events space using the huge atrium that encapsulates the original building's courtyard.

There was extensive consultation with users of the building to ensure that it would meet the current and future needs of the varying users. During construction guided tours were given to ensure staff and students understood how the building could work and to answer any questions that arose. These tours were particularly valuable to some of our teaching programmes, giving our students direct experience of how complex building projects are undertaken.

The building has a number of sustainability features. A key one is that by retaining the building the 'embedded' carbon of the structure is not wasted when compared to a new build. In addition the steel and wood structure of the atrium has a lower impact than concrete and the use of tempered air handling means the building can operate effectively without energy intensive air conditioning.

"To incorporate the principles of sustainable development into all new build & refurbishment projects"

Contributing to the SDGs

SDG3

- We design and operate our buildings to meet all potential user needs and to ensure that the health and well-being of our users are met

SDG4

- The University is proud of the high quality teaching it delivers and the hard work our students undertake in pursuing their educational goals

SDG5

- The University seeks to ensure that our estate ensures that our gender equality commitments are met

SDG6

- Through our continual improvement of our estate we aim to increase the numbers of water fountains, although this can be restricted by our building's heritage protections

SDG7

- The University generates its own solar power and buys almost carbon free electricity from its supplier

SDG8

- Our contracting of building work requires suppliers to provide decent, and safe working environments

SDG9

- We work with partners to identify where we can integrate effective innovations to our estate that can deliver social, environmental and economic benefit

SDG10

- We consider users in all design and build decisions to reduce inequalities

SDG11

- We aim to ensure we build and operate our buildings in ways that complement the sustainability needs an ambitions of the areas our campuses are located in

SDG12

- We design and build estates that aim to reduce the material and waste in their construction and use and work closely with contractors to ensure they do too.

Construction and Refurbishment

The University of Greenwich is one of the top 3% of universities in the world and we have an excellent and growing reputation for the high quality of our research and teaching. The university is located within three historically rich campuses.

The universities largest campus is at the heart of a UNESCO World Heritage Site and is recognised as one of the most beautiful in the UK. The site is centred on three baroque buildings designed by Sir Christopher Wren at the end of the 17th century. The fact that they are still standing strong after 320 years is testament to their sustainability. Making improvements to these Grade I listed structures comes with challenges and we continue to be innovative in integrating enhancements to reduce the environmental footprint. The university's award-winning building in Stockwell Street. The new build has sustainability at its core achieving BREEAM Excellent standard and is renowned for having 14 landscaped roofs used for ground-breaking research. The transformation of the Grade II listed Dreadnought Building as a student hub is the latest addition to the campus. The completed refurbishment of the Grade II listed structure pushed the boundaries to achieve a BREEAM rating of Very Good.

Our Avery Hill Campus is set in 86 acres of parkland in south east London has recently undergone a major programme of refurbishment and with further phases planned, we are on track to make the campus zero carbon by 2030. Natural environments have been created all around the campus making space for wildlife and encourage staff and students to appreciate and value it.

The Medway Campus is a centre for teaching, research and consultancy, offering hi-tech facilities in science, engineering, pharmacy and natural resources. The campus which dates from 1903 is based in splendid redbrick and ivy-clad Edwardian listed buildings. We are making investments in the campus infrastructure to reduce energy use, though again we have challenges as the most of the buildings are Grade 2 listed, meaning although we can make some modifications to the insides of the buildings it is very difficult to do so to the outsides.

Sustainability is a key component of our future Estate Strategy and provides us with a perfect framework to make improvements that meet the needs of our students and staff whilst protecting our cultural and natural heritage for future generations to enjoy.

Rob Hartley Head of Estates Strategy & Programme, Estates & Facilities Directorate

Contributing to the SDGs (cont)

SDG13

- It is critical for our success that we seek to reduce the carbon emissions of our work. It is crucial that we design and build with energy and carbon reduction in mind, with a particular focus on engineering out fossil fuels from our buildings. We are on an ongoing journey and this work will keep the Estates team focused for many years ahead

SDG14

- We have the ability to build in systems that can help protect the blue environment. This includes ensuring we are able to ensure that building s and their users use water efficiently and we have systems in place to avoid polluting water courses

SDG15

- We are fortunate to have beautiful and often biodiverse rich campuses and it is essential that our estated development work protects and improves the natural environment. The Estates team are fully aware and engaged on our Ecosystems Services work and this will increase with the integration of ecosystems services thinking into our estates planning and development work.

