



**Sustainable
Development Goals**
Annual Report - 2021/22



SUSTAINABLE DEVELOPMENT GOALS

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WELCOME

Welcome to this, our second annual report on the Sustainable Development Goals.

The SDGs provide an important framework for addressing key questions of sustainable development – both at the global level and in the context of our university community. The world faces an unprecedented and interlinked set of crises across climate, biodiversity, energy, economic recovery from Covid, and the war in Ukraine. These crises are both ecological and humanitarian, deeply affecting the lives and resilience of vulnerable communities the world over. Now, more than ever, it is critical that we embed and reinforce the importance of the SDGs, starting with our immediate communities, our activities, and our global reach as the University of Aberdeen.

This report provides but a snapshot of the SDG-relevant activities taking place across our campuses. For every story we have included, several more could have taken their place. Colleagues across the University increasingly see the SDGs as vehicle for communicating the benefits of their research and teaching, and as a means to gauge operational progress. This year's report outlines some notable successes, including the award of a Queen's Anniversary Prize for research that directly addresses SDGs 2, 10, and 13. It also showcases other world-leading research, from medical breakthroughs to cutting edge climate science. We are delighted to be able to share information on initiatives such as our new anti-racism strategy and our efforts to become a truly inclusive organisation, as well as outlining some of the support we are offering to assist our community tackle the cost-of-living crisis.

During the past academic year, we have taken steps to better capture where our activities reflect the spirit and intent of the SDGs and will continue to improve that tracking in 2022/23. Among the main areas for development, we aim to embark on an institution-wide discussion about the role of the SDGs in our teaching and how they can support our Aberdeen 2040 commitment to help all members of our community be leaders in protecting the environment. We intend to identify courses and programmes that contribute directly to delivery of the SDGs including flexible pathways to extend their reach across the curriculum.

On a global level, 2022 has seen a further expansion in the role the SDGs play in our sector. In the new QS Sustainability Ranking, released in October 2022, we ranked 64th globally and 17th in the UK overall, while positioning 13th globally and 2nd in the UK for Sustainable Education, an indication of the alignment of our curriculum with the climate and sustainability agenda. The Times Higher Education Impact exercise has grown to rival the main institutional ranking in terms of its scale. Our own ranking of 101-200 reflected that growth, while still seeing us perform solidly across all 17 SDGs. This saw global top 50 performances in SDG 8 Decent Work and Economic Growth and SDG 13 Climate Action, top 100 rankings in SDGs 9, 10, 11, 14, 16 & 17, and a top quartile position globally for all but two of the SDGs.

We are proud to take this opportunity to showcase just some of our SDG-related activities. We are committed to reporting annually and to using the SDGs in support of our foundational purpose ... to be open to all and dedicated to the pursuit of truth in the service of others. We commend this report to you and welcome your feedback.



Professor George Boyne
Principal and Vice-Chancellor



Professor Karl Leydecker
Senior Vice-Principal

Our Aberdeen 2040 strategy places sustainability at the heart of our institutional mission. Of the twenty headline commitments, four relate directly to environmental sustainability. Alongside our target to be net-zero before 2040, we aim to excel in research that addresses the climate emergency, energy transition, and the preservation of biodiversity. It also emphasises the importance of engaging and educating our staff and student communities to live and work sustainably and be leaders in protecting the environment.

In all that we do, the United Nations' Sustainable Development Goals (SDGs) continue to influence and inform our approach to the wider sustainability agenda. In 2022 we again entered the Times Higher Education Impact Ranking, which assesses our contribution to delivering the SDGs. The ranking itself has grown from around 400 entrants in 2019, to rival the scale of THE's main ranking with 1400+ institutions now participating. Our overall global ranking this year bracketed us in the 101-200 cohort, with global top 50 rankings for SDG 8 "Decent Work and Economic Growth" and SDG 13 "Climate Action", with a further six SDGs ranked in the global top 100.

As well as the continued mapping of our research against the SDGs, our academic community is increasingly finding ways to embed the SDGs in their work, such as the wholesale reimagining of our core first-year Geography courses to directly address the SDGs.

