UNIVERSITY OF THE WEST of SCOTLAND

UWS

OUR CONTRIBUTION TO ACHIEVING THE SDGS 2024

University of the West of Scotland

UN Sustainable Development Goals Reporting 2024

Executive Summary

The University's long-standing commitment to sustainability is demonstrated by our status as a signatory to the Sustainable Development Goal Accord. The Accord commits UWS to reporting annually on work towards embedding the UN Sustainable Development Goals through learning and teaching, research, leadership, operations, and engagement activities.

At UWS we are committed to serving our global communities and recognise that as an internationally-focused higher education institution, we have an obligation to act sustainably. We embed sustainability in practice, policy and operations across learning and teaching, research and innovation and ensure that we prepare our graduates for future jobs that will positively impact their communities.

We are committed to making a positive environmental impact and addressing the United Nations Sustainable Development Goals (UN SDGs) and 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 progress.

We recognise that to play our part in helping achieving the UN SDGs, we will need to build on the many initiatives already underway on our campuses and identify where we can make improvements and forge new initiatives. With only 6 years remaining before the UN's 2030 deadline, we will be ambitious, innovative and unwavering in our support for the UN SDGs.

Professor James A. Miller FRSE
PRINCIPAL AND VICE-CHANCELLOR

Introduction

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 the 17 SDGs. They recognise 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 change.

UWS is committed to the UN Sustainable Development Goals and to being a global leader of excellent, relevant, and purposeful research aligned with the UN SDGs. UWS is an inspirational organisation, ranked in the top 300 universities in the world for positive impact in achieving the UN Sustainable Development Goals, and ranking 16th in the world for reducing inequalities – UN SDG 10 – in the THE Impact Rankings 2024.

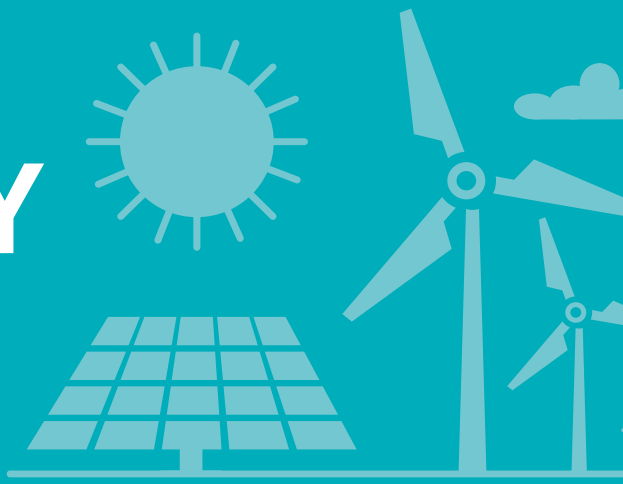
This report outlines the various initiatives being undertaken across UWS to align with and work towards the UN SDGs.

16TH GLOBALLY

UWS RANKING FOR REDUCED INEQUALITIES

source: THE Impact Rankings 2024

2024 SUSTAINABILITY HIGHLIGHTS



CO_2

CARBON EMISSIONS

52%

REDUCTION AGAINST OUR 2012-13 BASELINE

£14,000

GENERATED FOR STUDENTS & STAFF THOUGH SUSTAINABLE TRAVEL PARTNERSHIPS

2500+

ACTIVE & SUSTAINABLE STUDENT JOURNEYS TO CAMPUS REWARDED

TOP 300 IN THE WORLD

THE IMPACT RANKINGS 2024

2nd IN SCOTLAND

JOINT **16th** GLOBALLY

OF INSTITUTIONS RANKED GLOBALLY FOR SDG 10: **REDUCING INEQUALITIES**

1 NO POVERTY

UWS-Oxfam Partnership

The UWS-Oxfam Partnership is an innovative model of research and knowledge exchange between the University of the West of Scotland and Oxfam Scotland. The Partnership was launched in 2011 after years of successful collaboration between the University and Oxfam Scotland. In particular, the development of Oxfam's UK Poverty Programme in Scotland and its Our Economy report – with its input from UWS researchers – were significant milestones for the establishment of the Partnership.

Since its launch, the Partnership has brought together the academic expertise from UWS, the social justice and anti-poverty advocacy strengths of Oxfam Scotland, and a wide range of civil society organisations. Its activities, in particular its research, have critically examined the impacts of public policies on equalities, sustainability and poverty. At the same time, all Partnership activities have sought to provide policy-focused ideas to inform the policy debate to work towards a more sustainable and equitable Scotland.

In November 2024, the Partnership held six 'Afternoon Tea and Policy in Renfrewshire' workshops on the University's Paisley Campus. Amongst the participants were representatives from private, public and third sector organisations. At the workshops, participants discussed how the cost-of-living crisis, housing issues, employment and training, care/caring, and health and wellbeing play out in Renfrewshire. At the sixth and last workshop, discussion focused on how to use the learnings from the workshops to influence public policy debate and practice.

UWS was proud to welcome workshop participants to its campus, showing that the University is serious about playing its role as a 'civic institution' and 'anchor institution' in and for the local community.

Impacts

Under the umbrella of the Partnership, the impact of public policies on equality, sustainability and poverty in Scotland have been critically examined. The overarching aim of the Partnership's diverse activities has been to inform the public debate about the future of Scotland. Additionally, over the past few years, the Partnership has created opportunities for UWS students to work with Oxfam Scotland and a wide range of civil society organisations.

OXFAM SCOTLAND

African Agricultural Knowledge Transfer Partnership

The University of the West of Scotland (UWS), with the funding support of the United Kingdom Research and Innovation (UKRI) under the African Agricultural Knowledge Transfer Partnership (AAKTP) initiative, has been partnering with the Federal University of Agriculture, Abeokuta, Nigeria (FUNAAB) and Ajogbe Agro-allied Industry Limited (Ajogbe) to implement the UWS-FUNAAB-Ajogbe AAKTP project. The project seeks to technically empower and support Ajogbe in a vision to develop Nigeria's first commercially available concentrated feeds for ruminant animals based on a waste-to-wealth business model of converting agricultural wastes (agrowastes) including crop residues and agro-industrial by-products to cost effective nutritive feeds for cattle, sheep, and goats as well as pigs in Nigeria.