Education and Research

The university sector has a major role in helping deliver sustainability and contributing to the **Sustainable Development Goals** (SDGs). The next section illustrates many examples of how we are delivering the Goals in our teaching and research.

The ability to influence and engage our student body on sustainability is a real opportunity. Research conducted by the Higher Education Academy and the National Union of Students clearly also shows that students demand sustainability is taught to them. Rising awareness of global challenges and the need for action means students are wanting to be part of the solution and we can therefore illustrate the relevance of sustainability and integrate it into our courses. Having sustainability 'literate' graduates is increasingly important to employers who are looking for the skill sets that sustainability learning and application can bring.

Many of the solutions we need will come from research and innovation from the university sector. The Natural Resources Institute is seen as a global leader in areas of agronomy, crop and pest science, climate change and food storage. Academics are capitalising on research, creating spin-out businesses able, for example, to make construction materials out of waste and creating net carbon negative products (**Carbon8**).

Sustainability in Teaching

Sustainability can be incorporated or applied to almost every part of our teaching work. It can be used to connect up subjects with issues the world faces and illustrate some of the solutions that are emerging and being implemented to solve them. Sustainability isn't just about climate change and ocean plastics however, we often overlook the need to reconsider and deliver social issues which are a pillar of sustainability. In addition, when we look at economic systems we have to recognise that without alignment to sustainability outcomes then it will become increasingly difficult to live and do businesses on not only a planet suffering climate chaos but also impacted because of soil loss, ecosystem collapses and inequality.

Many of our programmes include sustainability issues, As we would expect the Faculty of Engineering and Science delivers many courses that are either focused on sustainability as an overall issue or deliver courses that are targetted on particular areas of sustainability. These are often distinct in their contributions to the Sustainable Development Goals. Courses, for example, by the NRI often focus on sustainability as a concept and teach in the specific areas that contribute to it. Our School of Pharmacy, for example, delivers teaching directly contributing to SDG 3 (Good Health and Well-Being). Our Faculty of Health and Human Sciences directly supports SDG 3 in educating future health professionals including nurses, paramedics and midwives. Much of our teaching is not just focused on physical well-being but also mental well-being which is now becoming recognised as a critically important area to treat. Our teaching enables early years and primary teachers to graduate delivering quality education and also through their studies having a good grasp of sustainability. Annually we welcome students to the Avery Hill Community Edible Campus, for example, to learn about how natural spaces can become one of the most impactful learning environments capable of bringing many subjects to life in fun and inspiring ways.

At the Faculty of Liberal Arts and Sciences we graduate students who will work as surveyors, projects managers, architects and others in the built environment who will have an understanding of how sustainability relates to their work. Students studying law apply their work and learning in areas that contribute to many of the SDGs including SDG 16 (Peace, Justice and Strong Institutions), but also other areas where law can be used to right many of the wrongs that unfairly hold people back. These include SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 10 (Reduced Inequalities), and many others including and importantly SDG 17 (Partnerships for the Goals).

Our Faculty of Business provides sustainability in teaching in many subjects especially where it comes to business ethics, but also in subjects relating to systems, marketing, tourism and others. Andres Coca-Stefaniak, showcased later, includes sustainability as part of his teaching in tourism and it forms a very strong basis for much of his research work also. The Business School invites many experts

Contributing to the SDGs

in the sustainability field to provide guest lectures and seminars (for example the Big Picture series) for students to find our about how sustainability is considered by experts in the field.

In Research

Greenwich is undertaking much research that has national and international impact. The Natural Resources Institute is recognised of global importance in helping tackle issues around food systems that improve nutrition, food loss, sustainable agricultural intensification that is helping to feed a growing global population while maintaining ecosystems services, conserving biodiversity and promoting social equity. Research excellence also covers fair economic systems, climate change and its impacts on agriculture on agriculture and natural resources, capacity strengthening for agricultural development and food security. Innovative research on equality and gender justice, governance, sustainable trade and responsible business and research specific to root and tuber crops or particular importance to meeting food needs of developing nations and incomes of farmers is also undertaken illustrating the breadth of work the NRI does. Examples of their work can be viewed through their **Annual Reports** and work and case studies included on their **website**. This work has led to the award of the Queens Anniversary Prize in recognition of the impact their work has had.

