

Global Reading, Global Goals

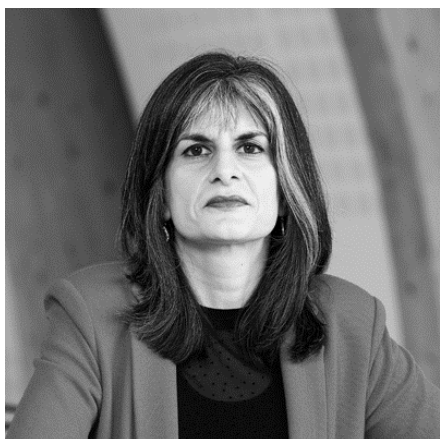
The University of Reading and the SDGs

Update Report 2022

SUSTAINABLE DEVELOPMENT GOALS



PREFACE



This report highlights our diverse contributions across all our research, teaching, engagement and operations to advance progress on all 17 United Nations Sustainable Development Goals. As a thriving academic community, we are committed to driving positive change.

At all levels, the University of Reading is committed to advancing the SDGs through our world-class research, teaching, operations and public engagement.

With 23,000 students across campuses in three continents, and 16 academic schools, we pride ourselves on responding to global challenges. Our research excels with themes for environment, agriculture food and health, heritage and creativity, and prosperity and resilience. Our internationally renowned experts help to shape policy worldwide.

Underpinning our strategy are the principles of community, excellence, sustainability, and engagement. We collaborate across sectors to maximise our impact: on people, prosperity, planet, peace and partnerships. Our academics rapidly respond to government requests on global issues, accelerating progress on urgent SDG challenges such as poverty, inequality and environmental degradation.

Our response to the coronavirus pandemic over the past year has been a case in point: while our whole community and work has itself been affected by the pandemic, the University of Reading has mobilised its significant resources, expertise and connections to help fill the gaps that have emerged in science, society and policy, at all levels.

As a leading UK and regional university, we are transforming lives through academic and personal excellence. We are listening to our communities, working with experts and people with lived experience to bring societal and educational improvements.

Professor Parveen Yaqoob

Deputy Vice-Chancellor, University of Reading

March 2022

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SDG 1: End Poverty In All Its Forms Everywhere

2322

STUDENTS RECEIVED
FINANCIAL SUPPORT
FROM THE UNIVERSITY
TO ATTEND COURSES
IN 2020

RESEARCH

Supporting better livelihoods

At the University of Reading, our academics are working at local, national and international levels to alleviate poverty. Our Institute of Education's '[Marvellous Mums](#)' initiative, supports local women to build confidence and acquire tools to understand their own skill set, allowing them to meet their potential through new business ventures and returning to the workplace.



Through the [Zero-Budget Natural Farming initiative](#), our academics are working with government and local partners in Andhra Pradesh, India, to enhance livelihood resilience of smallholder farmers to climate and land-use change, while increasing their income and improving food security, and soil fertility.

OUTREACH

Community participation

We have longstanding relationships with Reading Borough Council and provide research support and guidance to their social exclusion and health and well-being policy groups via the [Whitley Researchers and Whitley4Real initiatives](#), to improve local participation in decision-making and work on social exclusion.



Socially responsible innovation

Through our Aspect Angels initiative at Henley Business School, we support more socially responsible innovation by facilitating investment in ventures that are driven by the highest-quality research into human behaviour and our relationship with the environment.

TEACHING AND LEARNING

Real jobs

Typography students at Reading support local social enterprises to raise profile and reputation in their final year design project and [via Real Jobs](#). Examples include developing a new logo for a [local community kitchen](#) and rebranding for [Reading Welfare Rights charity](#).



MBAid

[Henley Business School](#)

[Africa's MBAid](#) initiative has provided tens of thousands of hours of free consulting time over the last decade to non-profit organisations via thousands of Henley Business School Africa students. It also includes a Henley Alumni Pay-It-Forward Fund

which assists African students who have completed their course work or dissertations but cannot afford to pay their final fees to graduate.

STEWARDSHIP/OPERATIONS

Access and Participation

As a University we are committed to social mobility and have developed an [Access and Participation plan](#) to support students from low-income families to attend the University. We have set targets for student attainment and to monitor student progression, which are published by the [Office for Students](#) and are proud to say in 2020, we met our targets for students starting at Reading who live in areas with traditionally the lowest level of HE participation.





SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

RESEARCH

Changing farming practices

Improving crop yields and producing healthier food, while reducing environmental impacts underpins [agricultural research at the University of Reading](#). Biodiversity researchers from the University are worked closely with a Research Foundation and 64 smallholder farmers in Tamil Nadu, India to co-design and test solutions to show that planting insect-friendly flowers in orchards increases pollination and pest regulation in crops, [thereby improving yields and reducing agrochemical use](#). Forty additional farmers are already following suit.



Reading research has also shown that by [changing the diets of dairy cows to include more rape seed and less saturated fat](#), animals emit 18 to 20% less methane and produce milk with up to 36% lower saturated fat content, leading to changes in UK and EU farming practices.

OUTREACH

Farm Business Survey

Academics at the University are helping to shape agricultural policy as part of a consortium of university research centres, led by University of Nottingham that carries out [the Farm Business Survey across England](#), collecting rural business research data that can be used by government, policymakers and farmers to help with decision-making.

Diverse forages

Our [Centre for Dairy Research is a LEAF Innovation centre](#) and works with farmers, the food industry, scientists and consumers, to inspire and enable sustainable farming through research, innovation, knowledge exchange and education programmes.

