



UWS
DELIVERING
SUSTAINABILITY
2020/21



Foreword

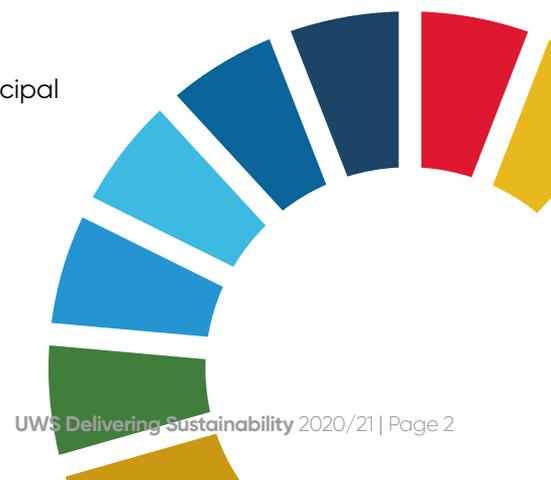
Sustainability is a key priority for UWS. We take our responsibility to sustainability, net zero and protecting the global communities we serve seriously. We all have an obligation to embed sustainability across our key functions of learning, teaching, and research and to ensure we are instilling a commitment to sustainability in our staff and student populations. At UWS, we are committed to making a positive environmental impact and addressing the wider Sustainable Development Goals of the United Nations.

Our vision is to create a sustainable, forward-thinking environment, where we continue to make significant progress towards achieving Scotland's world-leading climate change legislation, targeting net-zero emissions of all greenhouse gases by 2045. Looking forward, at a time when people everywhere are joining to demand action on Climate Change, we will step up and play our role in achieving this. We are committed to achieve Scotland's climate change targets in line with the Climate Change (Scotland) Act and committed to reporting annually to the Scottish Government on greenhouse gas emissions and action to tackle climate change.

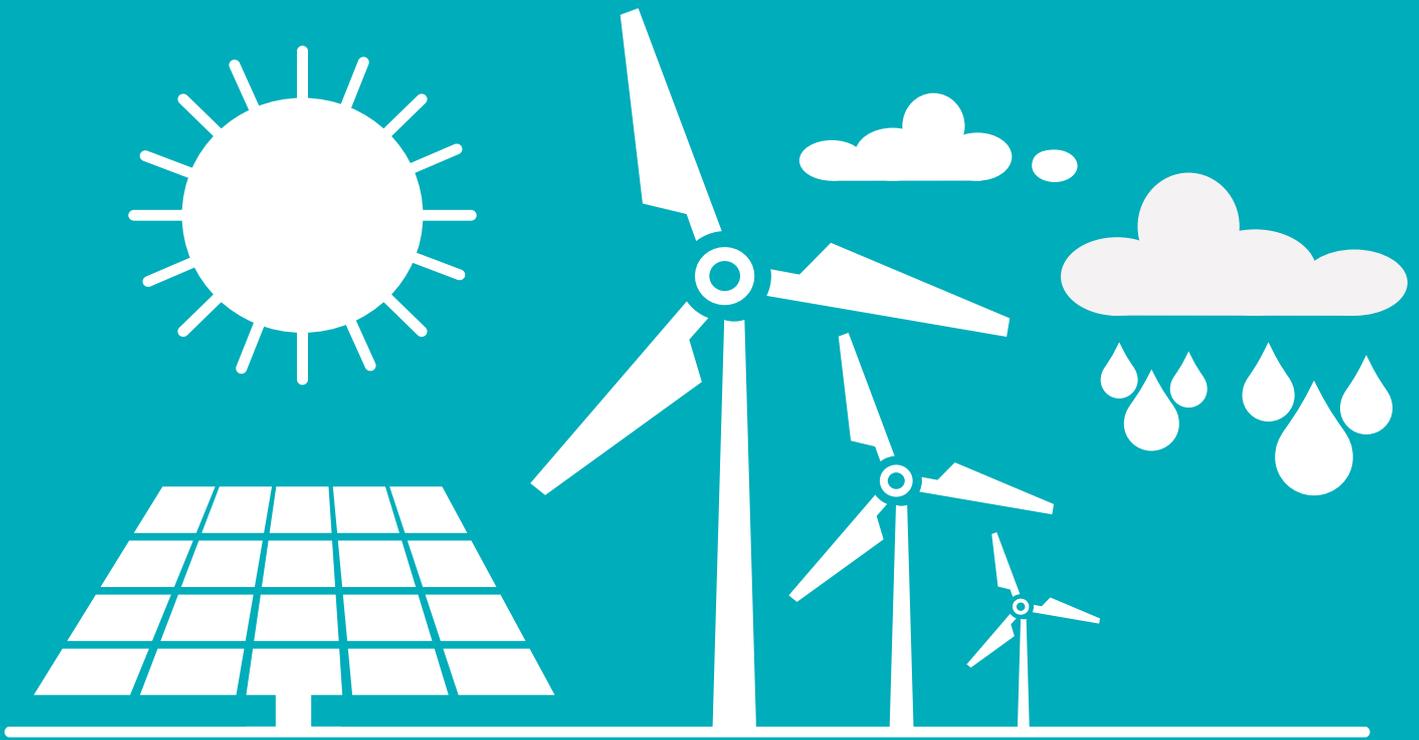
We are proud of the work we are doing to create a more sustainable environment at UWS. We are committed to becoming a global leader in climate change and resilience and continue to align our research with the UN SDGs.

Lucy Meredith

Dr Lucy Meredith
UWS Deputy Principal



2020/21 SUSTAINABILITY HIGHLIGHTS



19%

YEAR ON YEAR REDUCTION
IN CARBON EMISSIONS

70%

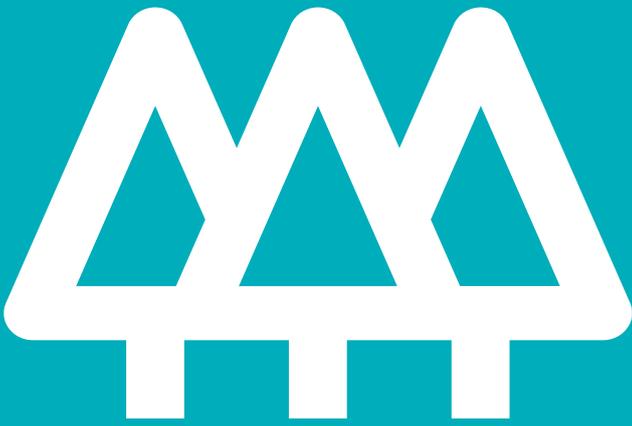
DROP FROM OUR
12/13 BASELINE YEAR



CHEMICAL
FREE
CLEANING
ACROSS
CAMPUSES



RUNNER UP IN
THE GUARDIAN
UNIVERSITY
AWARDS
SUSTAINABILITY
CATEGORY



349

TREES PLANTED
THROUGH OUR
PARTNERSHIP WITH
COFFEE CONSCIENCE

TOP 200 IN THE WORLD



UWS UNIVERSITY OF THE
WEST of SCOTLAND



5th
IN SCOTLAND

14th
IN THE UK

**TOP
4%**

OF INSTITUTIONS RANKED GLOBALLY FOR SDG 8:
DECENT WORK AND ECONOMIC GROWTH



1st
IN SCOTLAND

14th
IN THE UK

**TOP
3%**

OF INSTITUTIONS RANKED GLOBALLY FOR SDG 10:
REDUCING INEQUALITIES

United Nations Sustainable Development Goals



The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are 17 SDGs. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change¹.