Increasingly we are undertaking research work that delivers Circular Economy outcomes and we are finding increasing amounts of this work across our faculties. Research including the harnessing of micro-algae that creates fuels and also helps sequestered carbon is being undertaken by a team in the Faculty of Science and Engineering. Research on the carbonation of materials in the construction industry is creating much interest in its ability to create carbon negative products from waste materials. Other work is engaging with food industries ensuring packaging can better protect foodstuffs from damage and deterioration in addition to ensuring packaging is lower impact and recyclable that contributes to circular economy thinking. Furthermore research on communities along the Indian Ocean is helping us better understand how to improve waste management practices and systems to help reduce and avoid the massive problem of ocean plastics. Here again circular thinking can create opportunities to develop sustainable communities that find more value in waste so that management systems become viable alternatives to dumping wastes in watercourses.

"To actively encourage and support the teaching of and research into sustainable development in the University"

Research is also being undertaken to ensure that not only the materials that circulate in the circular economy are considered, work is also being undertaken to ensure the health and safety of people working in the waste recycling industries are protected.

This is just a snapshot of the research we are doing. Much more is illustrated in the following pages that highlight our contributions to each of the UN Sustainable Development Goals. We plan to build on this work by encouraging more staff to reference their research and their teaching to the SDGs so that we can raise awareness of the Goals and also encourage greater collaboration within and between faculties and directorates. We are seeing increasing evidence that our staff and student communities are recognising the importance of sustainability and the University is keen to share this interest and work in this field. If you are planning or doing sustainability teaching and research please get in touch with sustainability@gre.ac.uk so we can provide any assistance you may need or help showcase the work you are doing.

Spotlight on our Staff

Assoc. Prof. Andres Coca-Stefaniak, of the Faculty of Business, delivered oral evidence to the Housing, Communities and Local Government select committee in the Houses of Parliament as part of the "High Streets and Town Centres in 2030" inquiry, as part of its investigation into the **decline of Britain's high streets.** Dr Coca-Stefaniak's evidence built on his 19-year track record of research into town centre management as well as research findings from the £1.2-million EU-funded **SHARE** project, which is aligned with the UN Sustainable Development Goals, particularly SDG 11 (developing sustainable cities and communities), SDG8 (enabling decent work opportunities and supporting economic growth) and SDG 12 (encouraging responsible consumption and production in urban areas). In a similar vein, Dr Coca-Stefaniak delivered a briefing at the House of Commons to the All-Party Parliamentary Group for Markets building on research findings of the **GO TRADE project** – a £4.8-million EU-funded project where the University of Greenwich is leading a research partnership to investigate solutions to the plight of traditional markets in England and France with a particular focus on their contribution to the sustainability of local economies, communities and the visitor economy. These two presentations to Members of Parliament reinforced the need for a partnership approach in delivering longer-term sustainable solutions to town centres and their local communities adopting a more holistic approach beyond the retail-focused approach that has largely dominated policy making in this arena.

Greenwich's Contributions to the Sustainable Development Goals

The university recognises the importance of the United Nations Sustainable Development Goals (SDGs) and our role in contributing to them.

This section provided more detail, illustrating examples of some of the work we are doing in service to the Goals. Please note that some of this work fits outside the 2018/19 time-frame of the overall Annual Sustainability Report.

The university provides subsidised transport and food to reduce financial burdens on our student and staff communities. Bursaries are offered to students to cover tuition costs and bursaries are offered to assist students covering transport costs.