This is intended to contribute to key sustainable development goals (SDGs) including:

- ***No Poverty (SDG 1)*** by helping to smallholder farmers to generate additional income from agrowastes and reducing feed costs for livestock framers thereby increasing farm profit and income, enhancing rural livelihoods, and supporting smallholder economic resilience.
- ***Zero Hunger (SDG 2)*** by improving livestock productivity and availability of affordable animal protein, and to effectively respond to growing demand for meats and other livestock products.
- ***Good Health and Well-being (SDG 3)*** by strengthening Nigeria's livestock industry and food systems in general to produce healthier animals as well as safer, more nutritious, and affordable animal products for human consumption.
- ***Decent Work and Economic Growth (SDG 8)*** by creating new rural employment opportunities in feed processing and distribution and encouraging small-scale agribusiness development.
- ***Responsible Consumption and Production (SDG 12***) through erstwhile agrowastes conversion to livestock thereby promoting circular economy and reducing agricultural waste.
- ***Climate Action (SDG 13)*** by helping to reduce greenhouse gases emissions through increased livestock productivity and reduction of agrowastes decomposition.
- ***Life on Land (SDG 15)*** by supporting sustainable land management by reusing crop residues and reducing pressure on land for feed crop expansion.

Impacts

The project contributions in these pursuits includes: Identification and evaluation of the nutritional value of 32 feed resources, including agrowastes, by-products, unexploited forages, and key farm produce. Among the agrowastes, maize stover and rice straw were found to be the most commercially viable for aggregation, processing, and large-scale utilisation as feed resources given their production volume and farm households' willingness to accept incentives to collect, process, and supply them. Consequently, the Quality Assurance / Quality Control (QA/QC) protocol for the collection, aggregation, processing, and fortification of maize stover and rice straw were established and embedded in the company. Two rounds of feed trials with cattle, goats, and pigs were also concluded, with the evidence revealing superior growth and economic performance for maize stover based TMRs and HQCPs for pigs as the commercial pathways for cost-effective nutritive feeds that the company seeks to explore further and commercialise.

3 GOOD HEALTH AND WELL-BEING

Alzheimer Scotland Centre

The Alzheimer Scotland Centre for Policy and Practice (ASCPP) is a collaborative partnership between the University of the West of Scotland and Alzheimer Scotland, established in 2013. As a recognised practice education centre locally, nationally and internationally, the ASCPP is committed to developing world-leading dementia education and applied research which influences policy, improves practice and enhances the lives of people living with dementia. The Centre is committed to meaningful involvement of people with lived experience of dementia to ensure that its work has a direct impact on improving the lives of people with dementia and family carers. The vision of the ASCPP is that through value-based scholarship and impactful applied research Scotland will be at the forefront of providing better care.

The ASCPP is located within the School of Health and Life Sciences, reaching across all academic schools. Work is focused on two thematic areas, Dementia Education for All and Living the Best Life Possible with Dementia.

The ASCPP Carers' Academy is a programme designed for family members who are caring for a relative with dementia and aims to provide them with the knowledge and skills they need to better care for their loved one. In partnership with NHS Ayrshire and Arran, the first Carers' Academy was developed at the UWS Ayr Campus with a UWS Lanarkshire hub following soon after. More recently, a hub was launched in Dumfries & Galloway in the new state-of-the art UWS campus at Dumfries. Over the last year, the Hubs have provided successful Day-1 delivery sessions, with seventy-two family carers attending. In the sessional evaluation completed by the family carers, all education sections scored an average of over 9/10, with the provision of resources to help them with their caring role achieving a 100% evaluation score. In 2025 the team will deliver the first Day 2 delivery and undertake a remote and rural pilot delivery in Stranraer.

Impacts

The work of the ASCPP has been central to raising awareness of dementia and enhancing the lives of the dementia community by promoting and championing excellence in dementia policy. Since 2023 the Centre has achieved the following key outputs:

- 22 journal articles published
- 22 conference presentations
- 4 Carers' Academy Hubs launched
- 5 Education Programmes with Care Empathia Skills Taught

Alzheimer Scotland
Action on Dementia

4 QUALITY EDUCATION

UWS and New College Lanarkshire Education Partnership

In 2024 UWS and New College Lanarkshire came together to launch a unique educational partnership to create the first joint Undergraduate School in the country. The School will offer students the opportunity to study a range of industry-focused degree programmes and directly benefit from the combined teaching expertise, industry knowledge and resource capability of New College Lanarkshire and the University of the West of Scotland.

Recognising that degree attainment in North Lanarkshire is below the national average in Scotland, the new Undergraduate School will provide an important new route towards achieving a degree qualification that is firmly career-focused.

Each of the new degrees is aligned to meet specific skills deficits in the Lanarkshire region as identified by key stakeholders such as Skills Development Scotland and North Lanarkshire Council. They have also been designed with a strong focus on supporting, developing and growing the SME community in the region. Degree subjects include: Dental Nursing, Business Enterprise & Marketing, Cyber Security and Digital Development.

In the coming years, the ambition for the Undergraduate School is to grow the collaborative portfolio of degrees available to allow even more Lanarkshire students to access a University degree within a supportive College environment.

Impacts

The partnership between the University of the West of Scotland and New College Lanarkshire provides the opportunity for local people to study for degrees that are relevant to their needs and aspirations. The Undergraduate School has received the support of employers across the region who will input into the degree portfolio to ensure courses are dynamic and relevant to the local employment market.

UWS Masters in Professional Practice

Thousands of workers will be able to gain recognition for years of on-the-job experience, through a new postgraduate programme launched by UWS. Representing a first in Scotland, the Master's in Professional Practice (MProf) can be fully tailored to meet the professional and personal development needs of the individual, with participants able to select a range of modules from across UWS's full portfolio. In addition to the standard degree qualification usually required for postgraduate study, applicants can also use considerable work experience to gain a place on the course. The programme will play a significant part in improving employment prospects and developing skills and knowledge within Scotland's existing workforce. With decades of experience working with industry, UWS recognised the requirement from a range of sectors – including health care and justice – to enhance the skills and knowledge of existing workers and developed the MProf programme to support this.

