Annual Sustainability Report

2019/20

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UNIVERSITY of GREENWICH

Contents

Highlights

14th in People and Planet's University League

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

Fairtrade University Accredited since 2012

15 student volunteers receiving training and gaining skills through Student Switch Off

123,590 kWh and 38 tonnes (both estimates) of carbon saved though student resident actions through Student Switch Off initiative

36,209 kWh of electricity generated from Avery Hill's solar panels

46% reduction of carbon emissions against 2009/10 Carbon Management Plan baseline of a 40% reduction target.

57% recycling rates (excluding construction wastes)

Supply chain emissions increased by 5,950 tonnes (scope 3 emissions)

ISO14001 (2015) Certified (Estates & Facilities Directorate)

Foreword from Professor Jane Harrington, Vice Chancellor.

I am delighted to be writing this foreword to our Fifth Annual Sustainability Report. At a time when we are starting to witness the clear damage to the environment that climate change is making due to our actions, it makes me proud to reflect on the work that is being done by the University of Greenwich and makes me determined to do even more.

With the help of our shared principles and values of inclusivity, collaboration and impact we know that we can do amazing things, as we have already done them in response to a global pandemic. I know that we will be able to adapt and to reimagine the way we do things.

The teams around the university continue to work hard to bring us closer to reaching our institutional goals. We are already actively encouraging and supporting sustainable development and principles of sustainable learning and teaching practice in curriculum development and delivery. We are also committed to address pollution, minimise harmful emissions, and increase the awareness and understanding of sustainable development. Our ISO14001 Certified Estates and Facilities Directorate is also leading the way by:

- achieving 46% reduction of carbon emissions against 2009/10 Carbon Management Plan baseline of a 40% reduction target
- generating 36,209 kWh of electricity from Avery Hill's solar panels
- saving around 123,590 kWh and 38 tonnes of carbon through a Student Switch Off initiative

Thanks to the hard work of all our staff, students, and partners, we continue to be recognised externally. For the 8th 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. We have also ranked in the top 101-200 universities in the global Times Higher Education Impact Rankings, ranking extremely highly in the areas of responsible production and consumption (24th).

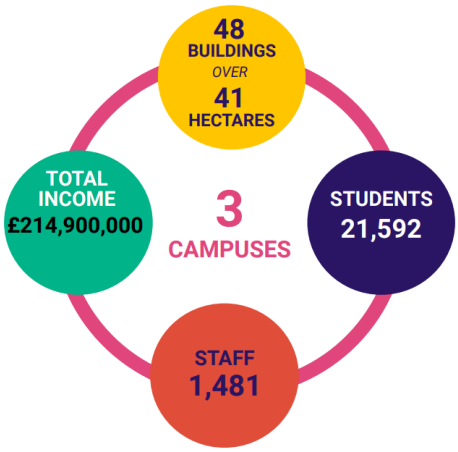
All of the above are just the key highlights of the progress made so far, with more work being done in the background and even much more work that still needs to be done. There are huge challenges ahead. But what makes the University of Greenwich so special is our ability to work together to solve the problems of our world. We know that we must do our bit and that we can make the world a safer place for the future generations.

Professor Jane Harrington,
Vice-Chancellor.

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 UN Sustainable Development Goals (SDGs) covering this reporting period through the THE Impact Rankings where we did particularly well in the SDGs: Responsible Consumption and Production (24th), Life on Land (66th) Reduced Inequalities (68th), Climate Action (75th) and Partnership for the Goals (77th) We submitted to 10 SDGs in 2019/20 and only one of the SDG's submitted fell into the 201-300 with the rest falling into the 101-200 grouping.



Impact of the Coronavirus Pandemic

The Coronavirus pandemic created significant and rapid changes in how the university operated and delivered its teaching, research and professional services. This has resulted in operational impacts and opportunities from March to July 2020 of this reporting year have created anomalies to our Estates Directorate reporting figures and a large proportion of change will be due to the pandemic rather than operational improvements.