We provide free support including workshops to the local community to encourage business development and mentor match refugees and migrants who want to start their own businesses. This is done through the **SIREE** Project (Social Integration of Refugees via Education and Self-employment) where we aim to highlight the positive contribution refugees can make to the economy to policy makers. **The Centre for Research on Employment and Work** (CREW) has conducted research on the impact of non-standard contracts on low paid workers for the Trades Union Congress (Living on the Edge Experiencing workplace insecurity in the UK, 2018) and for the Low Pay Commission (Non-Standard Contracts and the National Living Wage: A Report for the Low Pay Commission, 2017). The latter looked at the relationship between the National Living Wage and non-standard contracts and was quoted extensively in the Low Pay Commission's Response to Government on 'One-Sided Flexibility' (2018). CREW is currently leading a EU Social Dialogue project addressing the public sector Gender Pay Gap across Europe in the context of austerity policies and measures taken by social partners to address it.

The work undertaken particularly by the university's Natural Resources Institute has been recognised through the 2019 award of the Queen Anniversary Prize. This award was for the NRI's pest management programme looks specifically at four key areas, including blackfly transmitting 'river blindness'; rodents spreading disease and destroying crops and infrastructure; mosquitoes transmitting dangerous diseases including malaria, dengue and Zika; and insect pests threatening the horticulture industry. This is just one of the areas the university is workinig on that has real world impacts in reducing poverty, especially in developing countries. Other areas include research and practical applications in areas of food systems and improved nutrition.

SDG 2 highlights the multi-dimensional nature of food and nutrition security, encompassing the quantity of food available and issues of resilience, nutrient content and food safety, with targets incorporating both agriculture and nutrition, underlying the importance of food-based approaches in addressing nutritional challenges. Examples of our research in this area include exploring **gender-sensitive approaches to support nutritionally vulnerable population groups**, building information about diets in smallholder farming communities in low income countries to highlight nutritional challenges and guide programmes and policy, and developing the full nutritional potential of small pelagic fish.

The university has a large number of collaborations and partnerships in London and Kent with local health and social care organisations that deliver care and promote and support the public's health and well-being. These include NHS Trusts such as Oxleas NHS Trust, Bart's and the London NHS Trust, Lewisham & Greenwich NHS Trust, King's College Hospital NHS Trust, as well as other providers of health and well-being services, including among others Virgin Services, Priory Group, Bexley Women's Aid, Demelza. The university has

students on placements in these organisations on health related professional programmes, but staff also deliver a significant amount of continuing professional development courses to partners organisations, as well advising on and providing 'credit for learning' for in-house courses. We also have students on placements in local authority and non-statutory organisations for social work, promoting the well-being of service users, carers and families. Students work with diverse issues such as mental health, learning difficulties, physical disabilities, dementia, safeguarding children and adults and dual diagnosis.

Similarly in Counselling, we work with local organisations that aim to support public's health and well-being through listening, mentoring and befriending type placements as well as formal counselling placements in voluntary and NHS settings.

We have developed a training programme to help front-line professionals tackle the growing County Lines problem, whereby criminal gangs in London are sending young people into smaller market and coastal towns to sell Class A drugs. Professor Karen Cleaver of the Faculty of Education & Health, has led a project with the Metropolitan Police and a range of partners across statutory agencies to produce a training package which aims to raise awareness of County Lines. As well as awareness raising, the training helps participants develop an understanding of the relationship between vulnerability and becoming a perpetrator of crime and the potential consequences of this for the young person's mental health.

Our Early Years team undertake consultancy with various nurseries locally to improve the well-being of children. Staff act as a Trustee of a community nursery and members of the team run sessions both locally, and internationally, such as in Malaysia on confident children and managing behaviour.

The university is proud of its roots and its continuing role in supporting the local community to access excellent quality teaching and learning at our campuses. The university therefore has a student population that resembles the demographic make up of our local areas and we welcome to our campuses a wide diversity of students from many backgrounds. We are proud that a high proportion of our students are the first generation within their families to attend university.

We actively encourage participation among under-represented groups in our teaching and learning. Our **Access and Participation Plan** highlights how we actively target students from disadvantaged backgrounds with our outreach work, ensuring it is fully inclusive for everyone.

For example the Faculty of Liberal Arts and Faculty of Engineering and science organise and host outreach events, targeting female students to engage in STEM (Science, Technology, Engineering and Maths) subjects. Events such as Celebrating Women in Maths and Women into Engineering are regularly run in collaboration with external organisations and national campaigns.