The University seized the opportunity presented by a UK-hosted COP26, sending a delegation of 46 to attend the November 2021 event in Glasgow (notably consisting of equal numbers of students and staff). As well as attending the main event, a comprehensive programme of engagement activities took place back in Aberdeen, with seminars, lectures, and discussion panels enabling extensive school, industry, and public engagement. This saw 13 local schools and 800 attendees participate in COP26 themed events, with 7,500 more engage with our research through case studies and profiles of academics involved in all aspects of climate science.

Our world-leading teaching and research in soil science research was further recognised in early 2022, with the award of a prestigious Queen's Anniversary Prize – the highest national honour in UK further and higher education. The award was made in recognition of the work being done by our School of Biological Sciences, with their research and education promoting the control of greenhouse gas emissions and enabling sustainable food production.

As part of our success in the Queen's Anniversary Prize we were invited, alongside 20 other winning institutions, to participate in the Queen's Platinum Jubilee Challenge. Launched by the Royal Anniversary Trust, and undertaken in collaboration with the Environmental Association for Universities and Colleges (EAUC), we have participated enthusiastically in the Challenge which is a unique opportunity to help frame the sector's approach to emissions reporting and set out a pathway for the sector to achieve net-zero.

Other notable research developments include the appointment of permanent Directors to all five of our Aberdeen 2040 Interdisciplinary Centres, as well as wider recognition for our research, such as the receipt of four nominations in the 'Research Impact' category at the EAUC's 2022 Green Gown awards

Operationally, 2022 has seen approval given for the establishment of a dedicated Sustainable Development team within our Estates and Facilities directorate. Initial appointments in August 2022



have seen key positions filled that provide us with the capacity to focus and build momentum around our net-zero ambitions and the associated projects, as well as new capacity to support the staff engagement and training required to deliver on our other Aberdeen 2040 commitments around sustainable behaviours. We have also seen various infrastructure improvements, with new outdoor recycling and waste bins rolled out across the historic heart of our campus to improve waste segregation, the upgrading of secure shelters for 64 bicycles at our main student residence site, and electric vehicle charging points installed for fleet vehicles at our Sir Duncan Rice Library and Inverurie Store sites.

In parallel with these developments, our roster of academic Deans has been supplemented with the appointment of a Dean for Environmental Sustainability to support the Senior Vice-Principal in ensuring that we deliver against our Aberdeen 2040 sustainability commitments. Working closely with academics, students and our operational team, this role will provide academic leadership for sustainability across the organisation, championing the SDGs, and galvanising action.

As part of our efforts to manage indirect (Scope 3) emissions we established a Sustainable Business Travel Working Group in 2022 which undertook a wide-ranging consultation with the University community. That process has resulted in the development of a series of Guiding Principles and a travel hierarchy to support individual decision-making and aims to influence and embed positive behaviour change in relation to business travel.

Alongside the identification of a series of projects to support net-zero, the establishment of a Sustainable Heating Strategy Programme Board is providing impetus to the identification of a

pathway towards eventual decarbonisation of the heating networks on our Old Aberdeen and Hillhead campuses. We acknowledge that the scale of the financial commitment required to deliver net-zero will be considerable and has yet to be fully determined. We have, however, made initial financial allowance in the ten-year capital plan, while recognising that further investment as well as external funding will be required to address the scale of this challenge.

As part of the Public Bodies Climate Change Duty process for 2022, we have sought to respond to the main changes in the reporting framework by including a more comprehensive inventory of Scope 3 emissions, starting with the inclusion of procurement emissions for the first time. We will, over the course of 2022/23 work to better understand all aspects of Scope 3 emissions, including commuting and student travel, and will develop mechanisms to track the data required to report these consistently.

The nature of the sustainability challenges faced by the University and society in general are significant and will require persistence, dedication, and significant investment over the coming years if they are to be surmounted. Alongside the critical net-zero and heat network activity that will be instrumental in reducing our direct emissions, other sustainability priorities for 2022/23 will include the establishment of a climate assembly model to enable our staff and student communities to contribute to the development of our institutional approach to sustainability, as well as the identification of appropriate training and engagement opportunities to support our Aberdeen 2040 commitment of ensuring that we are all 'leaders' in protecting the environment.