Impacts

The MProf programme will contribute to developing a skilled workforce and will significantly enhance the career prospects of workers with years of experience, creating a new generation of postgraduate students who might otherwise be unable to advance their professional education.

5 GENDER EQUALITY

Women's Health Network

The underrepresentation of women's health within academic research is being addressed in a new initiative launched by University of the West of Scotland in 2024.

Historically, women's health issues have been underrepresented in scientific research, leading to gaps in knowledge and disparities in healthcare outcomes.

Serving as a hub for innovative research, and fostering collaboration between experts dedicated to advancing women's health, the Network will ensure that the unique health needs of women are thoroughly researched and understood. By bringing together a diverse group of researchers, healthcare professionals, and advocates from across the University's four academic schools, the network aims to create a comprehensive understanding of women's health issues and drive significant advancements in the field.

The network will address a wide range of women's health issues, extending beyond traditional areas such as fertility, menopause, and gynaecology. It is dedicated to addressing a wide array of determinants of health and health concerns that disproportionately impact women including violence against women and girls and mental health issues. By maintaining a broad focus and fostering interdisciplinary collaboration, the Women's Health Research Network aims to generate new insights and innovative solutions that can be translated into effective healthcare practices and policies.

Impacts

The Women's Health Research Network is a vital step towards rectifying the imbalance in women's health research. By focusing on women's health, targeted interventions can be developed that improve healthcare outcomes for women.

The initiative not only aligns with UWS's commitment to the UN Sustainable Development Goals, particularly those focused on health, well-being, and gender equality, but it also reflects the University's broader mission to advance Equality, Diversity, and Inclusion across all areas of our work.

By prioritising research on women's health, we aim to reduce health disparities, promote gender equity, and create a more inclusive approach to healthcare that will ultimately lead to better outcomes for women everywhere.

UWS Female Entrepreneurship Programme

Female entrepreneurs across Renfrewshire will be supported by an award-winning programme at University of the West of Scotland. Working alongside Robert Gordon University and University of Stirling, UWS will receive a share of £83,000 from the Pathways Pre-start Fund to commence delivery of the project, to support women with parental responsibilities to start new ventures. Launched in 2021 in partnership with Aberdeenshire Council, the programme has so far supported 69 women considering starting their own business venture or entering self-employment while simultaneously supporting their parental needs. In 2023 the programme won the Outstanding Business Engagement award at The Herald Higher Education Scotland Awards. Through online, interactive workshops over a seven-week period, it takes participants through the necessary steps to create a feasible and viable business, focused on the needs of the customer.

Impacts

UWS views this partnership as a crucial step towards addressing gender disparities in entrepreneurship, especially in Renfrewshire. By providing these learning opportunities, women will be encouraged to chase their entrepreneurial aspirations. The initiative also sets a precedent for cultivating a culture of enterprise across the region.

16 Days of Action Campaign

In 2024 UWS participated in 16 Days of Action, also known as 16 Days of Activism – the UN Women's annual global campaign against gender-based violence. The campaign ran for 16 days with the theme "#NoExcuse for Gender-Based Violence." Various activities were held across our five campuses to help raise awareness of gender-based violence including a white ribbon stall where participants were invited to write personal messages, reflections, or statements against gender-based violence on white strips of paper; a personal safety workshop to enable participants to better understand various harms of gender-based violence and a panel discussion on gender-based violence featuring representatives from Ayrshire Women's Aid, Zero Tolerance Scotland and UWS.

Impacts

The event helped to raise awareness of the different forms of gender-based violence and the damage caused. On-campus and online events were advertised and promoted throughout the University using various promotional channels such as social media, the University website and staff newsletters which ensured there was a broad range of attendees.

6 CLEAN WATER AND SANITATION

FIDO Tech

Around 30% of the world's drinking water is lost from pipelines before it ever reaches taps.

UWS is part of a pioneering artificial intelligence project which is helping to save billions of litres of water being lost from pipeline networks globally. Working collaboratively, UWS and FIDO Tech, a leading software firm specialising in AI technology, have created FIDO AI – a leak detection solution for water utilities which accurately pinpoints the source of escapes.
The technology employs rapid machine-learning to 'listen' and interpret the unique data trail left by leaks. Using small sensors which attach magnetically to pipes and record simultaneous acoustic samples, the exact location of water leaks can be identified and repaired.

Impact

One example includes helping secure the water supply on Murray Island, Australia. With minimal summer rainfall and limited water storage capacity, the 450-strong population of Murray in the Torres Strait, north of Queensland, lived with severe water restrictions for more than 20 years. As well as having a challenging geography and small economy, the island's water network is largely unmapped and was known to be losing between six and seven litres per second. Even with expensive desalination costing up to $1,700 every day, daily household water supplies were reduced to just six hours. Meanwhile, lack of knowledge on the exact location, configuration and condition of buried water infrastructure made it more difficult to identify, pinpoint and rectify leaks. As one part of an integrated strategy that incorporated multiple technologies, FIDO AI helped reduce water leaks to around 0.6 litres per second, a reduction of more than 90%. From 2022, demand was made sustainable and water restrictions have been entirely lifted for the first time in over 20 years.

FIDO

6 CLEAN WATER AND SANITATION

Crucial UWS Research on Prevalence of Sight-threatening Bug

New warnings about the prevalence of a sight-threatening microorganism have been issued following global research by University of the West of Scotland. The study, in collaboration with UNSW Sydney and the University of Technology Sydney, found increased levels of Acanthamoeba in coastal seawaters within New South Wales. The research, published in the Science of The Total Environment journal, highlights the prevalence of Acanthamoeba in the environment and the need for more public awareness. Acanthamoeba infects the cornea, the clear outer layer at the front of the eye. It feeds on bacteria and corneal cells, leading to inflammation and damage to the cornea – a condition called Acanthamoeba keratitis (AK).