The [Diverse Forages project, in collaboration with Cotswold Seeds](#), demonstrated that diverse, multi-species pastures without fertiliser (herbal leys) performed as well and sometimes better than nitrogen fertilized ryegrass and cattle grazing on the herbal leys grew at the same rate as when fed on nitrogen fertilized sward. The herbal leys also gave resilience to extreme weather and protected biodiversity.

TEACHING AND LEARNING

Access to food security knowledge

The University is a partner in the multi-million pound [AgriFood Training Partnership](#) which offers courses and workshops in all areas of agricultural production, environmental protection, food manufacture, scientific research and development and associated business and transferable skills.

334

STUDENTS GRADUATED
IN AGRICULTURE,
WHICH HAS A STRONG
SUSTAINABILITY FOCUS

STEWARDSHIP/OPERATIONS

Menus of Change

As part of the [University's sustainable foods framework](#), we are a member of the Menus of Change academic-food operator framework, developed by the Harvard TH Chan School of Public Health and the Culinary Institute of America. We carry out operational and academic research to inform and advance the Menus of Change Principles, [transforming how our food is produced and how our catering services operate](#).



SDG 3: Ensure healthy lives and promote well-being for all at all ages

839

STUDENTS (9%)
GRADUATED FROM
COURSES THAT
WILL TAKE THEM
INTO THE HEALTH
PROFESSIONS

RESEARCH

Better health for all

Our health-related research ranges from [BHF-funded work into blood clotting](#) that is helping the development of personalised stroke and heart disease medicines, to creating a new family of [biomaterials for use in medical devices](#) through a Knowledge Exchange Partnership between the University and BioInteractions Ltd. Our academics also work internationally, including Dr Sakthi Vaiyapuri who is helping people in India and beyond, through an awareness-raising campaign – [Rapid Action Saves Lives](#) – to avoid venomous snake bites which cause 150,000 deaths each year.

OUTREACH

Supporting patient health through specialist clinics

The University maintains strong links with the [Royal Berkshire Hospital NHS Trust](#) and also runs its own well-established clinics across [mental health](#), speech and language therapy, [neuroscience](#), psychology and [autism](#). These directly benefit patients and raise the profile of our high-quality health-related research across Berkshire.



Our award-winning Charlie Waller Institute is the NHS provider of choice for [training for mental health professionals in evidence-based psychological treatments](#).

TEACHING AND LEARNING

Supporting GPs during the pandemic

Through a partnership with a University of Reading spin-out company, Red Whale, we supported hundreds of GPs during the pandemic with free online continuing professional development and education to provide critical clinical updates and resources on COVID.

HealthReach

HealthReach is a mobile learning programme launched by the University in 2018 to support access to health and life science careers and courses. Staff and students from the University team run sessions, online, in schools and on campus using interactive and experimental healthcare simulations and education sessions to inspire young people to consider healthcare careers. More than 8000 children and young people participated across almost 280 sessions prior to lockdown in March 2020.

STEWARDSHIP/OPERATIONS

Staff health and wellbeing

The University of Reading is [committed to employee health and wellbeing](#). We aim to provide a workplace that embraces inclusivity and flexibility and provides everyone with the opportunity to manage their time and commitments in the best way that they can. Staff also have access to mental health support and counselling through our free, independent [Employee Assistance Programme \(EAP\)](#).

Stay Active

For over-55s in the local community, our SportsPark provides [Stay Active classes](#), including Zumba, badminton and fitness. In addition, the Reading University Students Union works with the local Sports in Mind charity to run active walking groups on campus.





SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

RESEARCH

Teaching literacy: As easy as ABC?

By helping teachers to [understand how different children learn to read](#), researchers at the University of Reading are equipping them to better meet the needs of their pupils – including those whose home language is not English. Using a combination of long-term studies and novel research methods such as eye-tracking to reveal more about how children learn to read and spell, they have highlighted the importance of tailoring classroom activities to the needs of different learners.

Improving equity and inclusion through education

Reading's education specialists are also helping to [improve equity and inclusion through education](#) by exploring areas such as education and social mobility, outdoor learning, SEN inclusion and social justice and ethnicity and gender in educational engagement.

“Through our engagement with teaching practitioners in the UK and beyond, we are filling gaps in education policy and practice that will significantly improve the life-chances of thousands of children”

OUTREACH

Life-long learning

In partnership with the FutureLearn platform, the University supports life-long learning by providing a range of [free online short courses](#), from exploring ancient Rome through virtual 3D models, to understanding depression, microbes or the weather. This enables us to reach learners from diverse backgrounds and all ages around the world and share the important work we are doing to help tackle some of the major issues we face today.

For younger learners, we offer [a range of activities for under-16s](#) that support widening participation in higher education and are delivered through school visits and on campus, including school conferences and assemblies.



TEACHING AND LEARNING

Teaching the next generation of educators

The University's Institute of Education provides training for a new generation of teachers, offering [PGCE, QTS and EYTS qualifications](#) in early years, primary and secondary teaching. Each year, 180 students graduate from our teaching courses which partner with over 400 schools in Berkshire and surrounding area.



Our teaching specialists have also teamed up with the Royal Berkshire Hospital (RBH) to create a [unique Healthcare Education programme](#) for all staff who teach doctors, nurses, allied health professionals and pharmacists. By strengthening teamwork and mutual understanding as well as improving teaching skills at the hospital, the collaboration is driving improvements in patient care and patient safety.