Almost overnight the university switched from working predominantly on-campus to remote working although practical courses and certain site-based research work continued. Students and staff teams rapidly re-evaluated how to work effectively with an almost total move to remote working and learning. This has created challenges, not only in terms of delivering services, but also challenges for students and staff in terms of disruption to normal working ways and also isolation during lock downs.

With far less on-site activity there was a significant reduction in energy and water consumption, procurement (especially of office consumables and print) and a reduction in the amount of waste generated. Home working significantly reduced business travel and commuting of students and staff. A significant impact was the significant reduction of business flights.

It must be recognised that with home working and study that some of the environmental impacts of undertaking work will be transferred from the campus to the home.

In May 2021 Sodexo began delivering the Integrated Facilities Management contract, bringing additional staff resource to focus on how to deliver the contract with sustainability in mind.

Greenwich's 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.

The following report sets out our progress where relevant against targets. It also sets out how we are contributing to the SDGs especially through work delivered by our academic community.

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. Importantly it is chaired by one of the Deputy Vice Chancellors providing an important connection to improve strategic decision making that takes into account sustainability. To view a copy of the SMB structure visit: https://www.gre.ac.uk/sustain/strategy

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 2019/20 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 2019/20 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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Contributing to the SDGs

The university recognises the importance of delivering sustainability across its work, including teaching, research and operations. The contributions we make can be clearly indetified and reported against using the UN Sustainable Development Goals (SDGs).

These are 17 agreed goals covering social, environmnetal and economic sustainability objectives that are to be delivered in the developed and developing world. Our research particularly helps us with the latter.

To help us engage stakeholders and illustrate our contributions to the Goals this report sets out the SDGs our work delivers.

Each of the impact areas sets our how we are contributing to the SDGs with a more comprehensive section of this report stating how we are contributing to the goals particularly through our teaching and research.

Building on work we piloted in Medway campus in 2018-19 we have been working with staff to help them understand how they are contributing to the Goals. This has included the promotion of the SDG Teach In that encourages teaching staff to explore the SDGs. We have also been encouraging staff to consider the goals in their teaching through workshops that explore staff understaning of sustainability and using the Goals as a means that identifies conenections to staff work. Operationallly we have used the goals to promote our sustainability practices around the campus. As an example we used these to promote our second disposables free outlet at Medway when we launched this in the first term of 2019/20.

Our positioning in the Times Higher Impact Ranking further supported the importance of integrating and showcasing the Goals in our work. This certainly created further interest locally and strategically in persuance of sustainability and thus the SDGs.

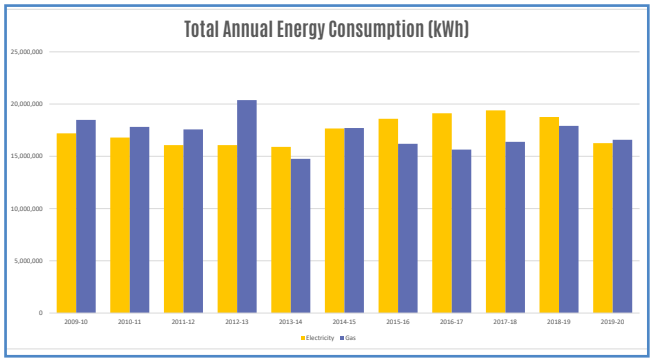
Energy

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 2019/20, we used 32.9 million kWh of energy, equivalent to meeting the annual energy needs of 2,189 homes. Energy consumption in 2019/20 fell by approximately 8% compared with 2018/19 reflecting reductions of electricity use though efficiencies but particularly impacted by the pandemic creating a reduction of approximately 5% and a reduction of 10% of gas use again affected by the shut-down of buildings on our campuses due to the pandemic.



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. In 2019/20 we have reduced non residential energy use by 0.6 mWh against the 27.9 mWh baseline figure (milestone target for 2019/20 is 25.5 mWh). The planned disposal of Mansion site was expected to have occurred within this target time-frame and has contributed to this milestone target not being met.