1 NO POVERTY



TACKLING THE COST OF LIVING CRISIS

In order to support our student community through the ongoing financial challenges facing society, the University has established a Cost of Living Group that is meeting regularly to consider initiatives and support mechanisms. A series of proactive measures are being taken, as well as awareness events and activities, to assist students avoid hardship and adopt good money management practices. Among the measures introduced to assist students struggling with high energy prices in privately rented accommodation, we are ensuring that key facilities like our library have extended opening hours, while other facilities will offer 24/7 access to ensure warm spaces for those struggling with heating bills. Extensive support and advice is available for students on how

to make ends meet e.g. how to plan meals, budget effectively, and avoid hardship. We also have meal kits available at various locations across campus. Planning is in place for students who will reside with us over the winter break, with emergency support available in the form of food vouchers and shopping kits. For those in most severe need, discretionary hardship support is also offered, with food parcels and food vouchers available alongside established hardship funds. Support is, however, not limited to our students. Staff too have been supported, with those on lower grades received a substantial one-off payment to assist with rising costs.

<https://www.abdn.ac.uk/students/support/cost-of-living-6220.php>



FUNDING TO RESEARCH FOOD INSECURITY

Obesity and food insecurity will be the focus of a £1.6m study by scientists at the University of Aberdeen's Rowett Institute.

Funded by UKRI through the BBSRC, the crucial research will investigate consumer habits, covering a broad cross-section of shoppers and will consider how issues around poverty, food insecurity and obesity may affect shopping habits.

Aiming to improve sustainable and healthier food choices for people living with obesity and food insecurity, the collaborative study will, for the first time, bring together consumers, policy makers, charities, food producers, processors and retailers, as well as expert academics to co-develop and test strategies that can support future changes in the food system.

With improved health outcomes and the natural environment at its core, the 3-year study will involve a collaboration for the first time with Sainsbury's supermarket, one of the UK's biggest food retailers.

Using historic, anonymous data gathered from Nectar customers, researchers will analyse food choices in a bid to improve the understanding of food systems in the UK and provide evidence for supporting policy changes across the retail industry.

The funding, which has been awarded to 11 research projects, is the latest investment made by UK Research and Innovation as part of its Transforming UK Food Systems Strategic Priorities Fund (SPF) Programme.

<https://www.abdn.ac.uk/news/15949>



2
ZERO
HUNGER

SUPERFOOD DEVELOPED BY ROWETT SCIENTISTS

Scientists at the University of Aberdeen's Rowett Institute have developed a new nutrient-rich food product from the bitter tasting plant moringa.

Sciiona uses a patented micro-coating process which sees each granule covered in edible vegetable cellulose that protects the moringa from stomach acid, as well as alleviating the bitter taste associated with raw moringa.

Moringa, known for being rich in natural proteins, fibre, minerals and vitamins has been consumed for centuries in parts of Africa and Asia as an excellent source of nutrients, and is also considered to help prevent numerous health conditions. Now, the scientists at the Rowett Institute in Aberdeen have harnessed the power of this superfood plant to

create a new product for everyday use that can be incorporated into any diet.

Professor Wendy Russell of the University of Aberdeen Rowett Institute, said: "Raw moringa leaf powder has a pungent smell and unpleasant taste. This is attributed to the formation of isothiocyanates. These compounds are considered beneficial for health, so we do not want to degrade or remove them. Therefore, we have designed a micro-coated product which has no bitter taste and retains all the benefits."

<https://www.abdn.ac.uk/news/15714/>



SOIL QUALITY LINK TO CROP RESILIENCE

New research has found that high-quality cropland soils limit losses in response to warmer climates and support higher yields.

The international team of experts, including Professor Pete Smith from the University of Aberdeen, found that improving soil quality could reduce the climate change-induced decline in crop production in China by as much as 20 percent.