180

STUDENTS GRADUATED
WITH A QUALIFICATION
TO TEACH IN
PRIMARY SCHOOLS

STEWARDSHIP/OPERATIONS

Supporting equal access to higher education

The University is striving to ensure the widest possible access to its high-quality courses. [Its access and participation plan](#) ensures targets for recruitment, continuation, outcomes and progression for students from different ethnic and socio-economic groups are monitored. In 2020, there was no significant difference in the number of students from different demographic groups progressing to highly skilled jobs and further study.



SDG 5: Achieve gender equality and empower all women and girls

RESEARCH

Gender equality in peacekeeping and policing

Academics at Reading are exploring how to support equality in peacekeeping forces and policing. Dr Georgina Holmes, a Leverhulme Early Career Researcher in the Department of Politics and International Relations, has been exploring how [diversity and equality initiatives are implemented](#) by Ghana Armed Forces, Rwanda Defence Force and the British Army.

Another project led by Professor of Psychology Netta Weinstein, has gathered data from police forces [to discover what motivates officers to change their views](#) on diversity and inclusion. Professor Weinstein worked with Hampshire and Isle of Wight Constabulary to develop the first evidence-based police training programme on inclusion and her evidence informed the first UK policing national wellbeing report.

OUTREACH

Staff networks

The University is committed to gender equality, providing support for all colleagues, such as job share arrangements, mentoring

and development schemes for students and staff, and a nursery on campus. It supports a several staff networks including [women@reading](#) and a women's Springboard network that to support female colleagues.



TEACHING AND LEARNING

Exploring the educational experiences of LGBTQ+ students

Academics at Reading worked with six secondary schools in the south of England to [understand the lived experiences of LGBTQ+ students aged 11 to 18](#). They found this group of students are more likely to suffer victimisation from their peers, are at significantly greater risk of mental health problems and are more likely to achieve low academic outcomes from their education.

Women in leadership scholarship

To support women in leadership, our Henley Business School runs a [scholarship competition](#) each year to offer practical support for the development of strong female talent. The competition is open to people of all genders and the winner receives a fully-funded place on Henley Business School's part-time Executive MBA programme.

STEWARDSHIP/OPERATIONS

Equal opportunities

The University has had a Dean of Diversity and Inclusion since 2015, supported by a dedicated staff team. We have a [Gender Equality plan](#) in place and, in 2020, [our most senior committees, including senior Council and Senate had 50:50 representation](#). We have increased job-sharing at all levels, reduced the Grade-9 gender pay gap, and seen an increase in the number of female professors.

Athena SWAN

[In 2020 we achieved an institutional Silver Athena SWAN Award](#) in recognition of our work on gender equality. Our Schools of Mathematical, Physical and Computational Sciences (SMPCS), Archaeology, Geography and Environmental Science (SAGES), Built Environment (SBE), and Chemistry, Food and Pharmacy (SCFP) all hold Silver departmental awards and our Schools of Biological Sciences (SBS), Agriculture, Policy and Development (SAPD), and Psychology and Clinical Language Sciences (SPCLS) hold Bronze Awards.



SDG 6: Ensure availability and sustainable management of water and sanitation for all

RESEARCH

Flood risk reduction

Research at Reading has [informed UK policy to reduce flood risk and supported humanitarian efforts in response to flooding](#) worldwide. It is also helping to find ways to [simultaneously reduce flood risk and deliver benefits such as improved biodiversity](#) using nature-based solutions such as targeted tree planting, soil and land management and hedgerow retention.

In the Loddon river catchment, Reading researchers are working with South East Water and Hampshire and Isle of Wight Wildlife Trust to measure [the impacts of groundwater abstraction and land management on the hydrology, geochemistry and biodiversity](#), using sensors to record river flow, rain and groundwater levels in the chalk and improve conservation.

Water security

Further afield, a team from Reading's [Walker Institute](#) is helping to improve the security of water supplies in Africa, through the [BRAVE ground water project](#). BRAVE uses state-of-the-art climate, land surface and groundwater models to improve understanding of how underground aquifers in sub-Saharan Africa could be better managed in our changing climate.



A team from the Walker Institute is also collaborating to integrate hydro-climate science into policy decisions for climate-resilient Infrastructure and livelihoods in East Africa ([Hy-CRISTAL](#)) as part of the [Future Climate for Africa \(FCFA\) programme](#).

OUTREACH

Doing UoRBit

The University is encouraging staff and students to reduce water usage through its Doing UoRbit initiative. [Doing UoRBit](#) is an online platform rewarding staff and students with points and prizes for taking steps that boost sustainability and well-being. The initiative was established in 2020 as part of the [Sustainability Team's communication plan](#).

273,618m³

WATER USED

5th lowest per head of any research-intensive university (HESA data)

TEACHING AND LEARNING

Student volunteering to support WaterAid

Many students at Reading undertake volunteer projects while studying for a degree. [Jack Abrey, a first-year Geography student travelled to Madagascar with international charity WaterAid](#) and the Scouts to help improve access to clean water and safe toilets across the country.

STEWARDSHIP/OPERATIONS

Water Management Plan

The University has a [water management plan](#) which it updates regularly. It promotes free drinking water for all staff, students and visitors, and has [more than 30 drinking stations across its Whiteknights campus](#).