As a global University with a commitment to delivering stand-out impacts, this report outlines the progress UWS has contributed to achieving the ambitions of the UN Sustainable Development Goals.

Strategy 2025

UWS has committed to placing the UN Sustainable Development Goals (SDGs) at the heart of our Strategy 2025. UWS Strategy 2025 highlights the University's commitment to tackling the UN Sustainable Development Goals. Our vision is for UWS to be among the global leaders of excellent, relevant, and purposeful research aligned with the UN SDGs and become a leader in climate change and resilience through research and enterprise activity. UWS has committed to reducing emissions and becoming net zero by 2040.



UWS's focus on achieving the United Nations Sustainable Development Goals aligns the institution to the Scottish Government's National Performance Framework. The framework aims to create a more successful country; give opportunities to all people living in Scotland; increase the wellbeing of people living in Scotland; create sustainable and inclusive growth; reduce inequalities and give equal importance to economic, environmental and social progress². This report outlines examples across the university of work underway towards the United Nations Sustainable Development Goals and in turn support the outcomes of the framework.

¹ United Nations, <https://sustainabledevelopment.un.org/>

² [What it is | National Performance Framework](#)

Tackling the world's most pressing challenges

1 NO POVERTY



Free Sanitary products

Through an initiative supported by the Scottish Government, UWS provides access to free sanitary products to support equality and dignity for those who menstruate and to ensure that lack of access to sanitary products does not prevent an individual from engaging in education. In order to reduce waste, reusable sanitary products are also available.

Living Wage-Accredited Employer

As a socially conscious employer, UWS value people highly. For several years, UWS colleagues have been paid at least the Living Wage, and the University has now applied to become a real Living Wage-accredited employer. The real Living Wage is the only UK wage rate that's voluntarily paid and is based on calculations of the cost of living, carried out by the Living Wage Foundation.

UNIVERSITY OF THE WEST OF SCOTLAND
UWS

We think free is fabulous!

Sanitary products are available completely free across the UWS campuses for everyone to use.

Find out more at uws.ac.uk/FreelsFabulous

Free sanitary products available on UWS campuses.

Impact

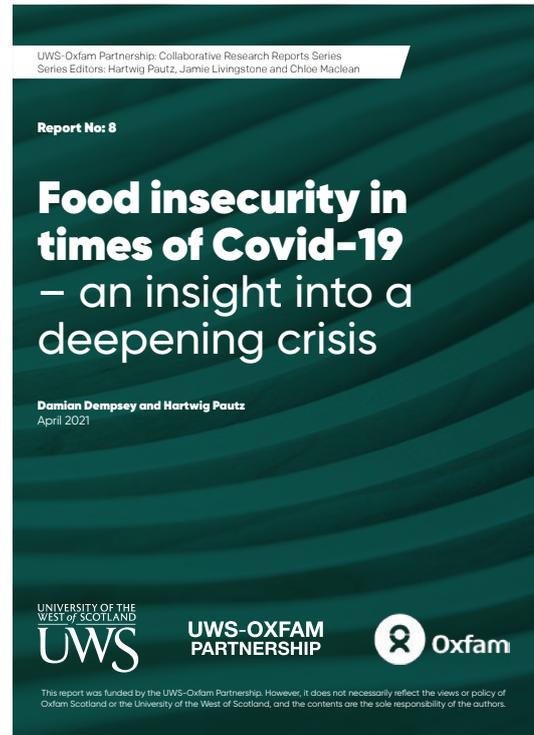
SDG 1 aims to end poverty in all its forms everywhere. UWS is committed to helping to support the communities we serve by supporting economic growth and working to both end poverty and lessen the impact of poverty on vulnerable groups. A study by Biggar Economics showed that UWS generated at least £816 million GVA (gross value added) and 5800 jobs in Scotland, including: £205m GVA and supported 1,700 jobs in Renfrewshire; £136m GVA and supported 800 jobs in South Lanarkshire; £78m GVA and supported 500 jobs in South Ayrshire and £28m GVA and supported 200 jobs in Dumfries and Galloway.

2 ZERO HUNGER



Tackling Food Insecurity

Research led by UWS, in partnership with Oxfam, looked at how the pandemic aggravated food insecurity. The report '[Food insecurity in times of Covid-19 – an insight into a deepening crisis](#)' concluded that, despite the best efforts of food banks and other food aid providers, the pandemic has highlighted the emergency food aid sector was ill-equipped to deal with the surge in food insecurity created by Covid-19 and without action to tackle the underlying drivers of the income crisis during the recovery from Covid-19, progress towards achieving 'Zero Hunger' will be more challenging. The research focused on four demographic groups identified as being most likely to be at higher risk of food insecurity, even in 'normal times': the homeless, young carers (someone aged under-18) and young adult carers (aged 16-25), people seeking asylum, and people with disabilities. The report is based on snapshot interviews with frontline support staff and a review of existing evidence. It is hoped the research will encourage government to commit to publishing a plan which lays out how they intend to end hunger in Scotland.



Impact

SDG 2 aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. The Institute of Biomedical & Health Research focuses on humans and their environment, addressing core research issues in human health and disease, in drug discovery and design, through to human impact on the environment and the impact of environment on human health. Our multidisciplinary community brings together life, physical and environmental scientists in a holistic approach to research with the longer term vision to expand high impact research programmes using multidisciplinary approaches and to maximise the benefit of our research to industry, the public sector and other stakeholders.

3 GOOD HEALTH AND WELL-BEING



Free Gym Memberships for Students

Student wellbeing is a core value for the University. Being active is intrinsically linked to this, with physical and mental health benefits as well as bolstering students' social lives. UWS therefore provides free gym memberships for all students to use UWS-operated fitness facilities.



Covid-killing ozone spray unveiled in UWS partnership

A disinfectant spray made from water – which can eliminate coronavirus without leaving harmful chemical residues – was developed in a collaboration between University of the West of Scotland, Finland-based EOD Europe and Aberdeenshire-based clean technology company, Novus Cleantech. The product, called EORG (Electrolysis Oxygen Radical Generator), is made by converting oxygen from water into 'ozone', to create a disinfectant. The product is so safe, it can also be used to rinse fruit and vegetables, clean and sanitise food contact surfaces, and in drinking water. Not only does the EORG technology disinfect water, but it also turns the water itself into a disinfectant. UWS researchers optimised and validated the effectiveness of the product in eliminating coronavirus. The project was funded by Scottish Enterprise and the Scottish Funding Council.

UWS and Alzheimer Scotland Research

A study by UWS and Alzheimer Scotland explored the effects of the sport walking football on men over 70 who are living with dementia. The first-of-its-kind research, which was conducted over six months at Scotland's national football stadium, Hampden Park, found that the activity promoted a range of physical, mental, social, and emotional benefits for the participants, who all had varying degrees of dementia. The research is an example of the pioneering work underway at University of the West of Scotland to tackle dementia. UWS is home to the Alzheimer Scotland Centre for Policy and Practice (ASCPP) – a centre of excellence in advancing dementia policy and practice through education, applied research and social enterprise.