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

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

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.

Since the Carbon Management Plan 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.

In this year Phase 1 of refurbishment of the old Students' Union, the Cooper Building was completed. Now the home of Greenwich Research and Enterprise the building illustrated examples of innovative energy efficient investments. Intelligent Thorlux energy saving lighting systems were installed throughout providing data including data telling us individual luminary energy use, room occupancy and centralised control to help set power down and switch off settings.

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.

The implementation of the new Integrated Facilities Management contract in May 2020 has created opportunity to target and embed energy efficiency in across facilities management services. Additional staff resource and expertise available from elsewhere in the company has assisted with energy efficiency. The overarching contract includes more training and engagement of on the ground staff in addition to analytical support of energy use through the central expertise available though the contract deliverers, Sodexo.

Support includes technical input to improve the energy efficiency of processes and systems, plus engagement support to help UoG energy users.

As stated in the introduction the pandemic has reduced energy use, particularly electricity. It was impossible to close all buildings as teaching and research was ongoing in certain areas. The impact will mean that the year is unusual and does not provide an accurate trend for in terms of our energy efficiency progress. The 2020/21 figures will similarly be an outlier data set skewing electricity and gas use though changes of energy usage patterns.

Contributing to the SDGs

Carbon

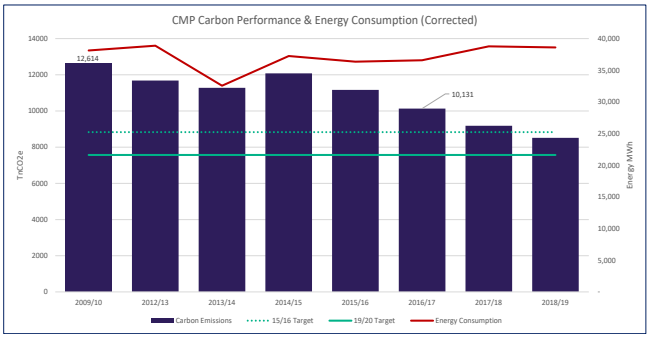
Target:

- **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 46% carbon reduction against our 2009/10 CMP baseline against a 40% target to be achieved by 2020.

The university calculates its carbon footprint in two ways: A location footprint which includes the

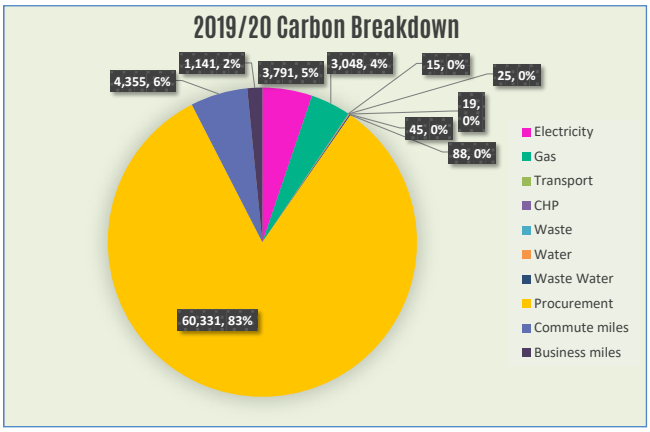


carbon footprint of our gas, university fleet and business emissions in addition to those emitted from the electricity used with a national electricity conversion factor applied. The other measure: market based includes the same as location based calculation but takes into account that as the university uses 100% carbon free electricity then this is means our true carbon footprint relates directly to our actual emissions.

Our location based footprint is: 8,468 tonnes and our market based footprint is 4,658 tonnes

The 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. Work on this will focus as it will be incorporated into

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



the forthcoming Net Zero Carbon Action plan in 2023. Travel is also significant particularly private transport (cars) for commuting and the use of business flights.

Excluding Scope 3 emissions are significant but are difficult to manage as these our outside of our direct control. We can better manage our Scope 1 emissions, by de-carbonising our heating and transport systems which will be considered in the Net Zero Carbon Action plan due out in 2022.