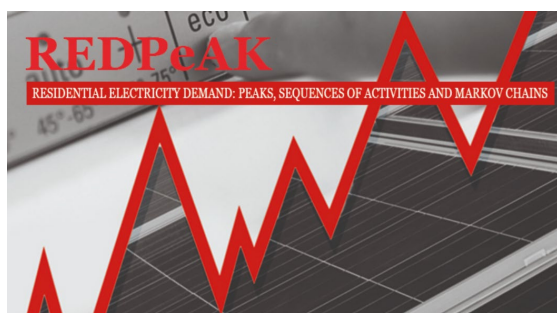
SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all

RESEARCH

Smarter energy supply and demand

Researchers in Reading's Technologies for Sustainable Built Environments Centre (TSBE) are helping the UK move towards net zero carbon by [designing ways to improve the affordability and accessibility for consumers of electricity](#) from renewable sources. They have designed a flexible tariff on the 'demand side' ([REDPEAK](#)), to reward consumers for changing how and when they use electricity.

Rapid shifts in electricity supply are a major issue for distribution network operators (DNOs) world-wide. A team at Reading is working with industry partners using [smart IoT sensors](#) with existing infrastructure, to improve monitoring, analytics and optimisation of electricity supply.



TEACHING AND LEARNING

Sustainable technologies teaching and learning

The University has a range of undergraduate and postgraduate modules that focus on sustainable environments and energy use. For example its [MSc Renewable Energy: Technology and Sustainability in the School of Construction Management](#) includes a module on sustainable heat and power that gives students the opportunity to learn from academics and industry experts about the challenges of designing sustainable technologies.

"I particularly enjoyed the Sustainable Heat and Power module. It gave a solid grounding in the technical and engineering aspects of renewables (solar, wind, hydro and bioenergy). We were assessed as if we were energy consultants pitching ideas to developers."

OUTREACH

Changing behaviours

To encourage students, staff and the wider public to think about how they might change their behaviour to live more sustainably, the University launched a campaign called '[Partnering for the planet](#)' in 2020, which included suggestions from Reading academics on what people might do to reduce their carbon footprint and a free [online course for 16 to 18 year olds](#).

Thames Valley Live Lab

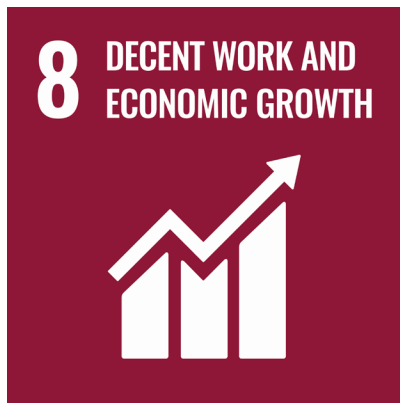
[The Thames Valley Live Lab](#) was established in 2019 and is a collaboration between the University of Reading (School of the Built Environment), energy software specialists Smarter Grid Solutions, technology giants O2 and Siemens, engineering consultancy Stantec, and the six local authorities across Berkshire. It is helping towns across Berkshire reduce carbon dioxide (CO₂) emissions and improve air quality through a mix of energy management and traffic management initiatives.



STEWARDSHIP/OPERATIONS

Sustainable investments

The University of Reading [fully divested from fossil fuel companies in 2020](#) after appointing a new fund manager for its £100 million investment portfolio. It has an ambitious [carbon management plan](#) and continues to expand its solar PV generation capacity to generate 1MW of electricity, significantly reducing its reliance on the Grid.



SDG 8: Full and productive employment and decent work for all

RESEARCH

Four-Day Week

A white paper informed by research at the University's Henley Business School is changing the way organisations and their employees work. The [report 'The four-day week: The pandemic and the evolution of flexible working'](#), is based on surveys of 500 businesses and 2000 employees and explores the benefits of working fewer days to both organisations and workers.



TEACHING AND LEARNING

Campus jobs

[Campus Jobs](#) was established in 2017 and is the University of Reading's dedicated service that provides part-time work opportunities for students across the Reading campuses, helping hundreds of students to supplement their income during their studies.

Apprenticeships

Henley Business School is one of the top providers in the UK for Senior Leader Apprenticeships and is supporting more than 200 businesses to drive growth and develop future leaders through its [apprenticeship schemes](#).

OUTREACH

Reading 2050

Since 2013, academics from the University have worked in partnership with local employers and town planners to develop a vision for a sustainable future for Reading. To engage local communities with the process of developing the vision, a series of public lectures was held. The [Reading 2050 vision](#) underpins work by the Government Office for Science's Future of Cities Foresight Programme and directly supports Reading Borough Council's statutory Local Plan and Corporate Plan.

STEWARDSHIP/OPERATIONS

Fair work for fair pay

The University sets out clear policies [on inclusion and diversity](#) in the workplace, fair pay and equal rights to ensure all staff have fair and equitable working conditions. The University reports annually on its Gender Pay gap. And in its [2020 Gender Pay Gap Report](#), presents data on progress to eliminate gender inequality in pay over 5 years.



SDG 9: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

RESEARCH

Decarbonising commercial transport

Decarbonising the transport sector, including road, rail and shipping, has a key role to play in achieving net zero greenhouse gas emissions. Currently there is no single economically viable solution for heavy duty trucks. Researchers at Reading are modelling [how electrolyser derived hydrogen, electric charging and localised energy might help tackle the issues](#).

Heating on demand

In the UK, heating and hot water for buildings make up 40% of energy use and 20% of greenhouse gas emissions. In partnership with the University of Nottingham and others, a Reading team is looking at ways to reduce energy consumption [using an innovative phase change material \(PCM\) called the Versatile PCM energy storage system](#).