Scotland's National Dementia Champions Programme

UWS was named the official provider of the award-winning Scotland's National Dementia Champions programme. Announced as part of Dementia Awareness Week 2021, UWS's ground-breaking Alzheimer Scotland Centre for Policy and Practice (ASCPP) – a partnership with Alzheimer Scotland – has been awarded a new contract by NHS Education for Scotland to teach the next cohort of Dementia Champions, who will lead and sustain frontline developments in dementia care. A Dementia Champion is a health and social care professional who has completed an intensive programme, teaching participants to see, hear and feel the experiences of people living with dementia through working closely with them, their carers and their families. Since 2011, ASCPP has prepared 1,000 Dementia Champions, who have gone on to have a lasting impact on the lives of those with dementia. Following the new contract announcement, it is anticipated that the Alzheimer Scotland Centre for Policy and Practice at UWS will, this year, educate a further 150 NHS and social services staff. They will be taught via a curriculum of high-quality digital learning, which not only reflects the refreshed Promoting Excellence Framework 2021, but embodies dynamic, accessible teaching, recognising the impact of the pandemic on dementia practice.

3 GOOD HEALTH AND WELL-BEING



Tackling Drug-Resistant Superbugs

A global drive to tackle a drug-resistant superbug is being led by UWS. The international research project aims to identify antimicrobial agents that could be used in the fight against *Acinetobacter baumannii*. The bacteria was highlighted by the World Health Organisation as a critical global concern, due to its multidrug resistance and the threat it poses in hospital and care settings. *Acinetobacter baumannii* is particularly prevalent in developing countries, and can cause severe and often deadly infections, such as sepsis and pneumonia. The initial stages of the project were highly promising, with scientists managing to isolate 150 bacteria and 108 fungi from different habitats – finding promising soil-derived microbial agents that show significant results against the superbug.

Antiviral Drug Discovery

Despite the advancement of vaccines as a protective measure, the emergence of newly evolved strains of Covid means that its threat to public health continues and finding other suitable and cost-effective treatments remain a worldwide priority. Studies led by UWS academics in 2020, in collaboration with a range of international partners, looked at molecules from various plants; discovering that materials found in olive leaves, broccoli and chamomile contain strong antiviral properties that are effective against Covid. Around 70% of the world's antibiotics and antivirals are derived from various natural sources, including plants, marine organisms and microorganisms. Between January 1981 and September 2019, 1881 drugs have been approved for use against various diseases – 46% of the molecules used in these drugs are either natural, or derived from natural sources. The UWS research uncovered the potential to develop readily available substances for use in cost-effective treatments against Covid-19.



Impact

SDG 3 aims to ensure healthy lives and promote well-being for all at all ages. UWS researches various related topics through its research institutes, including: the Alzheimer Scotland Centre for Policy and Practice, the Institute of Biomedical & Environmental Health Research (IBEHR), Institute of Health and Care Research and the Institute of Clinical Exercise and Health Science.

Throughout the Covid-19 pandemic colleagues and students from across the university committed to supporting local communities through a range of activities, partnerships, research projects and initiatives such as research which focused on Covid-19 diagnostic techniques and treatments, research into behavioural change and impact on vulnerable groups caused by the pandemic as well as research into long covid. UWS supported the NHS Louisa Jordan hospital through the donation of hospital beds and the NHS through the production of PPE and supporting community testing.

4 QUALITY EDUCATION



World-Leading Education

In 2021, the Times Higher Education World University Rankings recognised UWS as one of the world's top 600 universities. At the same time, UWS was lauded as one of the top 150 modern universities in the world (THE Young University Rankings), recognising the commitment to being one of the UK's most innovative modern universities.



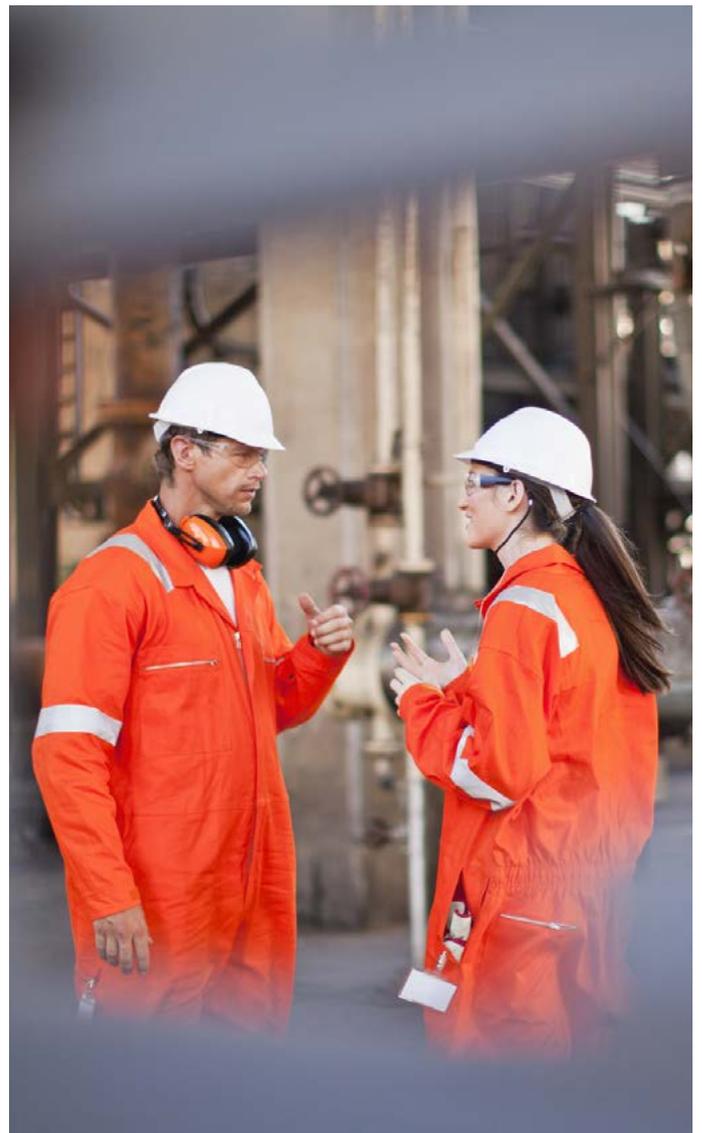
Learning Opportunities

Students at UWS can experience hands-on learning opportunities and UWS partnership with Queen's Park Football Club is an example of this. The University's long-standing partnership with digital sports production company QTV expanded to support the Glasgow club's streaming service for the 2020/21 season.

The streaming service supplied by QTV allowed Queen's Park supporters to stream home games while Covid-19 restrictions were in place, with work experience placement opportunities for Broadcast Production: TV and Radio students at UWS, as well as students from City of Glasgow College.

DSM Chemical Engineering Scholarship

The DSM Chemical Engineering Scholarship is designed to support two eligible MEng (Hons) Chemical Engineering students, as they undertake their fifth year of study at the University. The successful applicants will each receive an award of £4,250 to aid their studies, and will also be given the opportunity to undertake a 3-month placement with DSM at its facility in Dalry, North Ayrshire. The company will also offer the two best performing third year students on the BEng (Hons) Chemical Engineering programme with the DSM Chemical Engineering prize, to the value of £500 each.