We offer access to university staff and students and the public to access many of our talks, often with relevance, interest and impact in sustainability.

The university measures and tracks women's application rates, entry rate and study completion rates. This information shapes the reporting tools that are created and annual reporting of the success and retention of female students. Our **Access and Participation Plan** provides a framework for ensuring we meet our gender equality responsibilities in our recruitment and teaching work.

The university offers women's access schemes including mentoring through the Aurora scheme that encourages and supports women to become leaders at Greenwich and elsewhere.

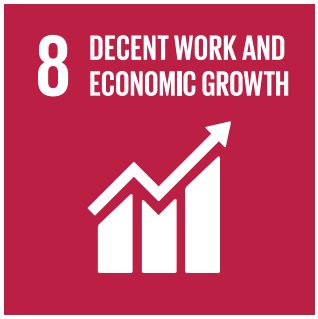
The university has processes and systems in place to help ensure we manage the water we use. Our Environmental Management System provides our framework to make improvements and we have a water reduction target of 1% per year. The university does not irrigate its lawns and only irrigates certain landscape roofs at Stockwell Street, planters in Medway and the Community Edible Garden raised beds at Avery Hill. We provide free water at water fountains across the campuses in addition to providing free water for anyone to access at all of our catering outlets.

The university seeks to ensure operationally that it reduces the amount of energy it needs to use through the application of its **Carbon Management Plan**, for example through the application of its **Heating and Cooling Policy**.

Where we use electricity this is predominantly low carbon sourced with our supplier providing 87.1% of our power from zero carbon sources. Additional to this we utilise clean energy from our Stockwell Street and Avery Hill photovoltaic cells and have a Combined Heat and Power plant in Medway powered by refined used cooking oil.

The university knows the importance of reducing energy demand and this is reflected in our Corporate KPI. We have made investments in boiler, lighting and other power systems that reduce demand and have requirements to ensure our large new builds and refurbishment schemes have to BREEAM certifications that require high energy efficiency.

The university does not have any direct investments in fossil fuel companies, although as part of investment tracking portfolio's at any one time some of our short term investments may move into and out of oil fossil fuel companies. Our Ethical Investment Policy can be reviewed **here.**



The university recognises unions and labour rights with representation on relevant committees. Our **Equality, Diversity and Inclusion Strategy and Action Plan** aims to Deliver measurable equality and inclusion outcomes for both students and staff, promote inclusion, fairness and dignity at work and ensure we comply with legislative requirements. We have an Annual Statement of Compliance for the **Modern Slavery Act and adhere to our Anti-Slavery and Trafficking Policy.**

We have a policy on pay scale equity including a commitment to measurement and elimination of gender pay gaps, and policies and processes to avoid discriminatory practices can occur as illustrated in the documents on **this web page**. Processes for employees to appeal on employee rights and/or pay are in place if needed.

Our Equality, Diversity and Inclusivity Committee provides the forum for action within the university.

We pro-actively ensure that we provide counselling and other direct support to students and staff in addition to ensuring access to buildings and learning and work needs. This can be seen though work undertaken by the **Student Well-being Service**.

The university's teaching and research contributes to the provision of graduates with skills that will improve the industries and infrastructure making them more resilient and sustainable. For example, integrating sustainability thinking into civil engineering, green chemistry, the application of novel processes and feedstock such as micro-algae, the application of sustainability and circular economy thinking with in the built environment and the improvement of food systems and the protection of foods in storage and transit and the handling of bulk goods means the university is actively encouraging improvement and innovation that will deliver sustainability outcomes. Work, for example, in carbonising construction materials is seen as a game changer in the construction industry that can now utilise waste materials, lock carbon dioxide into these materials and produce road surfaces, building blocks, cements and other materials that are carbon negative.

The university has an admissions and recruitment policies with **strategic application** which are non-discriminatory and provide support and programmes to support students and staff from under-represented groups. Our Equality, Diversity and Inclusivity Committee is representative of our student and staff make up and that reviews and ensures that the university meets its obligations. Institutionally we measure and track applications & admissions of under-represented (and potentially under-represented) groups including ethnic minorities, low income students, non-traditional students, women, LGBT students, disabled students amongst others. We have systems in place to help our communities reach their fullest potential at Greenwich and with one example being our **BAME Attainment Gap Project**. We have a **policy** to help protect students from bullying and harassment from staff members, students and third parties.