TEACHING AND LEARNING

Urban energy rhythms

The University's [School of the Built Environment](#) is internationally renowned for its research and education in the design, construction and operation of buildings and places. A postgraduate student is exploring statistical models and simulations to understand patterns of energy user requirements ([urban energy rhythms](#)) and how they can help to assess opportunities for smarter infrastructure design for energy delivery.

Better forecasting for energy use

The risks posed by climate variability and change for power system operations are an increasing concern for many industries. Through its [SCENARIO postgraduate training partnership, funded by the NERC](#), postgraduate students at the University of Reading are [pioneering the use of decadal forecasting for energy system applications](#) and finding ways for it to be applied in industrial settings.

OUTREACH

Designing acceptable clean air policies

A collaborative outreach project including University of Reading, Imperial College, London and other universities, is surveying people living in polluted areas to find out how they might react to new clean air policies. The team is also [designing a tool to monitor how much air pollution people are exposed to as they move around cities](#). Data collected using the tool – A-PEX – will inform the implementation of the UK Government's Clean Air Strategy.

Understanding the cultural value of local assets

Researchers from the University involved in the [Mapping Eco Social Assets project](#), spoke to people in the Orts Road and Newtown areas of Reading, asking them what they valued most locally. The project aimed to gather and record social and environmental values in an accessible way, to inform the future development of the area.

STEWARDSHIP/OPERATIONS

In 2016, The University set a bold new target to reduce its carbon footprint to 45% by July 2021, based on its baseline 2008/09 emissions. Thanks to new and existing initiatives, [such as extending our district heating system and expanding use of solar panels](#), by the end of January 2020, our carbon footprint dropped to 44% below baseline, bringing us close to our new target much earlier than expected.

“The University has established a reputation for delivering on its ambitious sustainability targets, and we are close to meeting our 5-year target 18 months early. We recognise the urgency for more radical carbon emission cuts and are now setting our minds to how we can achieve net zero carbon emissions by 2030.”





SDG 10: Reduce inequality within and among countries

RESEARCH

Participatory research initiatives

The University's Participation Lab focusses on the co-production of knowledge with local partners. Its members share learnings about participatory and community-led research methods, action-oriented research approaches and public engagement to enable people's voices to be heard and to achieve change. Its long-standing partnership with the Whitley Community Development Association, is giving disadvantaged people in Reading a voice in devising solutions to local issues. The Whitley Researchers conduct trusted research and generate knowledge that feeds into council decision-making and policy developments.



"The work carried out by the Whitley Researchers and the Young Whitley Researchers has resulted in one of the most detailed studies of the south Reading community ever produced ... I believe this impressive body of work will provide a firm foundation on which to build and enable the aspirations of young people, parents and the community of Whitley to become reality."

TEACHING AND LEARNING

Undergraduate research opportunities

Students undertaking paid internships through the University's [Undergraduate Research Opportunities Programme](#) (UROP) have been working with local community researchers to support [participatory research projects](#) while developing interpersonal and research skills.

OUTREACH

Reading Scholars

To encourage wider participation in higher education, [the University's Reading Scholars programme](#) gives Year 12 students a real taste of life as an undergraduate, and provides practical support as participants begin their higher education application process. The programme is targeted at students who may find it difficult to access higher education (e.g. young people from low-income areas or care-leavers). It is delivered by academics and undergraduate mentors to help students develop study skills, self-confidence and a better understanding of university life and its opportunities.

27%

OF STUDENTS STARTING
AT READING ARE THE
FIRST GENERATION OF
THEIR FAMILY TO
ATTEND UNIVERSITY

University of Sanctuary

In 2020, the University established a working group to develop its bid to become a [University of Sanctuary](#). It is working closely in partnership with staff, Reading University Student Union (RUSU) and Student Action on Refugees (STaR) to achieve this aim.

Business training for local women in Jordan

An archaeologist from Reading is working with partners in Jordan to [develop a new business that is owned and managed by local Bedouin women](#) to generate income for their community. The business in Faynan, southern Jordan, will make and sell handicraft products based on archaeological finds, helping to alleviate poverty, locally.

STEWARDSHIP/OPERATIONS

Report and support

The University has [equality, diversity and inclusion](#) and [anti-harassment policies](#) in place to ensure staff and students are treated fairly and without prejudice, at all times. It has developed an online tool – [Report and Support](#) – where staff, students and visitors can report issues and receive timely and effective support when required.



SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

RESEARCH

Town planning

Reading research in Real Estate and Planning has led to [important changes in planning policy and practice](#), preventing housing developers from 'gaming the system' to increase their own profits at the expense of local communities. In other work, a team has collaborated with local people to influence [neighbourhood planning policy and informing best practice](#).

Cleaner air and electricity for rural communities in India

A team of chemists from Reading is investigating how cookers commonly used in rural India, called chulhas, [can be made safer and more efficient using thermoelectric devices to convert excess heat into electricity](#). The electricity generated is used to power external fans, making the stoves cleaner, safer and more efficient.

TEACHING AND LEARNING

Community Story Telling

Architecture students working with residents of Reading's Oxford Road, are exploring people's stories of local life, to amplify local heritage and highlight its rich multicultural history. Individuals' stories have been exhibited in shop windows and expressed through performance art events, [promoting a sense of place and identity, mutual respect, understanding and cohesion in the area](#).