Infection is difficult to eradicate due to the absence of drugs that can kill Acanthamoeba. It can lead to vision loss, with around one quarter of AK patients ending up with vision impairment or becoming blind, particularly amongst contact lens users. UWS was selected to take part in the study due to the University's significant experience of studying the behaviour of the microorganism, which, following more than 13 years of ground-breaking research led by UWS's Professor Fiona Henriquez, resulted in the University discovering an effective preventative treatment for the condition.

Although relatively rare, Acanthamoeba keratitis affects people across the globe annually, with contact lens users most at risk. Washing contact lenses in tap water is a major risk factor for AK, as well as showering and swimming while wearing contact lenses.

Impacts

Until this piece of research, levels of Acanthamoeba in Australian aquatic environments were not studied. The study has helped convey the message that contact lenses need to be taken out before swimming, whether in a pool or when swimming in lakes, rivers or the sea and ocean. Although the study focused on Australia, the message is important globally as Acanthamoeba are common microorganisms found across the world.

7 AFFORDABLE AND CLEAN ENERGY

Centre for Net-Zero High Density Buildings

An initiative that aims to significantly reduce carbon emissions, lower heating bills and bring eco-friendly construction products to market has been launched. The new Centre for Net-Zero High Density Buildings has received £4.5 million funding boost from UK Research and Innovation (UKRI). University of the West of Scotland (UWS) is part of the partnership, led by the University of Edinburgh, alongside the universities of Glasgow, Strathclyde, Edinburgh Napier, and BE-ST – Scotland's construction innovation centre. The centre draws together £5.6 million investment from industry, education, the public sector and the community. UWS's input into the project focuses on green materials and technology themes relating to heating, cooling and energy storage within buildings. The scheme will test its approaches in Edinburgh and Glasgow, which have the UK's highest proportion of flatted dwellings.

Impacts

Researchers estimate that Glasgow and Edinburgh city regions combined may require around £35 billion investment for low-carbon retrofitting and construction over the next 25 years, to help achieve net zero goals. The scheme's recommendations will be shared with industry and government, to inform how buildings across the country are retrofitted to achieve net-zero targets. The initiative is one of several created by the Government to boost green manufacturing, jobs and skills across the country, known as Green Economy Centres. Another key focus will be to train students in low-carbon retrofitting through partnerships with colleges and academies.

8 DECENT WORK AND ECONOMIC GROWTH

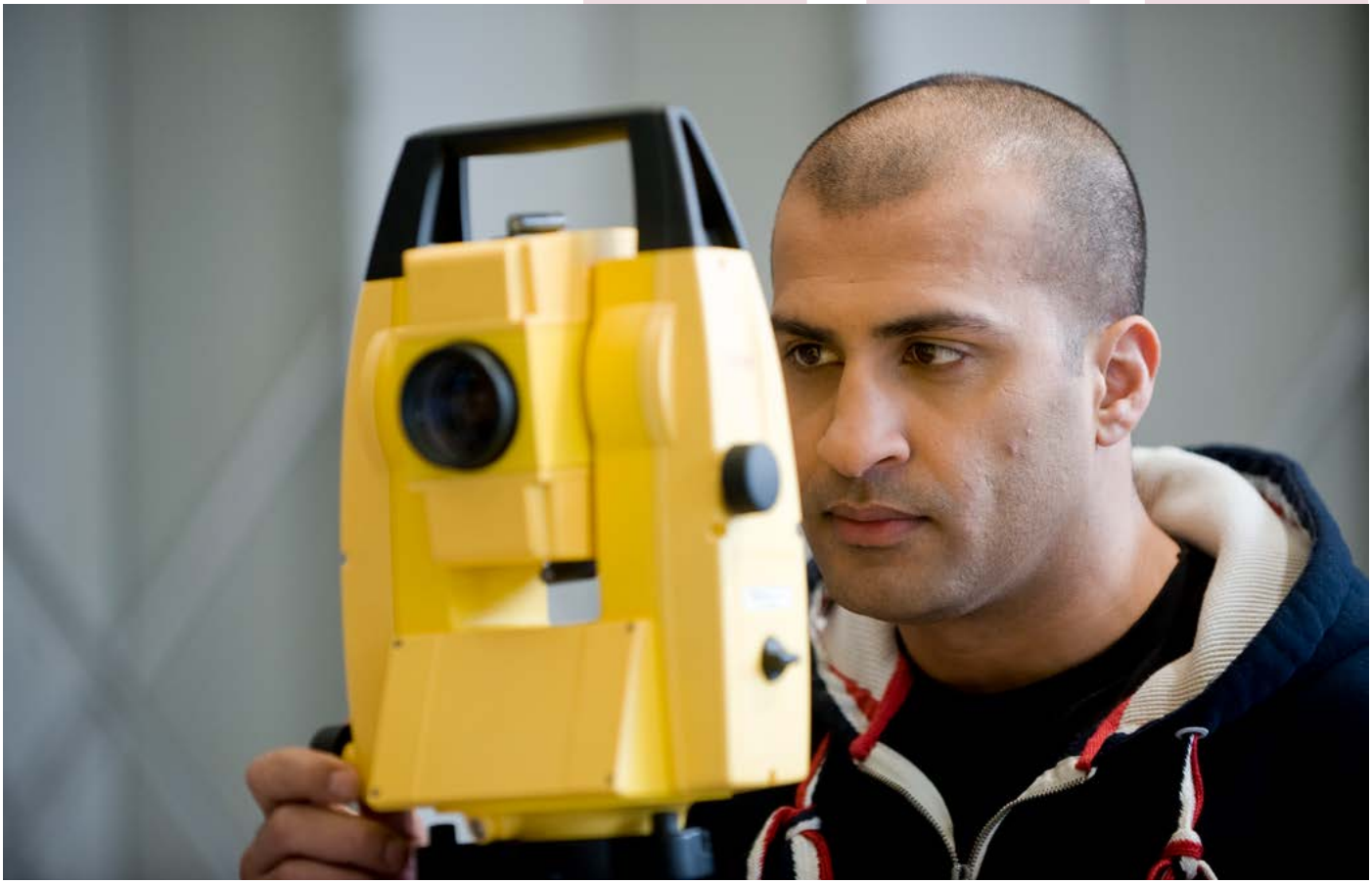
UWS Skills Scholarships

UWS is supporting workforce development through the development of Skills Scholarships. These fully funded Continuing Professional Development (CPD) modules, support the professional development of Scotland's workforce and are being offered at the UWS Centre for Continuing Professional Development. This initiative comes at a crucial time, as the recent UWS Employer Skills Survey found that 60% of respondents face barriers in accessing funding for staff training. The sudden withdrawal of the Flexible Workforce Development Fund and the Upskilling Fund by the Scottish Government has further strained employers' budgets for essential staff development.