4 QUALITY EDUCATION



Funded Studentships

Research-led solutions to major global problems were the focus of 12 new funded studentships at UWS. The studentships span the University's four academic schools: Business and Creative Industries (BCI); Computing, Engineering and Physical Sciences (CEPS); Education & Social Sciences (ESS); and Health & Life Sciences (HLS); and are aligned with the United Nations' Sustainable Development Goals.

They included studies looking at the following subjects:

- Improving the care of patients with a dual cancer-dementia diagnosis.
- Fostering sustainable behaviour in children using the school environment.
- Aiding the transition between education and work, thus boosting employment prospects.
- Transforming the transition of older women into retirement.
- Creating a revolutionary artificial intelligence (AI) and internet of things (IoT) enabled health and wellbeing system.

Dr Les Hutchison Postgraduate Scholarship

Two successful applicants will receive a scholarship award of £5,000 from the [Dr Les Hutchison Postgraduate Scholarship](#), providing the opportunity to develop academically and personally while learning on one of UWS's leading postgraduate engineering programmes. The scholarship is open to individuals who have held Scottish residency for more than three years and will be studying on one of the University's MSc engineering programmes commencing September 2021. The qualifying programmes are Chemical Engineering, Mechanical Engineering, Civil Engineering, Project Management and Quality Management.



Alzheimer Scotland Centre for Policy and Practice (ASCPP) Scholarship Launched

The UWS Alzheimer Scotland Centre for Policy and Practice (ASCPP) launched a new legacy scholarship, giving an outstanding individual the opportunity to apply to undertake a PhD in dementia care. The successful candidate will join the ASCPP team as a junior researcher, benefitting from supervision from leading dementia care experts. The PhD scholar will undertake research exploring and developing positive practices to support families and care home residents to spend quality time together.

Impact

SDG 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Learning and teaching is a priority at UWS; our innovative teaching practices, online learning environment, award-winning spaces and talented academics support our students to gain a degree and instil a passion for lifelong learning. Strategy 2025 commits to developing a range of innovative courses to ensure UWS students are equipped with graduate level skills and knowledge to thrive in the adaptable workplace of the 21st century, and prepared for the fourth industrial revolution.

Our academic staff are committed to our world-class teaching and excellent, relevant and purposeful research through our many research institutions including, the Centre for Research in Education, the Business Innovation and Transformative Technology Group, Citizenship, Values and Holocaust Education Research Group, Creative Media Academy, Institute for Youth and Community studies, Protracted Crisis Research Centre, Schools-based Educational Research Group (S-BERG) and UWS Immersive.

5 GENDER EQUALITY



Strategy 2025 outlines commitment to equality and diversity and UWS's goal to create an inclusive culture which celebrates difference and unlocks the talent in staff and students. UWS aim to create a safe and welcoming environment for all, where all staff and students can succeed. UWS is committed to equality and diversity, we act responsibly and ethically in conducting our business and recognise our role in promoting global citizenship. Our 'equality culture' is supported by a range of high-profile activities, prominent policy developments and leadership in a number of key areas.

In 2020–21, UWS took a number of positive steps forward including:

- Continued work to raise awareness of the impact of the menopause on women through staff communication, menopause training and guidance for line managers, a menopause café and menopause awareness month.
- Launched a new online support tool – the University's Report + Support site. This provides students and staff with an easily accessible way to get support should they experience inappropriate behaviour. The website provides a centralised platform for students and staff to seek support and guidance for such areas as gender based violence, hate crime, racism, discrimination and harassment from a designated and trained staff member. The system can be used anonymously, or students can provide their name and contact details to allow UWS to offer additional support and guidance on what the next steps are.
- UWS is taking a whole-institution approach to gender-based violence (GBV). A cross-university/student group has been established. The primary purpose of the Group is to provide strategic leadership pertaining to the implementation of Equally Safe, the Scottish government's national strategy for the prevention and elimination of Violence against Women and Girls (VAW&G). The group oversees the institution-wide approach to the development and implementation of measures at the University which closely reflect the twin themes of the Equally Safe approach – Prevention and Early Intervention.

The FemaleINSPIRES project

The project focuses on tackling the gender imbalance in science, technology, engineering and maths (STEM). This international research project involving University of the West of Scotland (UWS) academics aims to create an online support platform for female STEM early career researchers from [Development Assistance Committee](#) countries. The platform strives to provide peer-to-peer support with focus on researchers in Malawi, Ghana, Indonesia, Egypt, Nigeria and Kazakhstan in the first instance, and then explore expanding the initiative globally. The project is a collaboration between UWS and academics from Coventry University, the International Science Complex Astana, Ghana Technological University College, Malawi Polytechnic, and the Research Center for Oceanography at the Indonesian Institute of Sciences, Cairo University and Abuja University in Nigeria.



Impact

SDG 5 aims to achieve gender equality and empower all women and girls. UWS is committed to ensuring that equality is at the heart of everything we do in order to raise aspirations, increase opportunities and inspire achievement. The university is committed to reporting on progress made in relation to meeting the general and specific duties of the Equality Act 2010 and the Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012 through the Public Sector Equality Duty Mainstreaming and Equality Outcomes Report.

In 2021, 49.1% of all academic staff at UWS were female. 65.1% of all professional services roles are held by female staff. This can be compared to the sector as a whole where 47% of academic staff were female and 63% of non-academic staff were female. (Source: HESA, 2020–21 Higher Education staff statistics: UK)

6 CLEAN WATER AND SANITATION



Project to Tackle Water Leaks in Underground Pipes

Millions of litres of water lost from leaking underground pipes could be saved through an innovative solution developed by pioneering technology company FIDO Tech and University of the West of Scotland (UWS) academics. The cloud-based solution has been designed to accurately detect the location of hidden leaks – 90% of underground pipe leaks never show above ground – allowing water utility companies to source the leak more accurately than ever before. The system provides a simple and effective processing method, using artificial intelligence, to accurately

detect the size and location of leaks within seconds. Utility companies lose around 500,000 Olympic-sized swimming pools of water from pipe leaks, annually. This solution will revolutionise current leak detection processes while dramatically reducing water wastage – contributing to global sustainability objectives. The pioneering system uses small sensors which attach magnetically to pipes and record simultaneous acoustic samples that are then uploaded to the cloud system using a simple user-friendly smartphone app for automatic signal processing. Exact results of the leak's location between the two sensors are received within seconds. This project was funded through Innovate UK's Knowledge Transfer Partnership programme. Its outcomes will dramatically reduce water wastage.

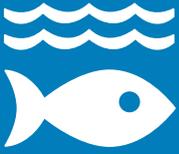


Impact

SDG 6 aims to ensure availability and sustainable management of water and sanitation for all. The COVID-19 pandemic has demonstrated the critical importance of sanitation, hygiene and adequate access to clean water for preventing and containing diseases. Research by the Institute of Biomedical & Health Research has explored the prevention of the spread of infection in

healthcare settings, by investigating the role of the built environment and staff uniforms and PPE in the spread of infection. The Institute has expertise in studying the persistence and survival of pathogens in healthcare settings and how common environmental factors contribute to this, and disinfection susceptibility.