Our estates are designed and reviewed to ensure that we are able to maximise the accessibility for our users. As we have many protected buildings sometimes it is not possible to enable access to all students to all parts of the university. Where this happens the university ensures that modifications such as providing accessible rooms for those requiring learning and other work spaces. The university has a **Student Well-being Service** with staff available to review student needs and support these. Where **disabled students and students with medical conditions** require halls accommodation we prioritise students with disabilities when allocating places and have rooms and flats that are fully accessible and equipped for those with disabilities.

The university is fortunate to have inspiring campuses of historic, architectural and natural value. Our grounds and some internal areas are open free of charge to the public to enjoy. Public access to indoor spaces includes Medway library where local people have borrowing rights, in addition to exhibition and cafe spaces available on our campuses. We recognise that there is much academic and intellectual capital we can share and enable public access to many talks we hold through the year. In addition to this our Bathway Theatre and university choir put on performances that are open to the public.

Not only do we seek to help add to and improve the public realm for our local communities we seek to ensure we can reduce any impacts we may have on our neighbours. Examples of this include the extensive university inter-campus bus provision that ensures that we do not add to any local public bus passenger loads. Instead we provide a high capacity and regular bus network between our campuses. These services are also free or heavily subsidised helping reduce costs to our students and staff who need to use these services. Our provision of healthy and active travel alternatives and disincentives for private car use reduce the impacts of travel with the aim of improving mobility and the health of our staff and student communities. This is highlighted in our **Travel Plan**. How we design and build our estates also contributes to the sustainability of our cities, maximising space utility and making the spaces sustainable through for example the application of the BREEAM building standard, through our ISO14001 (2015) (Environmental Management System) and through improvements we have made, for example, the extensive landscape roofs integrated onto the Stockwell Street building which enabled us to gain a BREEAM innovation credit that illustrates best practice globally.

The university applies its teaching and research on making cities and communities sustainable. Work undertaken across our faculties focusing on the built environment, in FLAS, on health and education at FEHHS, science and engineering including the work undertaken by the NRI contributes greatly to our teaching and research output.

The quality of products and services consumed by the university are significant, The university has a large non-staff spend that contributes to environmental issues such as climate change and other pollution in production and transportation stages. It can also impact on workers and communities particularly where regulations and enforcement is poor. To overcome this the university has polices and strategies that help us reduce and eliminate these potential impacts. We have, for example, policies on Modern Slavery, a Sustainable Procurement Policy and also we have other more specific policies such as our Sustainable Food and Fairtrade policies that help ensure we meet strict goals relating to the food our caterers procure and serve.

We have a recycling rate of approximately 50% against an ambitious 70% target. One key measurement is the total amount of waste we generate which has been falling significantly for the past five or so years. Investments in technology and other processes has meant a shift away from the need to use paper although we are still some way away from being a paperless university. We have a Waste Strategy that provides clarity for waste generators across the university. For example, this has helped encourage on-going action within our catering outlets to encourage the reuse of hot drink containers, leading to the Queen Mary cafe becoming one of the UK's first totally disposable free cafés. Our work has also meant that food wastes have been reduced.

The university seeks to reduce the materials used and impacts of its estates work through the preference to reuse and re-purpose buildings. The redevelopment of the old Students' Union Cooper building to become the home of Greenwich Research and Enterprise, saved on the materials and embedded energy of the existing structures. The new library and other buildings in Phase 1 of the Southwood site redevelopment are reusable buildings. We have re-purposed of existing modular buildings we own and have invested in a new modular built library constructed off site in a factory, reducing material wastage. These buildings will be de-constructed and reused elsewhere eliminating waste and maximising the flexibility and life of the buildings.

The university has made great strides in reducing its carbon footprint. It met its HEFCE carbon target two years ahead of time and we expect that it should meet its Carbon Management Plan carbon reduction target in 2020. As highlighted in SDG 7 we procure very low carbon electricity and generate electricity from two large photovoltaic systems at Avery Hill and Greenwich campuses.