The Skills Scholarships initiative enables employers to offer quality, industry-led training without incurring additional costs. Individuals will be able to access one CPD module from a select catalogue at no cost. Awards are subject to availability and eligibility criteria.

Impacts

UWS Skills Scholarships will empower organisations by providing crucial training opportunities and helping to close the skills gap across Scotland. They represent a unique opportunity to access top-tier professional development to boost professional and organisational development.



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Tissue-Based and 3D Modelling Knowledge Transfer Partnership

The Innovate UK Knowledge Transfer Partnership (KTP) is a collaborative project between the University of the West of Scotland (UWS) and RoukenBio, an innovative biotechnology company with expertise in immunology. The partnership, formed in 2024, is developing tissue-based and 3D modelling services which can be used for more accurate drug testing. The project has the potential to revolutionise precision medicine by using small amounts of tissue to diagnose current and potential future illnesses and then profile drugs which can treat them. The project could also deliver profound changes in the drug development landscape by reducing the controversial but currently necessary use of animal testing by using organ-on-a-chip models for experiments.

RoukenBio's services include tests to support the development of antibody-based drugs, looking at how well these drugs bind to their targets and measuring their effectiveness and safety. The company uses advanced tools, like the Quanteon flow cytometer, to closely study how immune cells behave. This allows them to give detailed insights into immune cell function, activation, and growth, which are all critical to understanding potential treatments.

The relationship between RoukenBio and the UWS is symbiotic: it acts as a bridge for transferring knowledge from the academic environment to the company, and vice- versa, building a relationship that can flourish.

Impacts

The KTP brings together forward-thinking businesses, academics, and universities to solve complex innovation challenges. It represents a unique opportunity to apply translational biology knowledge, contributing to innovation in dynamic local enterprise whilst gaining fresh and applicable ideas to elevate academic research. This approach is highly effective with 83% of companies experiencing increased productivity, profitability, employment, or turnover during a KTP.

Driving Digital Innovation

In 2024 UWS was awarded funding totalling £985,000 by North Ayrshire Council, via the UK Department of Science, Innovation and Technology, for two innovative ventures as part of the Ayrshire 5G Innovation Region Project. The project aims, through 5G technology, to enhance skills and support the local economy. The first project, a Digital Connectivity and Innovation Centre (DCIC) set up by UWS, will create a wireless factory of the future to demonstrate the uses and benefits of a 5G mobile private network within aerospace and engineering in the Prestwick Aerospace Cluster.

The second project is aimed at fostering the development of a 5G ecosystem within Ayrshire. As the lead partner in the venture, UWS will manage stakeholder engagement and co-creation activity to achieve shared outcomes, alongside long-term planning and performance monitoring of the 5G project. This will include developing strategies for the implementation of a dynamic, collaborative network, involving many connected stakeholders and projects, as well as a Digital Ambassador Programme, to foster innovation, education and collaboration.

Impacts

The DCIC will enable UWS to collaborate with national telecommunications facilities, drive innovation in 6G research, and foster skills and capacity development. The centre will not only support the region but will also enhance collaboration, innovation, and education for all stakeholders. The 5G eco system will offer sustainability and allow stakeholders to adopt new and emerging technologies.

10 REDUCED INEQUALITIES

UWS-Oxfam Partnership Call for Funding

As explored above, the UWS-Oxfam Partnership is an innovative model of research and knowledge exchange between the University of the West of Scotland and Oxfam Scotland. In 2024 the partnership invited Expressions of Interest for funded research projects from civil society organisations (CSOs) and community groups to take the lead in developing a collaborative research project with UWS academics, addressing the following:

- Better valuing the work that is disproportionately undertaken by women: this includes paid and unpaid work, such as an unpaid care and domestic work.
- Climate Justice: delivering emission reductions in Scotland fairly and quickly.

A joint bid by Scottish Families Affected by Alcohol and Drugs (SFAD) and Carers Trust Scotland (CTS) was chosen, supported by four academics from UWS. The study will run until May 2026 and aims to understand the challenges faced by unpaid carers, including the social and economic impacts of caring for a person using alcohol or drugs. The researchers also hope to determine the effectiveness of current support structures and identify key areas of need to inform future policy and practice.

OXFAM SCOTLAND

Impact

The partnership study will help address the significant gap in understanding of the unique experiences of unpaid carers supporting someone with harmful alcohol or drug use. The research will generate meaningful evidence for these unpaid carers and inform the development of more inclusive policies that improve the support available to an often-overlooked group.

11 SUSTAINABLE CITIES AND COMMUNITIES

Putting the "Smart" into Cities

UWS has been a major contributor to the development of smart cities and its work in this field has been spotlighted as part of a major campaign launched by the Institution of Civil Engineers (ICE). The Future of Engineering campaign, which focuses on 'putting the smart into cities' and 'inspiring future engineering', attempts to explore the world of engineering and the pivotal role it plays in shaping our urban environments.

UWS has been featured within the 'putting the smart into cities' element, which includes a powerful documentary, highlighting the work led by Dr James Riordan and Professor Muhammad Zeeshan Shakir at the University, and their teams of researchers. Both are pioneering ground-breaking technology using artificial intelligence and automation, including the use of autonomous drones to improve city connectivity, and using artificial intelligence and sensing technologies to monitor city environments and predict future issues. This pioneering research is an example of UWS directly supporting the United Nations Sustainable Development Goals. This particular work, which aligns with both SGDs 9 and 11, focuses on the development of a range of ground-breaking solutions for future smart cities.

Impacts

The 'Putting the Smart into Cities' documentary showcases the ideas, innovations and individuals driving the development of sustainable, smart cities across the globe. UWS's significant influence on the smart cities agenda is profiled alongside major industry players in this field, including Amey, Avanti, Galliford Try and the University of Nottingham.