14 LIFE BELOW WATER



WellFish Diagnostics

WellFish Diagnostics, a new spinout company from UWS is set to transform health diagnostic practices in the £245 billion global aquaculture sector. The organisation has developed the first non-lethal method for assessing fish health and will benefit from a £1.2m investment from the University, Kelvin Capital and Scottish Enterprise. Traditional fish health testing can take days before producing results and often requires lethal sampling. WellFish – the second spin-out company to emerge from UWS – has established a method to enable fish farmers to continually monitor the health of their fish population via blood sampling, in a unique approach developed by the company in conjunction with the salmon farming

industry in Scotland. The company is working with the entire Scottish salmon sector, a large trout farm, and producers in Ireland and Norway to provide fish farmers with technology and training to take their own samples, which are then sent to WellFish for testing. The company is based in a state-of-the-art laboratory at UWS's Paisley campus. WellFish is the result of an initial research and development project supported by the Sustainable Aquaculture Innovation Centre (SAIC), the UK Seafood Innovation Fund and Scottish Enterprise's High Growth Spinout Programme. This research has also received funding from Innovate UK as well as cash and in-kind contributions from sector partners. The company has plans for rapid, international growth, with expansion into Norway in 2022 and further expansion into South America and Canada by 2023.



Impact

SDG 14 aims to conserve and sustainably use the oceans, seas, and marine resources for sustainable development. UWS' Institute of Biomedical & Health Research focuses on humans and their environment, addressing core research issues in human health and disease, in drug discovery and design, through to human impact on the

environment and the impact of environment on human health. Research has aimed to develop new diagnostic tools to assess fish health in aquaculture with research across the institute having a direct impact within aquaculture, conservation, animal welfare and ecotoxicology.

8 DECENT WORK AND ECONOMIC GROWTH



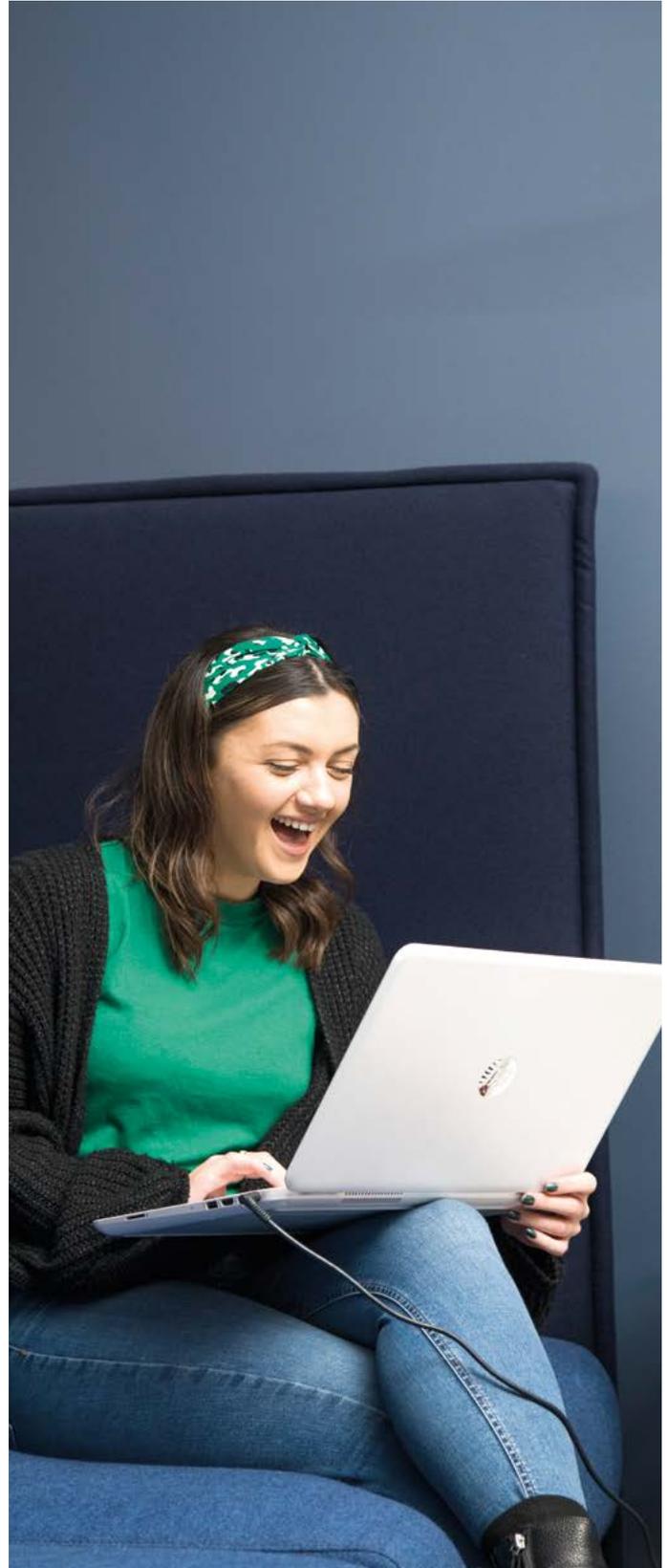
Developing Pathways

University of the West of Scotland, North Lanarkshire Council and New College Lanarkshire have joined forces to deliver more opportunities for young people across the local authority. A new report, 'Developing Pathways, Packages and Partnerships from School to Employment in North Lanarkshire' sets out plans to ensure young people leave school and further/higher education equipped with the skills they need to access sustainable employment opportunities across key sectors. The joint approach has been agreed by the three organisations to create a pathway from senior school through to college-based learning and on to university, finally resulting in permanent employment in a business environment in North Lanarkshire. Skills and training gaps are predicted across key sectors in North Lanarkshire, particularly in critical areas such as construction and health and social care, where jobs growth is anticipated. Joint planning between the council, college and University will ensure North Lanarkshire's young people are equipped with the skills businesses will need in the future.

Impact

SDG 8 aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all. In the Times Higher Impact rankings, UWS ranked 5th in Scotland for SDG 8: decent work and economic growth, 14th in the UK and 65th globally.

In 2020, UWS retained a European Commission award for its commitment to providing high-quality working conditions and support for research staff and is a 'disability confident employer', signing up to the scheme, that encourages employers to think different about disability.





Knowledge Transfer Partnerships

UWS is the only Scottish university to have a dedicated Knowledge Transfer Partnership (KTP) Centre. A KTP enables a business to bring in new skills and the latest academic thinking in order to deliver a specific, strategic innovation project that will deliver business impact and, in some cases, environmental and societal benefits. KTPs are funded by Innovate UK and partner companies and are focused on economic sustainability and business growth in the UK. UWS is within the top 3 in the UK by value of current KTP projects and number 1 in the Scotland.

The following examples demonstrate activity linked to the SDGs:

- UWS' Institute of Thin Films, Sensors and Imaging and Novosound Ltd were awarded funding from the Royal Society to improve existing technology with benefits for the health and safety and healthcare industry. This project focuses on improving the efficiency of ultrasonic sensors and imaging devices. Novosound Ltd, UWS's first spin-out company, has rapidly revolutionised ultrasound technology, which has remained largely unchanged for 40 years, by replacing conventional sensor materials with a flexible piezoelectric thin-film material. This has resulted in significant cost reduction and improved flexibility, providing 3D ultrasonic imaging and sensing capabilities for applications in oil and gas, aerospace, energy and many more.