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). In the past five years our Avery Hill PV cells have generated over 190,000 kWh of electricity, enough to power nearly 51 average UK households for a year.
- The carbon footprint of our electricity is zero tonnes as it is 100% sourced from clean energy sources.

• SDG9

- More efficient boilers installed in Medway & Greenwich
- Increasing output from Medway refined used cooking oil powered CHP
- Carbon reducing research undertaken by UoG academics includes Carbon8

SDG13

- Continuing reduction of university carbon footprint
- Exceeding targets of Carbon Management Plan
- Research delivering lower carbon world in many faculties

Transport and Travel

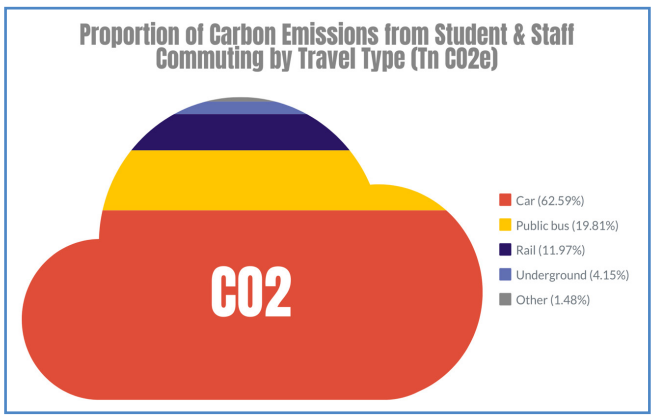
Target:

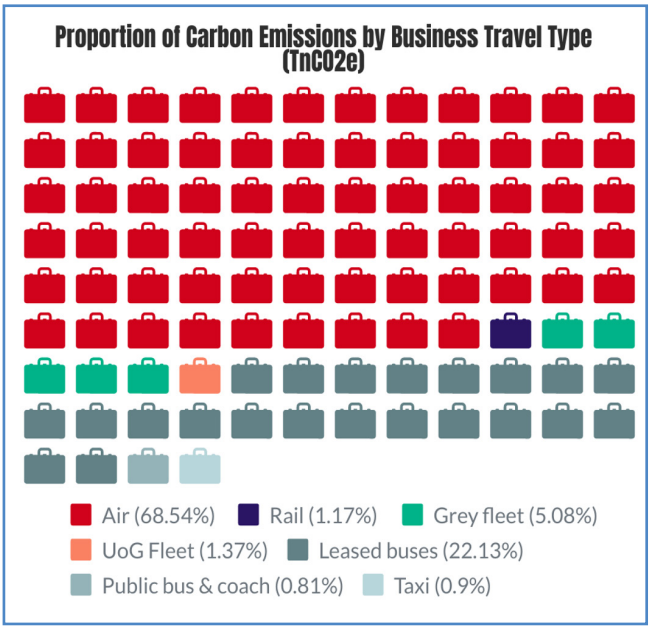
- **To achieve a 40% reduction in Scope 1 university vehicle fleet emissions by 2020 (2009/10 baseline) 10% reduction achieved by 2017/18**
- **To achieve a 20% reduction in Scope 3 work related travel emissions by 2020 (2012/13 baseline) 45% reduction achieved by 2017/18**
- **To achieve a 20% reduction 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 creates challenges for us as many students and staff travel between sites. A large commuter student community plus employees travelling into campus have transport needs that we seek to influence. The university can seek to improve travel needs and habits through changes in the services we provide and the advice and incentives we offer. The university's Travel and Transport team works to ensure this happens and has a focus to reduce carbon emissions within its service areas.

The Natural Resources Institute initiated its Carbon Working Group with a main aim to reduce the carbon footprint of its travel related emissions, particularly those relating to flights. This working group has been analysing flight usage and developing a methodology to help staff make decisions to ensure that any flight or journey taken takes carbon into account with the aim of significant reductions in emissions.





"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
- Investments in low emission and electric vehicles reducing health impacts of community.