The documentary and UWS profile can be viewed here.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Coffee Conscience

UWS' coffee supplier Coffee Conscience is Fairtrade and ethical. Every cup makes a difference by delivering and directly funding local social, environmental and community projects, creating real impact for real people. In 2023/24, 35 trees were planted thanks to coffee purchases made at UWS.

Impacts

By charging 30p for a disposable coffee cup at the UWS coffee shops, the aim is to encourage customers to bring their own, or to buy a reusable cup. In 23/24, a total of 232 re-usable cups were sold to customers across catering outlets and of the number of hot drinks sold, 35% were in re-usable cups. The University's partnership with Coffee Conscience, which commenced in 2014, has seen a total of 2600 trees planted.

Wellfish Aquaculture

In 2024 WellFish Tech, a UWS spin-out company that monitors the welfare of fish, reached the final stages in the Aquaculture Awards 2024. Shortlisted for an award in the Innovation category, the nomination is testament to WellFish Tech's commitment to revolutionising fish health management by using non-lethal blood biomarker monitoring.

The company's approach enables fish farmers to monitor the health of their fish stocks on an ongoing basis without sacrificing fish. This helps promote fish welfare and empowers farmers to proactively identify and address potential health issues, helping to boost productivity within the Scottish salmon and trout sectors.

UWS and WellFish have worked in partnership since 2022 through a Knowledge Transfer Partnership (KTP) with Innovate UK. The University's expertise in data science has proved crucial in developing efficient systems for data retrieval and identifying valuable health insights into the fish population.

Impacts

The work carried out at WellFish Tech has enabled fish farmers to make informed decisions about stock treatment and fish harvesting, leading to more positive outcomes for stock volumes. The partnership with WellFish Tech demonstrates UWS' commitment to fostering impactful research and development that translates into real-world solutions for critical industries.

13 CLIMATE ACTION

Early Warning System for Extreme Weather Events

UWS is involved in a groundbreaking early warning system for extreme weather events in South Africa. The project, titled 'Warning system for Extreme weather events, Awareness Technology for Healthcare, Equitable delivery, and Resilience (WEATHER),' is a multi-partner collaboration involving University of the West of Scotland (UWS); University of KwaZulu-Natal (UKZN); the Royal College of Surgeons in Ireland (RCSI) Faculty of Nursing and Midwifery; and the University of Portsmouth. The project partners have been awarded a pivotal grant of more than £2 million from the National Institute for Health and Care Research (NIHR) to develop the system.

The project focuses on two vulnerable districts in KwaZulu-Natal, eThekwini and Ugu, collaborating closely with local communities and healthcare providers throughout the research process. Using cutting-edge technology and Artificial Intelligence (AI), the WEATHER project will develop a comprehensive warning system tailored to the needs of affected communities. Geospatial technologies will collate weather and climate data while AI algorithms will analyse weather, climate and health data to identify patterns and trends which allow for more accurate predictions of flooding and associated health risks. Additionally, AI-powered tools will continuously monitor and assess flood risks in real-time, enabling swift interventions to minimise disease outbreaks. Warnings will be shared through a mobile app providing more detailed information, maps, and resources tailored to specific locations and needs and through SMS text messages, ensuring widespread reach even in areas with limited internet access.

By integrating AI and digital technologies into the warning system, healthcare systems and vulnerable communities will be empowered with real-time predictive information about extreme weather events and associated disease outbreaks, giving them the time, they need to prepare and reduce the harm from extreme events.

Impacts

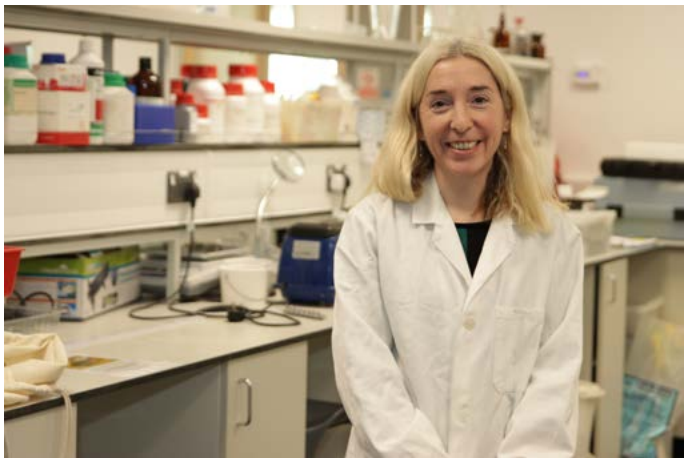
The WEATHER project represents a significant step forward in addressing the challenges posed by extreme weather events in vulnerable communities globally.

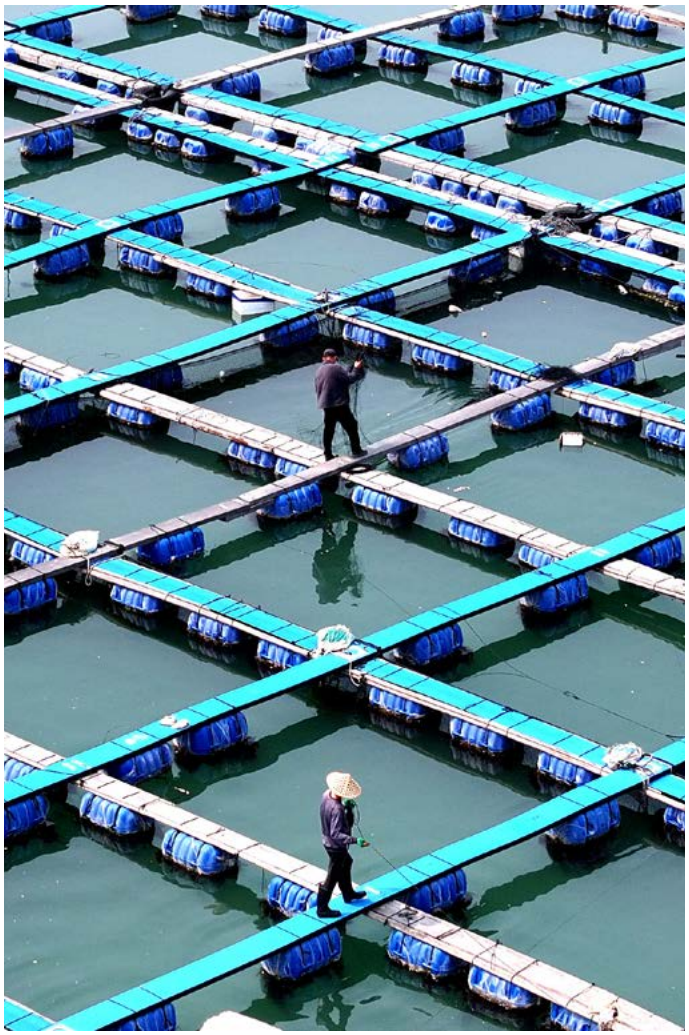
It will support areas grappling with increasingly unpredictable weather patterns due to climate change, leaving communities exposed to floods, waterborne diseases, and disrupted healthcare services. Timely and targeted warning systems have the potential to save lives and significantly improve health outcomes. Additionally, communities will be empowered to become active participants in building local resilience. By working hand-in-hand with local stakeholders, the warning system will be more effective and sustainable in the long term.