- A KTP between UWS and technology firm, Modo Systems, was awarded the highest grade possible by the KTP panel for its success. Modo is a platform which synchronises documents, photos and videos stored on cloud-based services, enabling users to search and access files on a range of different platforms in one place. The Glasgow firm teamed up with UWS in 2018 to overcome a challenge they were facing in their product development. The KTP enabled Modo's team to work with UWS academics, and a project-specific KTP Associate employed by the University, to develop machine learning and artificial intelligence that would enhance the platform's capacity to search images and videos based on the image itself rather than the file name.
- Self-charging power packs with the potential to revolutionise wearable technology and electric cars are set to be created through an international research collaboration led by UWS academics. The project has been funded through the British Council and Higher Education Commission of Pakistan's Innovative and Collaborative Research Grant. Over the next three years, UWS researchers will work alongside academics from University of Glasgow, Universidad Autónoma de Madrid and the International Islamic University Islamabad as well as Oxford-based industry partner Lightricity Ltd. The international team will work to develop pioneering new technology which will harvest energy from the environment, such as light and mechanical energies. The technology is expected to have applications in defence, transport, fashion and healthcare monitoring, such as e-skin, wireless sensing platforms and smart bandages, as well as electric cars, drones, robots and prosthesis.





Business Incubator

The UWS London campus, in liaison with the Trampery – a London social Enterprise group that supports new entrepreneurs – has created a business incubator for local entrepreneurs and students who are keen to turn their business ideas into a reality.

Space is provided in the building, which will be serviced by the Trampery, and UWS students and alumni can make use of the space.



Award-winning Engineering

An ultralight wheelchair developed in partnership with UWS academics helped [Phoenix Instinct](#) land a \$1m global competition prize. The \$4 million [Mobility Unlimited Challenge](#), which launched in 2017 and was set by the [Toyota Mobility Foundation](#) and [Nesta](#), included several stages over three years. It invited engineers, innovators and designers to submit ideas for game-changing technologies to improve the mobility and independence of people with lower-limb paralysis. The winning entry by Phoenix Instinct – the only UK finalist – is the Phoenix i ultralight wheelchair. The wheelchair features intelligent centre of gravity, giving enhanced ease of pushing, agility and stability functions – never seen before in wheelchairs – including lightweight power assist to make slopes easier to ascend. The award-winning technology was developed in partnership with UWS through a knowledge transfer partnership (KTP) with the School of Computing, Engineering and Physical Sciences. The Toyota-supported challenge required finalists to work with end-users to develop devices that integrate seamlessly into their lives and environments, while being comfortable and easy to use.





Times Higher Education Award Win for Pioneering AI

University of the West of Scotland won a Times Higher Education (THE) Award for a pioneering artificial intelligence (AI) drone [collaboration](#). The project team – a partnership between UWS; multinational firm, Thales; and Scottish sensors and imaging innovation centre, CENSIS – scooped the prize in the highly-competitive ‘knowledge exchange / transfer initiative of the year’ category. The technology developed as part of the collaboration has the potential to save lives by identifying missing people. The system uses advanced cameras and neural computer networks to spot someone it’s searching for, and can identify specific individuals who appear as a ‘speck’ in the distance. The technology, which is the first-of-its-kind used by police forces in the UK, is a form of machine learning providing real-time image analysis for identifying humans.



Robotic Innovation

A pioneering robotic system developed by Livingston-based, Helia Photonics, in collaboration with University of the West of Scotland (UWS), could revolutionise the manufacturing of key components which are used in a range of applications including telecoms, medical diagnostics, vision systems for self-driving vehicles, aviation, space and forensic science. Identifying the opportunity to improve their manufacturing process using robotics, Helia Photonics – specialists in the manufacturing of thin film optical coatings – approached UWS to collaborate through a Knowledge Transfer Partnership (KTP). The development of this innovative new system has significantly transformed production of the components, with yields increasing by almost 2000%, and production time decreasing by 4000%. The project received the highest grade of ‘Outstanding’ by the independent KTP Grading Panel.

Frog Systems KTP Project

Tech start-up Frog Systems has been given the go-ahead for a quarter of a million pound project with the University of the West of Scotland (UWS) to use Artificial Intelligence and advanced data science techniques to accelerate development of its pioneering mental health and wellbeing platform. Announced during Mental Health Awareness Week, the 30-month project is part of a Knowledge Transfer Partnership (KTP) funded by UKRI through Innovate UK, the UK’s innovation agency. The KTP will link Frog Systems with a recently qualified computing graduate who will be based at the company and ongoing academic support from a team of academics at UWS, led by Professors Naeem Ramzan and Zeeshan Pervez from the School of Computing, Engineering and Physical Sciences.

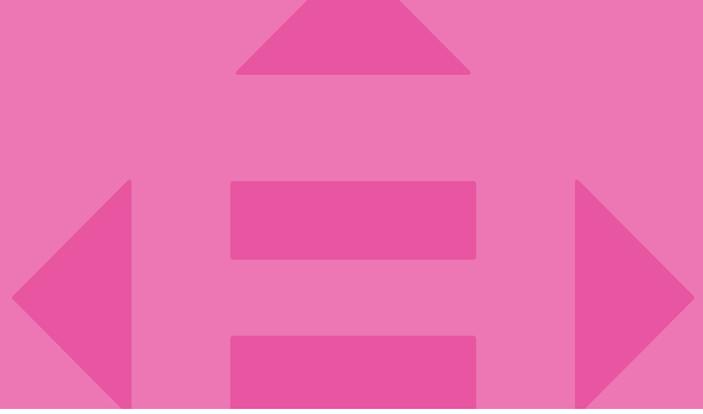


Impact

SDG 9 aims to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. UWS explores SDG 9 through research institutes and groups including; Affective and Human Computing for Smart Environments (AHCSE) Research Group, Beyond 5GHub, Business Innovation and Transformative Technology Group, Construction Innovation and Built Environment Research Group, Institute for Thin Films, Sensors, and Imaging and UWS Immersive.

Beyond 5GHub has won several awards including the Knowledge Exchange/ Transfer initiative of the year at the THE Awards 2020, the innovation award from Scotland Centre for Engineering Education & Development 2020 and “Special Commendation” in the Multiparty Collaboration category at the 2018 Scottish Knowledge Awards.

10 REDUCED INEQUALITIES



Widening Access

UWS is the most successful university in Scotland in ensuring that more people from disadvantaged backgrounds can access higher education. A [Scottish Funding Council \(SFC\) report](#) on widening access highlighted that UWS has – for the eighth consecutive year – recruited the highest proportion of SIMD 20 students, as well as accounting for the highest proportion of those successfully achieving their qualification².

UWS is recognised as Scotland’s leading university for reducing inequalities in the Times Higher Education Impact rankings 2021³ which placed UWS first in Scotland and fourteenth in the UK for SDG 10 – reducing inequalities. In the Times/Sunday Times Good University Guide 2021, UWS ranked;

- 1st in Scotland for the number of students from state schools (3rd in the UK).
- Placed 1st in Scotland for percentage of students from low participation areas (2nd in the UK).
- 1st in Scotland for the proportion of mature students.
- 2nd in the Times Scottish social inclusion table.
- 2nd in Scotland for proportion of first-generation students.

Support for Student Carers

UWS has been awarded the ‘Going Higher for Student Carers Award’, acknowledging the commitment in place within the University to ensure student carers are supported from pre-entry through to graduation. The award was presented by the Carers Trust – the largest provider of comprehensive carers support services in Scotland. The UWS WeCare Team offer advice and guidance and work with UWS Student Services and external organisations to support student carers.