• SDG11

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

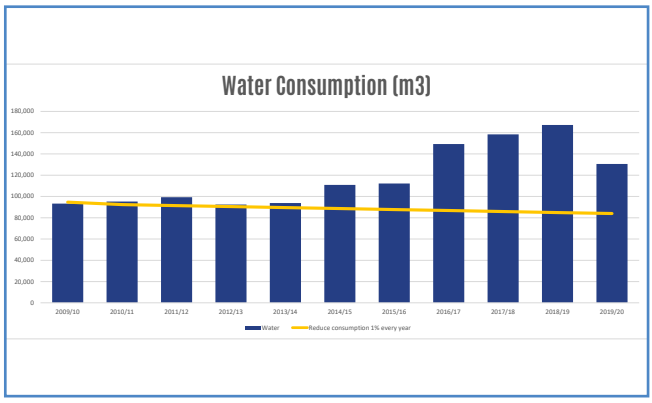
SDG13

- Reductions in UoG fleet carbon emissions (1/3rd of 2009/10 figures)
- Working with faculties to reduce business travel (including flights).

Water

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

Water can be taken for granted, however with increasing pressures on water supplies because of reduced rainfall and warmer temperatures due to climate change it is important that all organisations seek to reduce the pressures on water supplies.



The graph above illustrates that in 2019/20 our water consumption dropped dramatically. Covid related closures of buildings has had a significant impact, however, improvements have also been achieved as no large water leaks occurred and with monthly water meter reads any potential water leaks can be dealt with much sooner.

Achieving the target using the baseline year will be a challenge, especially where owe have grown the estate and increased student numbers. A continuing focus on water saving will continue. The disposal of Mansion site will provide a water reduction saving of up to 5% per annum, improvements to the estates infrastructure will also help with plans identified to install systems that can improve water efficiency in halls of residences.

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.

The launch of the Integrated Facilities Management contract provides opportunities to better manage water use by making efficiencies and also reducing leaks through the monthly water meter reads. Water use data now is reported and analysed with Sodexo and university staff to identify reasons for unusually high water use and to investigate reasons for this and to review water use following any efficiency interventions.

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. Plans for any redevelopment of the estate will investigate the potential for grey water, rainwater harvesting and also look to ensure sustainable drainage systems are designed in to reduce any surface water flooding that could occur downstream of the campuses

“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

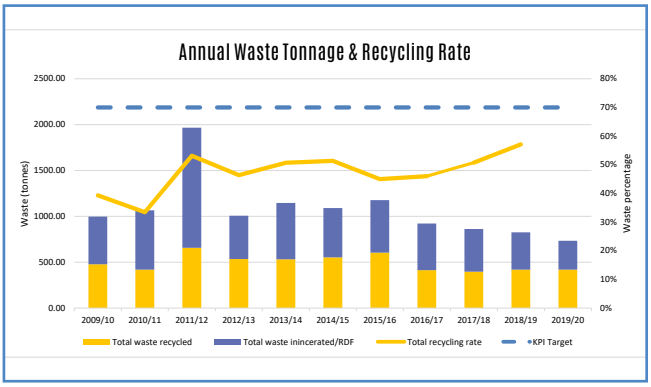
SDG14

- 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.

Consumption, Waste and Recycling

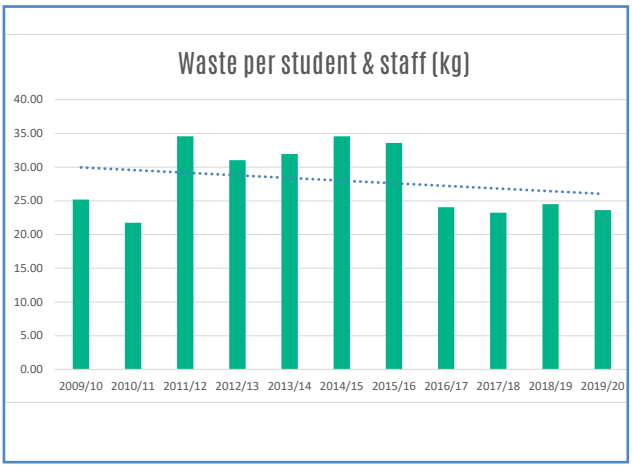
Target:

- **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 26% 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 reusable hot drinks containers and the surplus reuse platform Warp-It. Some of the reduction will have been the result of the closure of some of the campuses due to Covid between March and July 2020. The university has rolled out a new MFD printers and this is part of a digital first approach to avoid the use of printing wherever possible. This will ultimately reduce paper procurement and ultimately its disposal. The impact of Covid meant that the End of Term Reuse campaign did not run which can result in over 6 tonnes of materials reused rather than disposed of.

The graph also illustrates that our recycling rate has improved markedly to 57% up 6% on the previous year. Although this is a good figure evidence around the campus indicates that there are lower levels of recycling in our halls and often high levels of contamination on campus. The new IFM contract provides a more detailed level of waste and recycling information that will help us better breakdown waste generated from particular buildings including providing splits between residential and campus wastes. Importantly the new waste contract will provide us with the accurate weight of the bin per lift, rather than an estimated weight per bin.



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 seek to reduce unnecessary consumption through communications, procurement advice and the WarpIt furniture reuse scheme
- We have internal systems to reuse resources and work with the British Heart Foundation to take useful items to be sold in their shops

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.

Consumption, Waste and Recycling Initiatives

WARPIT

WarpIt was launched to help the university maximise the use of resources no longer needed in one part of the university and made available for reuse in another. Using an online platform, to create matches between what was on offer to what was needed the system helped generate savings of X in 2019/20. This included materials reused internally and also it created an easier way of creating donations of surplus items to external organisations including old peoples homes, and hospitals.

Although we don't have year by annualised figures for Warpit it has to 1st October 2021 achieved £74,000 in cost avoidance, 16 tonnes of waste being landfilled, 35 tonnes of carbon emissiosn (48 tree equivalents)savings includes X. The platform mostly helps rehome furniture and surplus stationary, it can also be used to enable better sharing of equipment that may otherwise be infrequently used.

David Jackson leading WarpIt has been working with individuals, departments and campus Facilities teams and Sodexo to ensure the project is maxising its potential.

Note if you have materials you want to make available to others or have items you need email sustainability@gre.ac.uk

Multi Functional Devices

Pre-pandemic university staff and student's printing use was relatively significant, At a cost of approximately £30K per year in paper alone the university can make significant printing reductions as recongised during the pandemic closures when much work was transfered from paper based to digital.

New printers were installed in January and February. These provide higher energy efficiency, lower print cost and better data and analytics to provide feedback to users about print use.

The initiative reviewed printer demand, rationalising our MFD stock especially in light of recent departmental moves. Personal printers were also reviewed and reduced as part of the replacement programme.

The university expects that significant reductions in printing will continue as staff and students return to campus, especially where they have not used printes when working from home. Increased and improved digitally led systems and processes and changes to how staff store data will mean a reduction of print too.

David Jackson: The opportunities for consumption reduction and reuse at Greenwich

Our recycling rate target is 70%, and to date we have only hit that figure twice, in the years between 2016 and 2018. Our recycling rate hit 64% this year and is an improvement on last year's figure of 51%, but we need to review our communications across the campuses to ensure segregation occurs as best practice. For internal reuse, offices and rooms are often in constant change, meaning that furniture items commonly come in and out of requirement. Avoiding immediate disposal and considering reuse offers a financially and environmentally benefit. By re-using items we are:

Saving money – by avoiding the procurement purchase of new items – to date we have avoided £74,000 of new items

- Reducing the amount of waste disposed of – to date we have saved 16 tonnes of waste
- Reducing carbon emissions – to date we have saved 35 tonnes of carbon emissions
- Becoming a more sustainable organisation.