Folk and customs

A collaborative project exploring images from the [University's Museum of English Rural Life](#) collections, offers online visitors an opportunity to find out more about the history [of English customs and traditions](#).

OUTREACH

From yoghurt pots to Pandora's box

The [University's Museums and Collections website](#) brings together digitised collections from across the University's diverse archives, including objects from the [Ure Museum of Greek Archaeology](#) to the [Cole Museum of Zoology](#), making the collections of fascinating objects and stories of our past available to everyone.

Music at Reading

The University has a vibrant community of staff, students and alumni who come together to share their joy of music and who practise and [perform a range of musical events throughout the academic year.](#)



STEWARDSHIP/OPERATIONS

Construction and refurbishment

In all its [construction and refurbishment projects](#), the University of Reading is committed to making decisions which enhance energy performance and building sustainability. We have set targets for meeting our [Environmental Objectives](#) including achieving at least a 'very good' BREEAM environmental assessment rating across projects relating to our London Road, Whiteknights and Greenlands campuses.

Sustainable Travel

The University [promotes sustainable travel](#) and provides incentives to staff and students to use more sustainable modes of transport, including free cycle maintenance and help to [purchase bicycles through a salary sacrifice scheme](#). Every two years we survey staff and students views on their travel arrangements, and in response to feedback have made improvements [to secure bike storage](#) facilities and shared pedestrian/cycle paths across our campuses.



SDG 12: Ensure sustainable consumption and production patterns

RESEARCH

Reducing the carbon footprint of milk

Research at the University's [Centre for Dairy Research \(CEDAR\)](#) addresses key issues for the sustainability of animal production systems, such as environmental impacts, milk and meat composition and consumer health, antimicrobial resistance, and animal behaviour and welfare. By changing the diet of dairy cows, the team has shown that cattle [emit less methane and the saturated fat content of milk is reduced](#). This farm-to-fridge approach enabled UK retailer Marks & Spencer to reduce saturated fat and palm oils across its milk supply chain, with 1.5 million customers benefiting from its healthier, 'greener' milk since 2014.



Sustainable sweet potato production

In sub-Saharan Africa where around 224 million people are under-nourished, sweet potato, a drought-resistant crop, is a staple food and an important source of Vitamin A. Researchers in Reading's Walker Institute are using [mathematical modelling to predict potential impacts of climate change on sweet potato production](#), for example waterlogging from floods or exposure to pests, and what can be done to make the crop more resilient to these risks.

TEACHING AND LEARNING

Top ranked courses addressing sustainability

The University of Reading is ranked [12 globally for undergraduate courses in Agriculture & Forestry, and top in the UK](#) in the QS World University Rankings, 2021. The classification includes study across agriculture, food science, ecology, and soil sciences. The University also ranks highly in the UK for Environmental Sciences (9th) and Earth and Marine Sciences (7th).

Living laboratory

By using the University's facilities and surroundings as a '[Living Lab](#)', we provide opportunities for students to gain practical skills and direct experience in applying research, to help shape how we improve our environmental performance, use our resources efficiently, and work towards a thriving, sustainable university.

OUTREACH

Recycling

In 2020, the University of Reading recycled 68% of its waste. As part of its commitment to waste reduction and management, it [promotes recycling](#) to all its staff, students and visitors.

To encourage the use of reusable cups, the University's Campus Commerce [ran a campaign in January 2020](#) offering 10 free cups of coffee or hot chocolate to everyone who purchased a compatible cup.

STEWARDSHIP/OPERATIONS

Waste and Resource Use Strategy

Our Environmental and Energy Policy commits the University to maintaining and actively progressing a [Waste and Resource Use Strategy](#), including a focus on reducing single-use plastics in line with UK Government Plans. We maintain a waste management strategy which sets out how we will minimise all waste, including plastic. We also encourage increased re-use of plastic and other materials such as our [Warp-It platform](#) and [UniGreenScheme](#) which donates unwanted equipment to third-party organisations.

68%

OF WASTE ON CAMPUS
IS RECYCLED

Giving food more thought

The University's Catering Team is committed to continually improving its [sustainability profile, in a financially sustainable way](#). Our regular suppliers are helping us to achieve our goals by adopting and embracing our [sustainability framework](#). We welcome micro-, small and medium-sized local and regional suppliers to join our supply chain, either directly or via one of our appointed wholesalers.



SDG 13: Take urgent action to tackle climate change and its impacts

RESEARCH

Climate stripes

The University of Reading is host to world-leading research into climate change and its effects on the planet. Our world-renowned [Department of Meteorology](#) carries out a wide range of studies that are helping understand how [wildfires can be better managed](#), and the [impacts of sea level rise](#). Reading climate scientist Professor Hawkins, developed the [Climate Stripes](#) visual to help start conversations about how world temperatures have increased dramatically during the past 50 years. The stripes are now widely recognised and used by media organisations and others around the world. His research to explore how temperatures are changing has been boosted by a citizen science project to [digitise thousands of temperature records from the Victorian era](#).



Pollinator decline

Years of research, led by Professor Simon Potts at the University of Reading, has revealed the [extent of the negative effects of insecticides on crop pollination](#), and the important part played by different insect species in crop pollination at the scale of continents.

“Our academics and graduates are tackling some of the biggest issues of the 21st century aligned to the 2030 Agenda for Sustainable Development, including sustainable food production, biodiversity conservation, animal welfare, food security, poverty alleviation, international development, climate change adaption and mitigation, ethical food systems, consumer behaviour, diet and health.”