In the study, published in Nature Climate Change, the authors from China, the UK and Germany addressed how the interactions between soil quality and climate change influence food output productivity from croplands.

The team suggest that soil quality, defined as the capacity of the soil to provide nutrients and water, holds the solution to both resilience to climate change and future food security. In the paper, they warn that inadequate consideration of soil quality and interactions with climate change will impede general understanding of the food security challenge in the face of rapidly changing environmental conditions.

Professor Pete Smith, Chair in Plant and Soil Science from University of Aberdeen, explained: "This study shows that improving soil quality will be a critical strategy for adapting to climate change and avoiding some of the inevitable negative effects of increased temperatures that will occur even if the Paris climate goals can be achieved."

<https://www.abdn.ac.uk/news/16112>



3 GOOD HEALTH AND WELL-BEING



MAGIC BULLET DISCOVERY IN LEUKAEMIA RESEARCH

Researchers have made a huge leap forward in finding a targeted therapy for acute myeloid leukaemia (AML).

The innovative 'magic bullet' technique uses specific antibody-targeting technology that would reduce the need for current treatments that can be arduous, invasive and require long hospital admissions.

The researchers found that in AML, there is a high concentration of a molecule named Siglec-15 found on the surface of the diseased cell. The team identified a molecule that could bind to Siglec-15, piggyback into the cell and take with it a toxin that could potentially kill off the diseased cell, thereby eradicating the disease without damaging healthy cells.

The study was led by Dr Huan Cao, Research Fellow at the University of Aberdeen, alongside colleagues at Cambridge University where much of the work was carried out.

Dr Cao explains: "We are looking to find a cure for leukaemia by using targeted antibody therapy known as 'magic bullets.' For this we needed to identify a cancer specific target and make an antibody against it.

"Although still in the experimental phase, if all goes well there is potential that this may be used clinically as a treatment for patients within the next 3-5 years."

<https://www.abdn.ac.uk/news/15524/>



GENETIC SIGNALS FOR SCHIZOPHRENIA

Scientists from the University of Aberdeen have participated in large genetic studies that have pinpointed genes and biological mechanisms that home in on the root causes of schizophrenia.

In the landmark genetic study of more than 121,000 people, an international consortium called SCHEMA (SCHizophrenia Exome Meta-Analysis), led by researchers at the Broad Institute of MIT, Harvard and involving the Universities of Aberdeen and Edinburgh has identified extremely rare mutations in 10 genes that strongly increase an individual's risk of developing schizophrenia — in one instance, by more than 20-fold.

"In general, any given person has a roughly one percent chance of developing schizophrenia in their lifetime," said Professor Benjamin Neale, co-author on the SCHEMA study. "But if you have one of these mutations, it becomes a 10, 20, even 50 percent chance."

A second, complementary study in a larger but overlapping group of 320,400 people, conducted by the Psychiatric Genomics Consortium (PGC), also involving the University of Aberdeen, brings to 287 the number of regions of the genome associated with schizophrenia risk.

Together, these studies underscore an emerging view of schizophrenia as a breakdown in communication at the synapse (the junction between neurons) and illustrate how different kinds of genetic variation affecting the same genes can influence the risk for different psychiatric and neurodevelopmental disorders.

<https://www.abdn.ac.uk/news/15902>



4 QUALITY EDUCATION



UNIVERSITY PROVIDES SUPPORT FOR STUDENTS FLEEING WAR AND PERSECUTION

The University this year announced a wide range of additional support including tuition fee waivers, free accommodation and bursaries for those students affected by the situation in Ukraine. The package also includes support for students from Belarus or Russia who have been awarded refugee or asylum seeker status, or who cannot return home safely.

The University had already introduced annual support packages for refugees or asylum seekers, including tuition fees and a stipend allowance. The University also offers an international student hardship and support fund, managed in partnership with the Student Association (AUSA).

Professor Adelyn Wilson, the University's Dean for International Stakeholder Engagement, said: "Our University community has offered its unqualified support and solidarity for the people of Ukraine, and for our students who have spoken out to condemn the war.