For items that are no longer required by the University, but are of still good quality, we make contact with organisations to offer furniture donations. Over 300 items have been donated to schools, care homes, charities and NHS Trusts; avoiding £17,000 of furniture expenditure, 3 tonnes of waste and 9 tonnes of carbon emissions.

Everyone has a responsibility, with our 'End of Term Reuse' campaign directed towards students moving out of halls in June to donate unwanted items to charity. Students donate 3 tonnes on average every year and 30 tonnes of carbon emissions. Our partner charity for the past few years has been with the British Heart Foundation. Discussions with local food banks are underway for left food items, in addition to holding Christmas donation events. Our Bargain Corner shop

David Jackson, Sustainability Projects Officer, Sustainable Development Unit.

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

Sustainable Food

Target:
- **Fairtrade Foundation University**
- **Food for Life Gold**
- **Marine Stewardship Council Award for sustainable fish**

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. We have held Fairtrade University status from 2012 to May 2020 and are now in a 'working towards' status for Fairtrade Foundation University award as part of the new audit and award scheme that will be assessed in 2022. 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, in 2019/20 we opened our second at Pilkington Cafe in Medway. Alongside this work we initiated a plan to develop a completely disposable food and drink container initiative at Pilkington cafe. This as stalled with the pandemic and will be picked up again when students and staff return to campus in sufficient numbers.

The university working with its caterers and customers has been increasingly considering the sustainability of meals. This has resulted in vegan hot meals becoming available in all outlets every day of the week. This is meeting the changing expectations of customers providing healthier options that have a lower environmental impact.

The university and partners have also been actively engaging staff and students to highlight issues of sustainability importance. Our annual Ethical Food and Fairtrade Fortnight is an example of this that has provided on-site and online events, activities and information sharing.

https://blogs.gre.ac.uk/greengreenwich/ethical-food-fairtrade-fortnight-highlights/

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 estates offer a variety of biodiverse and valuable natural spaces. Greenwich lies between the River Thames and Greenwich Park and at Stockwell Street our academics have created an incredibly diverse space used for research and valued by wildlife. Medway campus has a rich area of woodland, some of which the university is interested in making wider ecosystem improvements. At Avery Hill we have large green spaces which are actively managed to support the many species that live or pass through our campus.

At Avery Hill here 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 vegetables 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.

In 2019/20 the Estates Team in collaboration with end users worked on projects across the university and particularly on the old Students' Union the Cooper Building and also on the first phase of redevelopment of the Southwood site.

The Grade 2 listed Cooper Building was redesigned to meet the needs of our research and innovation focused work and them new home of Greenwich Research and Enterprise. The buildings was updates to maximise the utility of space though better design of workspaces and improvements to energy efficiency such as the installation of Thorlux lighting system which has advanced data capture and energy management that ensures efficient energy use balanced with user needs. Further to this biophilic design elements were integrated with the use of natural finishes, a living wall and the full utility of natural light. The use of sustainable carpet tiles was also a requirement to ensure the sustainability of the site was maximised where possible.

The planned closure of the Mansion site meant that any remaining teaching, office, library and other uses could be transferred to Greenwich and the Southwood campus. A re-evaluation of existing spaces at Avery Hill was undertaken to maximise utility. As some specialist spaces were still needed including library and chemistry labs and additional lecture space the university made a decision that delivered core sustainability outcomes. Existing modular buildings were utilised, one reused and transported from Mansion, the other a temporary two story building was transported from Greenwich to Southwood Site. A new modular library was designed and transported to site and installed over the period of a week or so. Thus building provided a useful linkage between Fry and Grey buildings and provides a library, academic and office space.

Such modular builds mean that they fulfil sustainability aspirations. These are built off-site, often using sustainable and reusable and ultimately recyclable materials that usually have high thermal efficiency. At their end of use they can be simply unbolted and moved to another location to be reused fulfilling a circular economy goal.

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

Construction and Refurbishment

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.

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 buildings 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 estates 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 targeted 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). This faculty also actively promotes and uses Sulitest as a means of encouraging and supporting the sustainability literacy of students. Our Faculty of Health and Human Sciences directly supports SDG 4 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).