TEACHING AND LEARNING

Agricultural, policy and development

Each year, 800 students from more than 80 countries are taught by world-leading academics on courses at Reading relating to [agriculture, policy and development](#), supporting a new cadre of highly skilled professionals who go on to help address the most significant challenges facing us today.

Farm Management Unit

The University's [Farm Management Unit](#) develops high-quality farm management teaching in the School of Agricultural, Policy and Development. The curriculum is grounded within the changing needs of employers, and students undertake professional development opportunities during their studies, including work placements. Complemented by excellent research and strong partnerships, its courses

produce high quality, policy relevant research and employable graduates.

OUTREACH

Policy on pollinators

Professor Simon Potts' research at Reading forms a large part of the first complete assessment of the world's pollinators, laying out the importance of [insects in crop production and the reasons behind their plummeting numbers](#).

The assessment report published by the [UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services \(IPBES\), which Professor Potts co-chaired](#), was endorsed by all 196 signatory governments, and has been adopted into the UN Convention on Biological Diversity, along with recommended actions, such as promoting pollinator-friendly habitats.

STEWARDSHIP/OPERATIONS

#UniforReading

A new campaign, #UniforReading, was launched in 2020 to highlight the University's work to support and engage with local communities. The campaign recently highlighted the University's links with a new Citizens UK alliance for the region, which includes Berkshire, Oxfordshire and Buckinghamshire, and which [connects community members through citizen assemblies](#) to bring about social change and has climate change as one of its key focuses.



SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

RESEARCH

A team at Reading is exploring the important role that tiny organisms called phytoplankton [play in the aquatic food chain](#). By analysing satellite images, the research team provided the first ever estimate of the nutritional value of phytoplankton across the world's oceans throughout the year.

In collaboration with researchers at the Center for Advanced Studies in Arid Zones (CEAZA) in Chile a [Reading team is analysing a large dataset of globally distributed fish species](#) to study their evolution over the past 150 million years and understand the potential impacts of ocean warming on fish evolution.

“Research at Reading uses large-scale observations coupled with ecosystems models to understand the variability in food resources and food quality at the base of oceanic food chains, and assesses how those variations may impact

the production and distribution of marine fish in the future.”

TEACHING AND LEARNING

Both undergraduate and graduate students in Reading's [Geography and Environmental Sciences Department](#) have opportunities to carry out research relating to water quality and management of local rivers and catchments, including projects to [monitor ground water sources to explore how metal contamination spreads from soil to the environment](#).

OUTREACH

The Loddon Observatory

Reading researchers have built and maintained strong links with local organisations, community groups and regulatory bodies, including the Environment Agency, to develop [The Loddon Observatory](#), which researches, monitors and reports on water quality and land management to influence policy making in the Loddon River's catchment.

STEWARDSHIP/OPERATIONS

Water quality on campus

To protect local ecosystems, wildlife and human health, the University adheres to local [water quality standards and guidelines for water discharges](#), minimising the risk of incidents through monitoring and maintenance of drainage systems and compliance testing of servicing of relevant equipment.



SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

RESEARCH

Soil security

The University hosts a wide range of research that is helping to protect and restore land ecosystems and prevent biodiversity loss. For example, Reading's [Soil and Food Security programme](#) looks closely at what's going on in soil at the root zone of plants, helping our understanding of nutritious food production.

Protecting plants and animals

The University curates the UK's National Fruit Collection to protect over 2000 varieties of apple, pears, plums, cherries, and bush fruits as part of an international programme to protect food crops for the future.

The University's work to help prevent biodiversity loss, includes [protecting African vultures from elephant poachers](#) and [mapping changes in adder populations](#) across the UK.

TEACHING AND LEARNING

Teaching sustainable farming

A free online course developed by academics at Reading, in partnership with the FutureLearn platform is allowing learners to explore and learn about the processes that [farmers and food produces use to ensure our food is sustainable](#).

Climate and the past

An undergraduate module – [Tropical Forests, Climate and Lost Civilisations](#) – available to Geography and Environmental Science undergraduates, draws on extensive research and case studies developed from historical research to explore the interrelationships between climate change, human land use and tropical forest ecosystems.

OUTREACH

Landwise

A consortium of Reading academics, local community organisations, regulators and local government is exploring [new natural flood management measures](#) in the Reading area that are supporting natural habitats and helping to reduce the impacts of flooding in the area.

Langley Mead Nature Reserve

The University also owns and manages a community [nature reserve at Langley Mead](#), 18 hectares of wildflower meadows adjacent to the River Loddon which support a significant number of rare plant species.



STEWARDSHIP/OPERATIONS

Designated Wildlife Site

[Reading's Whiteknights Campus is designated as a Local Wildlife Site](#), for its mosaic of habitats that support the free movement of several protected and notable species, including the Stag Beetle and Common Toad. Several endangered bird species have also been recorded across the site.

Green Flag Award

For ten consecutive years, the University's Whiteknights Campus has been named as [one of Britain's top green spaces in the Green Flag Awards](#), run by environmental charity Keep Britain Tidy. The scenic campus is set in 123 hectares of land and includes a lake, woodlands and the popular Harris Garden, which are all available for students, staff and the local community to enjoy.





SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

RESEARCH

War and peace

[The Global Law at Reading \(GLAR\) research group](#) has particular strengths on topics relating to international peace and security, such as cyber warfare, the role and responsibilities of the UN, peace operations and human rights.