Our academic work is recognised as important in contributing to help solve the climate crisis. Work undertaken for example by Dr. Maria Nikolaidi funded by the New Economics Foundation (NEF), the Network for Social Change and the ClimateWorks Foundation (INSPIRE network) in order to analyse financial policies that are conducive to de-carbonisation and to investigate how the European Central Bank could develop a climate-aligned monetary policy framework. Dr. Maria Nikolaidi has also participated in a panel of academics and finance experts that was commissioned by the Shadow Chancellor of the Exchequer, John McDonnell in 2019. The panel published a report that includes several recommendations through which the UK financial system could contribute to the transition to a low-carbon economy. The university carried out research and consultancy on contingency planning and responses to drought in Northern Kenya, Morocco and Mongolia, including early warning and responses by district-level governments, approx. 1997-2006. This included policy briefs on drought management, and highly-cited research papers on the specific topic of livestock marketing interventions in emergencies. However, this is not a current research focus.

The university participates in co-operative planning for climate change disasters, working with governments and international agencies such as the FAO, for example in **developing countries**.

The university has supported Professor John Morton over several years' work for the Intergovernmental Panel on Climate Change (Lead Author, Fourth Assessment Report; Expert Reviewer, Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation; coordinating Lead Author, Fifth Assessment Report; Lead Author, Special Report on Climate Change and Land, Chapter on "**Risk management and decision making in relation to sustainable development**"). While not directly a form of co-operative planning, the IPCC reports are a very important source of policy-relevant information on climate change, including on risks of and responses to disasters, for government worldwide. The university carried out research and consultancy on contingency planning and responses to drought in Northern Kenya, Morocco and Mongolia, including early warning and responses by district level governments, approx. 1997-2006. This included policy briefs on drought management, and highly-cited research papers on the specific topic of livestock marketing interventions in emergencies. However, this is not a current research focus. Professor John Morton provided a briefing paper on the relation between climate change and livestock emergencies, and a significant amount of new text and editorial amendments, to support preparation of the second edition of the multi-donor Livestock Emergency Guidelines and Standards (2015).

The university offers an Environmental Science undergraduate degree that provides education relating to freshwater ecosystems. Research and teaching has also been undertaken relating to coastal environments including the impacts of sargassum in the Caribbean. Other academic work covers the impacts of ship breaking in Bangladesh and the problem of plastics entering the Indian Ocean. The university operationally holds Marine Stewardship Council certification for all the fish served in its catering outlets. It also has policies and systems that protect and improve the aquatic environments including having and adhering to our Ecosystem Services Policy and Biodiversity Plan and a zero chemical grounds services position so we don't use artificial chemical inputs on our the paved and green spaces of our estates. Our Environmental Management System provide us with a clean strategy and the processes needed to reduce any discharges and keep any discharges within set limits. Chemicals are managed in ways whereby any wastes are taken off-site for specialist and safe disposal.

The ways we protect and manage our natural environment is covered by our Ecosystems Services Policy, Biodiversity Action Plan, Environmental Management System and through the processes and systems we have in place.

On campus we have protected species including dormice, bats and birds of prey. We are considerate to our natural species when undertaking using projects and, for example, at our Stockwell Street building were able to create biodiversity gain through the transformation of what was concrete parking space into a three storey building with one of the most diverse and largest green roofed buildings in London (for an office/educational building). This building is ground-breaking as it won two BREEAM innovation credits one relating to the landscape roofs, the learning and information of which is now available to integrate into other building projects globally.

Greenwich has a Governing Body made up of independent and university representatives including elected student representatives. This and other governance groups such as the Finance Committee and other committees enable the effective management of the university and ensures the objectives of many of the SDGs are met through our operations, procedures, systems and actions. We have clear policies that provide the clarity of direction to ensure progress is maintained. We recognise core tenets of education and academic need including a commitment to academic freedom (**see section 22 of this document).** We publish our **Annual Financial Report** that illustrates our accountability and meets legal requirements. Our academic staff work on projects and initiatives that strengthen laws or provide opportunities to provide access to legal expertise in cases where a review of cases and evidence can lead to a review of the judgements and sentences. This includes in the latter case the Innocence Project led by Dr Louise Hewitt. Dr William has analysed disability discrimination at British Employment Tribunals. She analysed judgments and found that characteristics of claimants were associated to a number of factors leading to the failure of their cases: restrictive judicial decisions, complex legal tests, inequality of arms between claimant and employer and the stigma attached to claimants with mental impairments. Her publication was picked up by the Law Commission for their report on law reform.