For example, Dr Louise Hewitt runs the **Innocence Project London** where academics and students work with lawyers to re-examine cases where it is considered there has been a miscarriage of justice. This project was recognised by Green Gown judges and was a finalist in the Green Gown Awards in 2020.

Our Faculty of Business provides sustainability

Contributing to the SDGs

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 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. 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.

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

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 provides 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 2019/20 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 working 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.

The above work is underpinned and supported nu the **Institute for Lifecourse Development**. This is anchor resource where professionals from many different fields work closely together with researchers and stakeholders from public, charitable and voluntary organisations. Together we are developing effective and economically sustainable lifecourse solutions and tackle some of the most significant challenges society faces. An example of this includes how the ILS is partnering with the **Australian Child Maltreatment Study.**

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 Students' Unions of the University both offer free sexual health advice to students through their advice services. Greenwich Students' Union has online resources signposting students to local services, as well as having information on how to access free chlamydia tests and morning after pill via our receptions at Greenwich and Avery Hill. Students can also access free condoms and period products at those receptions also. In Medway, Greenwich&Kent Students' Union have free condoms and period products available from their reception, and chlamydia testing kits available in all the toilets. The university's **Wellbeing Hub** has information on the university's employee assistance programme, and the **Access to Work Mental Health Support Service** is delivered by Remploy on behalf of Access to Work across England, Scotland and Wales.

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.

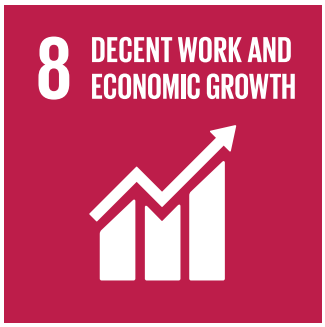
The university has processes and systems in place to help ensure we manage the water we use. Our Environmental Management System provides our framework to make improvements and we have a water reduction target of 1% per year. The university does not irrigate its lawns and only irrigates certain landscape 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 100% 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. Work to recruit students from under-represented groups is fundamental to our to outreach and access delivery. We work closely with schools and colleges that have high proportions of students from areas of low higher education participation, BAME students, students with disability and children in care.

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 quantity 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. All policies can be found **here**.

We have a recycling rate of approximately 57% 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 and the reuse of modular buildings at Greenwich and Mansion site saved on the materials and embedded energy of the existing structures. The new library in Phase 1 of the Southwood site redevelopment is reusable and can relatively simply be deconstructed and moved to be rebuilt at a new location. The new modular built library constructed off site in a factory, reducing material wastage. These modular buildings eliminate waste and maximising the flexibility and life of the buildings.

An example of the research we undertake in this area includes how Greenwich leads on the **African Postharvest Losses Information System** (APHLIS) initiative. This was developed in response to demands for more accurate understanding of the quantity of staple cereals being lost at the different stages of the value chain in each sub-Saharan African country and in each province within them. This builds on what relevant data already exists in the scientific literature, and adds to it through careful tracking and measurement of what amounts of food are being lost to different causes, at each postharvest stage in typical food systems. This enables policy and investment decision-makers to better target their loss reduction interventions geographically, by value chain stage, and by crop.

The university has made great strides in reducing its carbon footprint. It met its HEFCE carbon target two years ahead of time and we exceeded our 2020 Carbon Management Plan target. As highlighted in SDG 7 we procure zero 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).

We offer modules at both undergraduate and postgraduate level that relate to climate change. An example being Sustainable Futures looks at the economic, science and social aspects of working towards sustainability and considers communication and behaviour change necessary. Staff are also developing an undergraduate Climate Change Degree planned for launch in September 2021.

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 clear 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. We publish our **Annual Financial Statement** 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 Williams 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 IPCC 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, Knowledge 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 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. Ozlem Onaran was invited to speak at the Korea Development Institute (KDI), 11 October 2017 and Karl Polanyi Institute Asia, 12 October 2017.

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