Stay Safe Scotland App

A mobile phone app produced by University of the West of Scotland (UWS) researchers was launched to tackle the disproportionate number of Black, Asian and minority ethnic (BAME) Covid-19 deaths. The Stay Safe Scotland app, provides the latest Scottish Government coronavirus information in a range of different languages and formats. Developed by a team led by Dr Muhammad Zeeshan Shakir from the University’s School of Computing, Engineering and Physical Sciences, the app seeks to overcome some of the major barriers faced by ethnic minority communities in Scotland by providing crucial public health information in different languages, including details on social distancing, hand washing and self-isolation. It also provides real-time crowd status for over 100 supermarkets in Scotland, letting people identify quieter times to do their shopping. The app was developed in partnership with the Council of Ethnic Minority Voluntary Sector Organisations (CEMVO) Scotland, with contributory funding from the Scottish Government and Comic Relief.

Impact

SDG 10 aims to reduce inequality within and among countries. UWS is recognised nationally and globally for its work and impact in reducing inequality. Research on the topic is explored by many research groups and institutes at UWS including the Centre for African Research on Enterprise and Economic Development (CAREED), Protracted Crisis Research Centre, Research for Policy and Social Change and the Centre for Action Against Stalking. Research across the institution explores various topics including governance and ethics, care, education, gender-based violence, poverty, refugees and migrants, criminal and social justice and action against stalking. In 2021, UWS is ranked 1st in Scotland, 14th in the UK and within the top 3% of institutions ranked globally for SDG 10: Reducing Inequalities.

² 26.5% of Scottish-domiciled MD20 full-time first-degree qualifiers at UWS were SIMD20. UWS had the highest proportion of MD20 students across all Scottish universities with 299% of students coming from the 20% most deprived areas in Scotland.

³ [Impact Rankings 2021 by SDG: reduced inequalities | Times Higher Education \(THE\)](#)

7 AFFORDABLE AND
CLEAN ENERGY



11 SUSTAINABLE CITIES
AND COMMUNITIES



13 CLIMATE
ACTION



Environmental Sustainability is at the forefront of what we do at UWS. It is one of our key research areas and our award-winning Lanarkshire Campus is a leading example of an energy carbon neutral building.

Strategy 2025 promises UWS will become a stand-out university committed to tackling the UN Sustainable Development Goals as well as a leader in climate change and resilience through research and enterprise activity. The University's long-standing commitment to sustainability is shown through both the commitment to be net zero in operations by 2040 and through the signing of the Sustainable Development Goal Accord which commits UWS to reporting annually on work towards embedding the UN Sustainable Development Goals through learning and teaching, research, leadership, operations, and engagement activities.



Impact

The University's £110 million Lanarkshire campus, which opened to students in September 2018, is powered exclusively by renewable energy from a nearby windfarm and solar panels, using rainwater harvesting and incorporating LED lighting that is linked to daylight and occupancy. Compared to the former Hamilton campus, which it replaced, the building saves the University 1,842 tonnes of carbon every year. Lanarkshire Campus won the title of 'Campus of the Future' in the 2019 Green Gown Awards and scooped the 'Most sustainable and inspiring higher education building in the UK' category of the 2019 Guardian University Awards. The campus also boasts hi-tech simulated nursing, midwifery and paramedic teaching environments, an extreme environments laboratory, technology-rich breakout areas that inspire individual and collaborative learning, and a state-of-the-art health and fitness centre, which offers free membership for all students. UWS, overall, was shortlisted in the 'Sustainability Institution of the Year' category of the 2020 Green Gown Awards and was runner-up in the Sustainability category of the 2020 Guardian University Awards.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



15 LIFE ON LAND



Digital Dairy Value-Chain Project

A £21 million digital dairy project involving University of the West of Scotland (UWS) launched in July 2021. The project is expected to generate an additional £60m a year for the South-West Scotland and Cumbria region, which produces nearly two billion litres of milk a year. Globally, the industry produces around three per cent of greenhouse gases related to human activity. As well as helping to decarbonise the dairy industry, the project will help to develop and retain a skilled and innovative workforce in the region, to create new products and new ways of working. Led by Scotland's Rural College (SRUC), and working with partners operating in the region, including UWS, University of Strathclyde, CENSIS, First Milk, Lactalis UK & Ireland, Kendal Nutricare, Cows & Co Group, National Milk Records and SmartSTEMS, the project will provide a platform for research and business innovation in advanced, sustainable, high-value production and processing.

The project team will work with the dairy industry to develop and implement technologies for sensing and data handling, as well as infrastructure to support innovation and growth for local businesses, nurturing young entrepreneurs and teaching and training of new skills and capabilities. It will deliver advanced manufacturing processes to create a fully integrated and traceable supply chain as well as help businesses to develop new products and explore new markets.

African Knowledge Transfer Partnership (KTP) project with Farmtrack

UWS secured funding for Scotland's first African Knowledge Transfer Partnership (KTP) project. UWS, Mount Kenya University and Kenya-based agricultural consultancy firm Farmtrack work in partnership through the Innovate UK programme to tackle the issue of fruit fly infestation in mango crops. UWS academics are working with scientists from Mount Kenya University and Nairobi-based Farmtrack to develop an environmentally friendly fruit fly trap which targets females of the species, using locally available raw materials. The proposed approach will reduce the need for chemical pesticides' current reliance on imported raw materials, safeguarding supplies, human, animal, and environmental health. The two-year project will focus on mango crops but has potential to be expanded to different types of produce. If successful, Farmtrack will be able to commercialise the technology to support clients across Kenya, the continent and internationally. Academics from UWS and Mount Kenya University will provide expertise in both the scientific and business side of the project.



Impact

The digital dairy project will aim to create 600 new jobs and is expected to generate an additional £60m a year for the South-West Scotland and Cumbria region and is supported by £21.3m of government money through UK Research and Innovation's flagship Strength in Places Fund. Cumbria and South-West Scotland is the UK's second largest milk field, producing 1.9 billion litres each year, with a farm-gate value of £750 million. There are 52 dairy manufacturing businesses adding value to milk produced from 1,300 farms.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

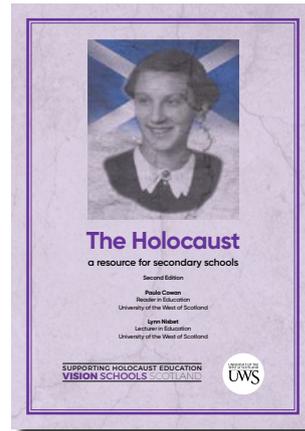


The Centre for Action Against Stalking

The Centre for Action Against Stalking [CAAS] is a partnership between UWS and the charity Action Against Stalking (AAS). CAAS is a centre of excellence structured around areas of scholarly focus that are critical to the prevention of, and responses to, stalking in contemporary society. CAAS seeks to conduct and promote innovative, applied research in a multi-disciplinary, practice and experience-based environment and to draw upon research outputs to inform policy development in this area at an organisational, national and international level.