"The measures to support new and current students affected by the war reflect both this commitment and our position within the global community. These targeted measures build on the support we already offer to other refugees and asylum seekers, including our Sanctuary Scholarships.

The University of Aberdeen is also offering scholarship opportunities to new students impacted by the situation in Afghanistan.

A total of six scholarships were made available for 2022/23 which included full tuition fee waivers and maintenance support valued at £12,900 a year, to assist with living costs for the duration of study.

<https://www.abdn.ac.uk/news/15965> (Ukraine)

<https://www.abdn.ac.uk/news/15989> (Afghanistan)



CHANGING LIVES THROUGH ADULT EDUCATION IN RWANDA

In a country where only a third of adults have completed primary school and nearly a third cannot read or write a short note, delivery of adult literacy classes depends heavily on untrained community tutors, many of whom have only completed primary school-level education.

Literacy centres in Rwanda are generally located in churches, but some are also held in the open. Most are poorly equipped and lack basic learning resources. As a result, few adult literacy learners develop skills that would enable them to have greater autonomy and create a problem-solving mindset. Without these skills, individuals cannot secure better employment, often feel marginalised within their communities, and rely on day farm labouring or subsistence farming to survive.

Applied education research led by Professor Pamela Abbott, Dr Aileen Ackland, and Dr Peter Mtika from the University of Aberdeen, combined expertise in adult literacies education with an in-depth knowledge of Rwandan everyday social practices.

The project has enabled the University of Rwanda and teacher training colleges to implement a new model for training community literacies tutors and has contributed to the Rwandan government's mission to improve adult literacy levels and enhance wellbeing in the country.

By December 2020, 6,190 learners had graduated from a programme using the Social Practices Approach taught by a trained tutor and a further 6,132 were awaiting examination.

<https://www.timeshighereducation.com/hub/university-aberdeen-research-hub/p/supporting-adult-learners-rwanda-improve-their-life-skills>



5 GENDER EQUALITY



INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

To celebrate International Day of Women and Girls in Science and International Women's Day the University put the spotlight on some of the many women who have driven the science, research and teaching at the Cromarty Lighthouse Field Station for over 30 years and hopefully into the future.

Situated a three hour drive north-west of Aberdeen at the northern tip of the Black Isle, the Field Station was established in 1990 with the dual aim of supporting research within the School of Biological Sciences and integrating this work into the school's teaching and outreach activities.



The research undertaken at the station aims to understand how natural and man-made environmental changes influence the behaviour and population dynamics of marine mammals and seabirds. This work directly supports regional conservation and management programmes and has developed best practice case studies that provide insights into marine resource management issues elsewhere in the world.

Everyone who has come through the doors of the Lighthouse has contributed to its success, to celebrate this a virtual display was projected onto the lighthouse to highlight the over 120 women who have worked, studied or volunteered at the field station.



IS THYROID DISEASE A CAUSE OF THE GENDER PAY GAP?

New research has found the adverse effects of thyroid dysfunction on labour market productivity could be a contributing factor to why women earn lower wages than men.

One in 20 people in the UK have a thyroid problem, with women six times more likely to suffer from the condition than men. Posing serious implications for the physical, mental and emotional life of those affected, thyroid patients are at greater risk of long-term sick leave and impairment of working ability.

A study from researchers at the University of Aberdeen Business School has examined whether thyroid diseases, in particular hypothyroidism, contributes to gender differences in labour market outcomes and what difference diagnosis and treatment has on an individual's career prospects.

The study, conducted using data covering a 10 year period (2009-2018), found that women who suffer from undetected hypothyroidism earn 5% lower wages compared to women with no thyroid dysfunction. Once hypothyroidism was diagnosed and treatment assumed to start, the data showed their wages began to rise.

No similar effect was seen on men with thyroid dysfunction.

The research also found women improved their employment prospects once hypothyroidism was diagnosed. However, thyroid disease does not appear to play a significant role on an individual's labour force participation decision and their working hours.