The expert knowledge of our academic community has supported national and local government including policy development delivering the SDGs. This includes work undertaken to better understand human emergency escape patterns including providing expert evidence to public enquiries such as **Grenfell**,

Academic staff in FEHHS are appointed to the Dementia Team of the World Health Organisation, as part of the **Department of Mental Health and Substance Abuse peer reviewer group** and **academics contributing to IPPC reports**. Professor Morton was Lead Author on the chapter on “Risk management and decision-making in relation to sustainable development” of the IPCC Special Report on Climate Change and Land, having been co-leader and rapporteur of the breakout group that drafted the content for the chapter at the Report’s Scoping Meeting. The chapter, designed to be policy-relevant like all IPCC outputs, makes the SDGs and trade-offs between them central to its assessment of knowledge on decision-making in pursuit of climate adaptation and mitigation and sustainable land management, see for example Figure 7.7 and Table 7.6 on “Risks at various scales, levels of uncertainty and agreement in relation to trade-offs among SDGs and other goals.

The university is rightly proud of its contribution and values that our academics have been recognised through the **Queens Anniversary Prize.**

Importantly the university participates in international collaboration on gathering and measuring data for the SDGs. We have worked with UN Habitat (Global Land Tools Network /Global Land Indicator Initiative) over three assignments. The assignments involved NRI providing research and technical support to GLTN /GLII for developing conceptual and operational frameworks for global land monitoring indicators. We supported GLTN /GLII on 15 global land monitoring indicators as well as a specific SDG indicator 1.4.2 related to land tenure security. This was done consultatively working with the GLTN (Mr. Oumar Sylla, Unit Leader – Land and Global Land Tool Network, Everlyne Nairesiae, Coordinator Global Land Indicators Initiative (GLII); Robert Ndugwa, Head-Global Urban Observatory Unit, and Donatien Beguy, Human Settlement Officer in Research and Capacity Development Branch in

UN Habitat and its platform partners such as World Bank, Africa Centre for Statistics (UN Economic Commission for Africa), an expert group involving representatives from civil society, academia, private sector, international organisations (Landesa, Land Policy Initiative for Africa (LPI); European Environment Agency; International Land Coalition (ILC); Millennium Challenge Corporation (MCC), Oxfam, USAID, University of Calgary, Knowedge Ltd, Lantmateriet etc. As part of this work, we also consulted /surveyed national statistical offices in the 17 countries. Cool Towns is a co-operation between 13 European partners aimed to counteract the negative effects of climate change and find attractive solutions that make cities climate-proof and robust so that heat stress is prevented or limited as much as possible.

The university has also been involved with international collaboration and research and developing international best practice on tackling the SDGs. On the causes of inequality and policies to tackle inequality we completed a project in 2018 funded by INET on “The Causes of Falling Wage Share and Prospects for Growth with Equality in a Globalised Economy.” We shared the results at a large conference together with the TUC, OECD/TUAC and think tank Foundation of European Progressive Studies at University of Greenwich. Our research on the effect of inequality on growth, and the role of wages on demand was used by the UN/ILO in G20 meetings in particular in 2015 in its international policy guidance providing the economic case for increasing the labour income share through combined policy measures. It changed the understanding of national and international trade unions about the impact of wages and trade unions on growth and macroeconomic stability and provided a policy simulation on the effect of increasing the the labour income share and public investment to L20 to provide policy guidance to G20 in 2014. It provided input to the South Korean President’s new policy document ‘Economic Paradigm Shift’ in 2017, which outlines Korea’s general economic policy strategy. Onaran was invited to speak at the Korea Development Institute (KDI), 11 October 2017 and Karl Polanyi Institute Asia, 12 October 2017.

Estates and Facilities Directorate

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