14 LIFE BELOW WATER

Sustainable Aquaculture

UWS researchers have been working with Skretting Aquaculture Innovation to improve sustainability of shrimp aquaculture through an improved understanding of shrimp feeding behaviour. Shrimp aquaculture is growing rapidly on a global scale but faces many challenges, particularly around shrimp feeding, where provision of feed can equate to 50% of production costs. Shrimp can be slow to take food with their feeding behaviour affected by their surrounding environment. Lack of feeding by the shrimp leads to both a build-up of uneaten, decomposing food in the water, and also a reduction in shrimp growth. Building on previous UWS research which designed a behavioural protocol to assess the attractiveness of different feeds to shrimp in the lab, UWS researchers have been working with Skretting to develop methods to monitor shrimp behaviour within aquaculture ponds. Shrimp ponds are inherently turbid, making visual assessments of shrimp behaviour challenging. Through the use of deep learning algorithms based on neural networks, our researchers have been able to track shrimp feeding behaviour in turbid environments both in the lab and then experimental ponds in China. Data collected from acoustic feeders in commercial ponds in Ecuador were also used to monitor shrimp feeding. These collaborations were expanded in early 2024 and led to a £3million UKRI grant application which will further develop methods for monitoring shrimp health and welfare in aquaculture in South East Asia





Impacts

This industrial collaboration benefits shrimp aquaculture on a global scale by including shrimp behaviour as a tool for understanding their health and welfare. Combining the use of computer algorithms to track shrimp in turbid pond environments with acoustic information provides farmers with a better understanding of when and how much to feed their shrimp, with both economic and welfare gains.

15 LIFE ON LAND

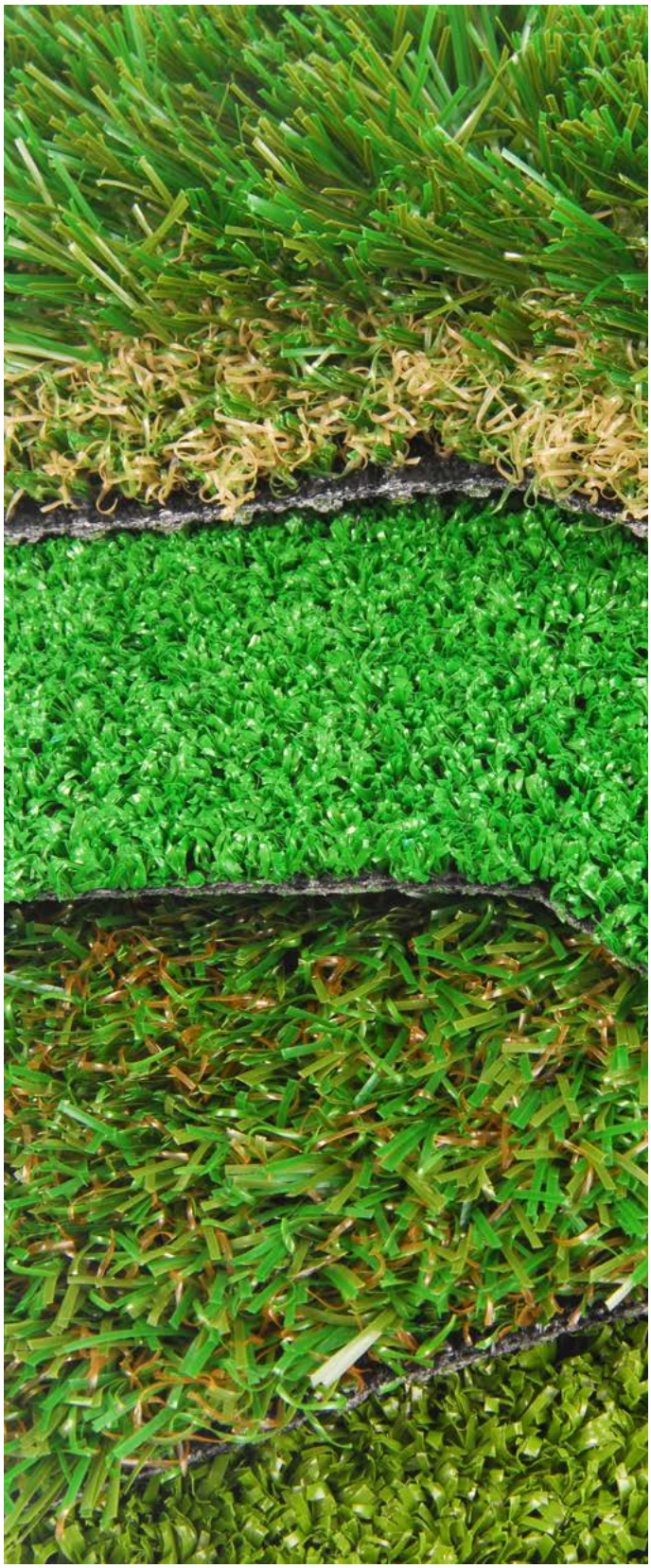
Sportex Recycling

UWS is leading on an initiative to develop new methods of recycling artificial turf potentially preventing thousands of tonnes of waste from going to landfill. The University has partnered with Sportex Recycling, an industry leader in the recycling of synthetic turfing, to cultivate the use of cutting-edge research to enhance sustainability and innovation within the synthetic turf recycling industry.