<https://www.abdn.ac.uk/news/16034/>



6 CLEAN WATER AND SANITATION



CONNECT4 EXPLORING WATER, CLIMATE AND COMMUNITY RESILIENCE IN THE LIMPOPO BASIN

The 'Connect 4 water resilience' project brings together a multidisciplinary team of hydrologists and sociologists from academia, policy and practice in the UK, Botswana, South Africa, Zimbabwe and Mozambique to investigate the physical and societal factors affecting vulnerability and resilience to drought and floods in four countries of the Limpopo River Basin (LRB). The research will provide a better understanding of the connectivity within and between physical and social aspects of vulnerability to improve societal preparedness and resilience to flood and drought hazards in arid Sub-Saharan regions. This international development project is being led by Dr Jean-Christophe Comte from the University of Aberdeen's School of Geosciences. The project will explore with communities how to deal with challenges in the face of climate change, using natural and social science methods.



The Limpopo basin is an arid, water-stressed basin, which is also highly susceptible to floods. Intermittent floods and droughts worsen water availability and quality problems, and both types of event are predicted to increase in frequency and magnitude with global climate change. The research will focus on the challenges and opportunities during floods following droughts in the LRB, when aquifers and communities are already under stress, and when appropriate flood management could improve short term coping mechanisms and long-term resilience for future dry seasons. It will explore to what extent geographical differences between sub-regions influence how water resources respond to, and how people cope with floods and droughts in order to inform appropriate water management strategies at various scales (local to transnational).

<https://connect4wr.wordpress.com/about/>

TOWARDS SUSTAINABLE SANITATION IN INDIA AND BRAZIL

Aberdeen academics are part of a multinational team aiming to support the development of sustainable sanitation in India and Brazil. Working across disciplines and with regional stakeholders, the research team's goals are to reduce inequalities and health risks, and improve infrastructure in economically viable ways. The research will investigate how sanitation can be planned, designed, implemented, maintained and used in ways that improve human well-being, while minimizing negative sustainability trade-offs in the short- and long-term. The overall aim of the research is to improve standard of living for those in urban, peri-urban and rural locations.

The project will enhance understanding of complex human-environment interactions and their sustainability outcomes and in doing so will directly address multiple Sustainable Development Goals (SDGs). The project's focus is on the two watershed regions i.e. Greater Mumbai (India) and on the Rio das Velhas Watershed (Brazil), which is home to Belo Horizonte. Beyond densely populated urban centres, these regions contain various formal and informal communities of different sizes, as well as swaths of sparsely populated agricultural land, forests and mangroves. The municipalities and communities in these regions face fundamental sanitation challenges (such as the universal collection and treatment of sewage). They offer unique opportunities to study the entanglement of co-evolving stages of infrastructural development.

<https://susinfra.com/tossib>



7 AFFORDABLE AND CLEAN ENERGY



ENERGY TRANSITION ALLIANCE WITH CALGARY AND CURTIN

The University has joined forces with Curtin University in Australia and the University of Calgary in Canada as part of a strategic alliance to develop solutions to tackle key global issues, including the need to ensure a just energy transition while tackling climate change and securing a sustainable future.

The agreement will harness each university's globally renowned expertise in research and teaching to focus on the key challenges facing our planet, by facilitating academic collaboration and encouraging student and staff exchange.

Researchers will collaborate across academic disciplines in areas including the energy transition, as well as artificial intelligence and health.

Building on the successful existing alliance between Curtin and Aberdeen, the new partnership will

provide opportunities to develop joint research centres, collaborative academic programs including PhD training, and to promote links with industry.

University of Aberdeen Principal, Professor George Boyne, commented: "Aberdeen is delighted to widen its existing strategic relationship with Curtin University to include the University of Calgary, working together on a tripartite basis to help secure a just energy transition and a more sustainable world.

"This global partnership will create even more opportunities for research collaborations between the three universities, enhancing our existing strengths in research related to the energy transition across a broad range of disciplines."