Holocaust Education

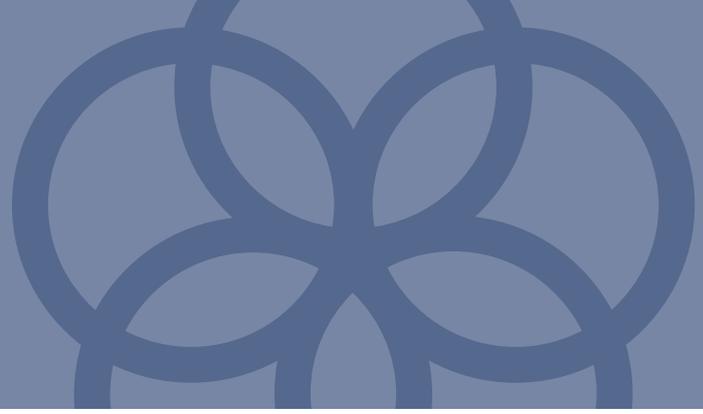


A pioneering new educational resource has been created by Vision Schools Scotland, at the University of the West of Scotland, to support teaching secondary school pupils about the Holocaust. Launching in March 2021, the new online resource tells the story of Holocaust survivor Marianne Grant, and is freely available to all secondary teachers

in Scotland via the [General Teaching Council for Scotland website](#). The resource has been tailored for the Scottish Curriculum for Excellence and was created with funding from the Association of Jewish Refugees, the Gordon Cook Foundation and the Netherlee and Clarkston Charitable Trust. It comprises film testimony and a specialised teacher manual, bringing the importance of Holocaust education further into focus with contemporary examples of antisemitism and discrimination in Scotland and across the world.

Impact

SDG 16 aims to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and building effective, accountable, and inclusive institutions at all levels. UWS explores this topic through various research groups including the Interdisciplinary Research Unit on Crime, Policing and Social Justice which is structured around areas of scholarly focus that are critical to the development of safe, inclusive and flourishing communities. This includes those aspects that are at the heart of building community safety, criminal and social justice. It embraces studies in sociological, criminological and educational studies as well as those focused on physical activity and wellbeing within the context of crime prevention. The Research Unit is working in partnership with a wide range of external bodies in Scotland, the UK, Europe and the wider world.



PARTNERSHIPS

At UWS we develop strategic partnerships with like-minded organisations for the benefit of our students and wider society.

UWS's Kinnections project

An ongoing collaboration launched between [UWS's Kinnections project](#) and charity [Hearts & Minds'](#) Elderflowers programme is aimed to bring more joy and laughter to care homes in East Ayrshire. Residents at Dalmellington Care Centre and Burnfoot House received online visits from Elderflower practitioners – a team of professional artists trained to work with people living with dementia in health and care settings. The practitioners aimed to enable meaningful human connection and generate feelings of belonging through singing, improvisation, play, music and movement and each activity is tailored to the individual resident's needs. This month-long initiative was supported by UWS's Kinnections project, a three-year research project, funded by the Life Changes Trust, which has been working across East Ayrshire to explore what can help foster a sense of community in care homes.



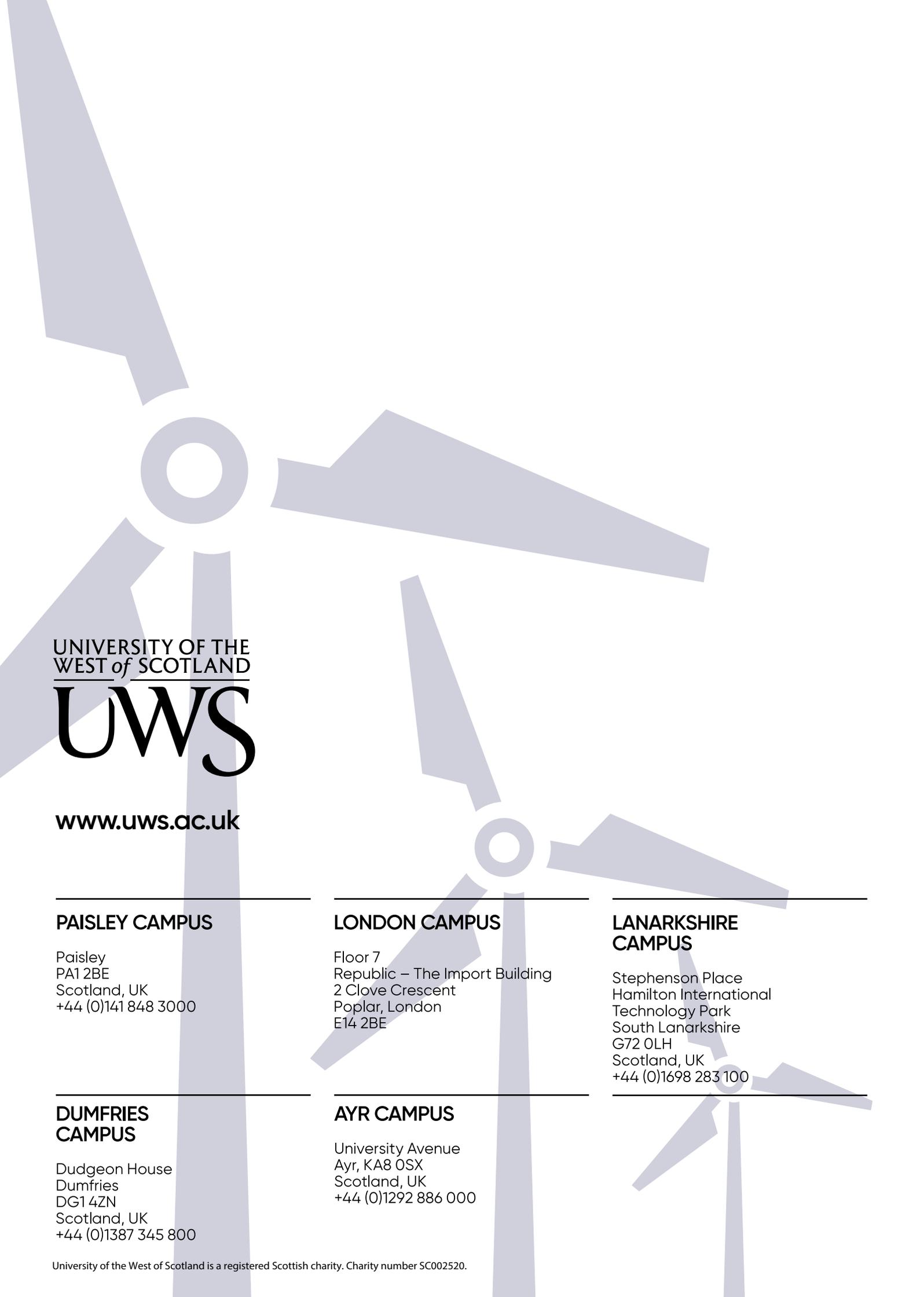
UWS-Oxfam Partnership

The UWS-Oxfam Partnership brings together the academic expertise from UWS, the social justice and anti-poverty campaigning strengths of Oxfam Scotland, and the local knowledge and capacities of a wide range of civil society organisations. This partnership conducts research and informs policy debates with the overarching objective to work together for a more equitable and sustainable Scotland. It was the first of its kind in Scotland and provides students with placements and other practical learning opportunities, giving them hands-on experience in the care sector. It also affords a unique opportunity for the University's academics and researchers to work alongside Oxfam in its role informing health and social care policy.



Impact

SDG 17 focuses on strengthen the means of implementation and revitalize the Global Partnership for sustainable development. The SDGs can only be achieved through strong partnership, collaboration and cooperation. UWS works collaboratively across the institution and with national and international partners to further work towards the United Nation SDGs.



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