At present, the turf underlay is unable to be recycled and the partnership will explore methods to improve existing processes and develop innovative new recycling solutions. The research has been supported by Innovate UK's flagship Knowledge Transfer Partnership (KTP) scheme. By combining industry experience with academic excellence, the collaboration aims to deliver practical solutions that contribute to a more sustainable future for sport.

Impacts

This partnership will develop innovative sustainable solutions and drive meaningful change within the recycling sector. It also provides an opportunity for UWS to apply our research and knowledge in real-world contexts, helping to advance sustainable practices within the synthetic turf recycling industry.



16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Vision Schools

In 2024 eleven Scottish schools received a 2024 Vision Schools Scotland Award. The Vision Schools Scotland programme is a partnership between UWS and the Holocaust Educational Trust (HET) and accredits schools demonstrating commitment and good practice in Holocaust education. The Vision Schools Scotland programme aims to promote excellence in Holocaust teaching by identifying and accrediting schools that demonstrate sustainability, innovation and good practice in holocaust education and sharing good practice in this area.

Vision Schools Awards were distributed by the Cabinet Secretary for Education and Skills, Jenny Gilruth, at the annual event held at the Scottish Parliament.

Impacts

By promoting responsible citizenship, a core value of Scotland's Curriculum for Excellence, the programme encourages educators to confront the complexities of the Holocaust with confidence and clarity. One teacher from Alva Academy commented, "In dealing with delicate topics such as the Holocaust, along with our approaches developed through our work with Vision Schools this has helped us plan, prepare and deliver lessons on current conflicts."

The award ceremony in 2024 highlighted the inclusive and informative work being carried out in the area of holocaust education, with articles appearing in Glow Scotland, the education resource for Scottish schools; Jewish News; and in the blogs of local MSPs.

17 PARTNERSHIPS FOR THE GOALS

Alzheimer Scotland Centre for Policy and Practice

The Alzheimer Scotland Centre for Policy and Practice (ASCPP) is a collaborative partnership between University of the West of Scotland and Alzheimer Scotland. The Centre team is dedicated to excellence through dementia education and research based scholarship. THE ASCPP works collaboratively through a range of partnerships in practice and with involvement of people whose lives are affected by dementia. ASCPP is located within the UWS School of Health and Life Sciences, reaching across all academic schools.

Through the Centre's applied dementia research and enterprise projects they endeavour to apply evidence-based knowledge to influence policy, advance practice and improve lives. The work of the Centre recognises the different contexts and circumstances in which people age and seeks to understand individualised, personalised and collaborative ways to help people to live the best life possible from midlife through to advanced old age. The ASCPP has close links with the Scottish Dementia Research Consortium (SDRC), Scottish Dementia Working Group (SDWG) and National Dementia Carers Action Network (NDCAN) ensuring people with dementia and family carers are at the heart of everything they do.

The Centre's research is not limited to national influence: its research partners include global organisations, such as:

- The Manipal College of Nursing, India
- The Manipal Academy of Higher Education, India
- The Centre of Expertise in Longevity and Long Term Care, Charles University, Prague
- Angela Boškin Faculty of Health Care, Jesenice, Slovenia
- Porto School of Nursing, Porto, Portugal
- University of Alicante, Spain
- Turku University of Applied Sciences Ltd TUAS, Finland
- Swedish Family Care Competence Centre, Linnaeus University, Sweden

Impacts

The work of the ASCPP has had an influence in applied research for policy and practice; education to promote evidence-informed practice; influenced policy; and contributed to both the UK Higher Education Dementia Network and the Scottish Dementia Research Consortium.

In 2023, the Centre's project aimed at empowering people to live the best life possible with dementia, was recognised with the Outstanding Contribution to the Local Community Award in the Herald Higher Education Awards.

Alzheimer Scotland
Action on Dementia

17 PARTNERSHIPS FOR THE GOALS

UWS and NHS Lanarkshire Partnership

In 2024 UWS renewed its successful partnership with NHS Lanarkshire. The partnership agreement was first signed in 2017 and is designed to promote collaborative working between the two organisations to tackle NHS recruitment challenges and advance digital healthcare solutions. The next phase of collaboration will expand the focus to include University Health & Social Care Partnership North Lanarkshire and South Lanarkshire University Health & Social Care Partnership (HSCPs), alongside ongoing work in acute hospital settings. The inclusion of these organisations will strengthen the relationship between UWS and NHS Lanarkshire and help driving innovative projects that will bring lasting benefits to health and social care services across the region.

One of the key objectives of the extended partnership is to create tailored educational and professional development programmes aimed at addressing recruitment and retention challenges in the healthcare workforce. Joint appointments and enhanced input into teaching programmes will help ensure that academic expertise remains aligned with the evolving needs of the healthcare sector. There will also be a significant focus on developing digital healthcare, with UWS's School of Computing, Engineering, and Physical Sciences (CEPS) partnering with NHS Lanarkshire's Interface Division. Technologies such as wearables and remote monitoring will be tested at the UWS Lanarkshire Campus before being implemented across NHS Lanarkshire.

Additionally, students will benefit from placement opportunities, particularly through NHS Lanarkshire's "active hospitals" initiative, designed to keep patients physically active during treatment.

Impacts

The extended partnership will harness knowledge and expertise to promote healthcare innovation while fostering a culture of continuous improvement. It will help position UWS and NHS Lanarkshire to deliver lasting positive change for patients, staff, and communities across Lanarkshire.

Additionally, it will promote collaborative clinical research, with both organisations seeking joint grant applications to fund research projects that help improve clinical practices and patient outcomes. These efforts will focus on addressing critical healthcare challenges and contribute to the broader goal of creating more integrated care services.

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