<https://www.abdn.ac.uk/news/16350>



WIND TURBINE BLADE RECYCLING STUDY

Wind power produces more electricity than any other form of renewable energy in the UK and plays a significant role in the decarbonisation of the energy sector. The wind power industry is experiencing unprecedented global growth due to rising demand for clean energy in line with agreements and targets that have been put in place by governments to reduce greenhouse gas (GHG) emissions, such as the Kyoto Protocol, Paris Agreement and, within the UK, the Climate Change Act.

The 'Sustainable Decommissioning - Wind Turbine Blade Recycling' report was produced under the Energy Transition Alliance (ETA), a partnership between the Net Zero Technology Centre and ORE Catapult, with input from experts at the University of Aberdeen and funding from the UK Offshore Wind Innovation Hub. Developing a cost-effective recycling solution for wind turbine blades will significantly contribute to achieving emission reduction targets and unlock up to £1 billion in value for the UK economy.

The main goal of the study was to develop a methodology and to rank various recycling techniques based on environmental, technical, economic, and societal values. The complexity of offshore wind turbine blade decommissioning requires a holistic assessment, that can incorporate various sustainability objectives and indicators to aid decision making on the technology with the highest potential for optimization.

<https://www.netzerotc.com/reports/sustainable-decommissioning-wind-turbine-blade-recycling-phase-2/>



8 DECENT WORK AND ECONOMIC GROWTH



IMPROVING THE EXPERIENCE OF BANGLADESHI GARMENT WORKERS

Women working in the Bangladesh garment industry have been heavily affected by the Covid pandemic and the associated disruptions in the sector, according to the findings of an international study published by researchers at the University of Aberdeen and trade justice charity Traidcraft Exchange UK.

The research, which sets out a series of industry and government policy recommendations, focused on the experiences of Bangladeshi workers employed in the ready-made garment (RMG) industry which supplies clothing and fashion products to multinational companies across the Global North, including many well-known UK High Street brands.

The study shows that the immediate impact of Covid-19 and some of the actions taken by retailers - such as cancelling orders, refusal to pay for work in progress and demands for discounted prices -

disproportionately impacted the vulnerability of women workers by contributing to an increase in gender violence, abuse and economic hardship.

A unique collaboration between business researchers, social science scholars and social and civil society organisations, the research has identified a number of policy recommendations for Bangladesh and UK Governments, as well as Bangladeshi manufacturers and UK retailers.

These include reviewing and revising the legal framework for protecting the rights of RMG workers and creating a UK fashion watchdog, similar to an existing UK supermarket watchdog for grocery supply chains, to tackle abusive purchasing practices by brands selling into the UK market.

<https://www.abdn.ac.uk/news/15716/>



HEMP PRODUCTION HAS EMISSIONS AND ECONOMIC BENEFITS

Cold pressed hemp oil has been commercially produced in Scotland for the first time, inspired by research taking place at the University of Aberdeen's Rowett Institute into the crop's nutritional, health and environmental benefits.

Hemp cultivation dates back more than 6000 years and was once widely grown in Scotland. It is currently being used in building materials, as a biofuel, textile fabric, food source and even as an alternative to plastic.

Now, cold pressed hemp oil has been commercially produced in the north east using Scottish hemp seed grown in Aberdeenshire and Angus, and pressed at Norvite Animal Nutrition Company north of Oldmeldrum.

The development comes as a result of research taking place at the Rowett Institute led by Dr Madalina Neacsu and others. Their insights into the benefits of hemp led to Dr Neacsu establishing the partnership that led to hemp oil pressing, which includes the involvement of Scottish farmers from the Scottish Hemp Growers Association.

The oil and the by-products from the first cold pressing will now be used to investigate the potential of hemp as a sustainable food crop.

A report involving the University of Aberdeen's Rowett Institute and Scotland's Rural College (SRUC), partnering with the Scottish Agricultural Organisation Society (SAOS) and the Scottish Hemp Association (SHA) has also found that Hemp has the potential to make Scotland's agricultural sector carbon neutral as well as providing huge economic benefits.

For the first time a detailed analysis has been carried out on the market opportunities for the Scottish hemp sector with time-bound recommendations to revamp the supply chain provided.