As the regulation of armed conflict becomes increasingly complex, researchers at Reading are helping to [clarify both domestic and international regulation within two key areas of military operation](#) – the detention of prisoners and the use of armed drones.

Experts in International Relations at Reading have been instrumental in [developing a new UK policy framework for building stability in fragile and conflict-affected states](#) in a bid to help them in the long transition to peace and stability.

TEACHING AND LEARNING

Law at Reading

[Masters courses in Law at Reading](#) are taught by leading experts in global governance. Modules cover the contemporary issues that affect the relationship between legal systems and the legal regulation of human rights, armed conflict, refugee movement and the use of force. Undergraduate courses include a module on Conflict and Global Development.

5%

OF STUDENTS GRADUATE FROM LAW AND LAW ENFORCEMENT RELATED COURSES (326 STUDENTS)

OUTREACH

Shaping international policies

Through their appointment to international policy-making committees, academics in law and international relations at Reading are helping to ensure [UN Peacekeeping](#) activities do more to protect vulnerable people and are shaping external interventions that support [transitions to peace, stability and state building](#).

STEWARDSHIP/OPERATIONS

Freedom of Speech

The University adheres to a [Freedom of Speech Code of Conduct](#), developed to ensure freedom of speech is protected, within the law, across all University activities. It is part of a [suite of governance policies and procedures](#) that ensure the University remains accountable.



SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

7

AUTHORS FROM THE UNIVERSITY OF READING CONTRIBUTED TO THE IPCC 6th ASSESSMENT REPORT – THE LARGEST NUMBER FROM ANY UK UNIVERSITY

RESEARCH

Systems thinking to protect nature

The existential challenges the world faces today, require collaborative and interdisciplinary approaches to tackle them. Professor Tom Oliver, an Ecologist, is working with Defra and advising UK government and the European Environment agency to design a [System Research Programme](#) to protect natural habitats around the world.

Africa Climate Exchange (AfClix)

[The Africa Climate Exchange \(AfClix\)](#) is a knowledge transfer project involving Reading

academics, to facilitate the exchange of climate science and adaptation knowledge to accelerate the translation of the latest advances in climate science into practical solutions for African communities. The programme, including researchers from Reading's Walker Institute, provides a mechanism and place for effective dialogue to inform policy developments.

Sustainable food chains

To understand what drives consumer behaviour when it comes to food, [Reading academics are working with the EU knowledge innovation community, EIT Food](#), and have developed an evidenced-based model of what drives consumer trust in the food system that now forms part of the EIT Food's Consumer Observatory programme.

TEACHING AND LEARNING

Sustainability learning

Sustainability is a cornerstone of the University of Reading's [strategy](#). We aim to embed environmental [sustainability across both our curriculum and staff training programmes](#). All students can access modules or extra-curricular activities relating to sustainable development, such as the [Reading Experience and Development \(RED\) Award](#), which provides volunteering opportunities with organisations such as Reading Climate Action Network and conservation group Instant Wild.

COP Climate Action Studio

Each year a delegation of doctoral students from Reading compete to attend the [UN's Conference of the Parties \(COP\) on climate change](#), either in person or remotely. More than 20 Reading students from a wide range of disciplines including Archaeology, Meteorology, Henley Business School, Geography and Biological Sciences benefit each year, [gaining valuable insights and opportunities to interview key stakeholders](#) which are reported in blogs and videos.

OUTREACH

Informing IPCC climate change report

The University of Reading is the most represented institution in the working group of authors that produce [the 6th Assessment Report on climate change, by the Intergovernmental Panel on Climate Change \(IPCC\)](#). The experts, Professor Richard Allan, Professor Nigel Arnell, Dr Nicolas Bellouin, Professor Bill Collins, Professor Ed Hawkins and Dr Andrew Turner are among 232 scientists in Working Group I. They will assess the latest scientific evidence on how climate is changing and could change in the future. In addition, Professor Chukwumerijes Okereke from the Department of Geography and Environmental Science, is coordinating lead author for Working Group III.

Feeding innovation

Academics in the University's [Institute for Food Nutrition and Health \(IFNH\)](#) are part of EIT Food, a Knowledge and Innovation Community (KIC) of over [50 leading companies, universities, and scientific partners covering the entire food value chain](#). It is supported by the European Institute for Innovation and Technology (EIT) to transform the way we produce, distribute and consume food throughout Europe.

Working with NGOs

Our flood experts have worked with aid agencies including the [Red Cross and Red Crescent to implement early warning systems for flooding](#) in Bangladesh, Mozambique, and Peru and use real-time flood forecasting to help direct [humanitarian aid when hurricanes strike](#).

STEWARDSHIP/OPERATIONS

An engaged university

[Our University strategy is built on four principles](#) – Community, Excellence, Sustainability and Engagement. In every aspect of our work, we aim to build thriving partnerships, locally, nationally and internationally to bring about positive societal change.

We are a University for Reading as well as of Reading, with activities ranging from [supporting staff to volunteer for good local causes in work time](#), to opening our superb [sporting facilities](#) to local clubs and athletes.

Community involvement

At Reading, our university-level decision-making benefits from partnerships with local people through the [University's Council](#) and [Community Forum](#), and helps us to better coordinate our regional engagement. In addition, our long-standing collaborations and [participatory research activities](#) with communities across Reading are [supporting local and regional improvements](#).



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University of Reading, Whiteknights, PO Box 217, Reading, Berkshire, RG6 6AH, United Kingdom