<https://www.abdn.ac.uk/news/16105/>

<https://www.abdn.ac.uk/news/16425/>



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



INDUSTRIAL CHEMICAL REACTOR BREAKTHROUGH

Scientists from the University of Aberdeen have played a key role in the development of an industrial-scale batch reactor that could dramatically improve energy efficiency in the chemicals sector, the world's third largest industrial emitter of CO₂.

Academics from the School of Engineering have worked with Scottish chemical engineering firm Process Technology Strategic Consultancy (PTSC) in the development of the PI QFlux batch reactor, which can produce chemical products much faster, using far less energy, than traditional batch reactors.

As well as cutting operating costs for chemical producers, the PI QFlux can also operate at zero carbon when using green sources of electricity and can be retrofitted into existing plant systems to improve the efficiency of ageing chemical facilities.



In a recent large-scale test carried out in Japan, it has proven to be four times quicker than other batch reactors operating under the same conditions while using up to 50 per cent less energy than traditional technologies.

PTSC Managing Director Andrew C Wills added: "The conceptual design modelling study carried out by the team at the University of Aberdeen allowed us to provide an academic review and analysis that we weren't able to carry out ourselves.

"The results of our large-scale testing have exceeded our expectations and we believe our reactor has the potential to be a major disruptor in the chemical industry."

<https://www.abdn.ac.uk/news/16392/>



ABERDEEN LEADS NETWORK FOR EXCELLENCE IN PROSTATE CANCER CARE USING BIG DATA

The £10.5 million PIONEER project, led by Aberdeen's Professor James N'Dow, is using big data to improve disease outcomes for prostate cancer patients. PIONEER is a European Network of Excellence for Big Data in Prostate Cancer, consisting of 32 partners, across 9 countries. The project's goal is to ensure the optimal care for all European men living with prostate cancer by unlocking the potential of Big Data and Big Data analytics.

PIONEER's dual approach identifies evidence gaps in prostate cancer for key stakeholders and has generated knowledge and tools to support diagnostic and prognostics for individually designed patient-centred care.

PIONEER aims to transform the field of prostate cancer care by applying advanced data analytics, and developing a data-driven platform of unparalleled scale, quality and diversity. PIONEER will assemble, standardise, harmonise and analyse high-quality big data from diverse populations of prostate cancer patients across different stages of the disease to provide evidence-based data for improving decision-making by key stakeholders. By doing so, PIONEER aims to empower meaningful improvement in clinical practice, prostate cancer disease-related outcomes, and health-economic outcomes across the European healthcare landscape.

PIONEER is part of the Innovative Medicine Initiative's (IMI's) "Big Data for Better Outcomes" (BD4BO) umbrella programme. The BD4BO mission is to improve health outcomes and healthcare systems in Europe by maximising the potential of Big Data.

<https://prostate-pioneer.eu/>



10 REDUCED INEQUALITIES



ANTIRACISM STRATEGY LAUNCHED

The University's goal of creating an antiracist culture and ethos on campus moved a step forward with the formal launch of the Antiracism Strategy 2022-2025.

The University of Aberdeen is committed to challenging racism and racial inequality in our institution and taking proactive action to create a learning, working and social environment, in which our Black, Asian, and other Minority Ethnic students and staff members feel safe. We acknowledge the racism in the everyday life of our racialised community members, and the institutional racism which they have to navigate.

The strategy was developed by our Race Equality Strategy Group (RESG) which is responsible for driving change on race equality through the development of strategy and operational

actions. RESG acts as the "Race Equality Charter" self-assessment team, and is also providing a framework for the work on decolonising the curriculum, creating sustainable actions to develop an anti-racist culture, and respond to the needs of minority ethnic people.

The areas of focus in the strategy were identified and fostered through conversations across campus and with input from Advance HE and other partners throughout 2020 and 2021. The strategy provides high-level ambitions on governance, leadership, representation, recruitment and selection, decolonisation of the curriculum, closing the awarding gap, reporting racism, and support.

<https://www.abdn.ac.uk/about/inclusive/news/16441>



INCLUSIVE HEALTH SYSTEM DEVELOPMENT IN SOUTH AFRICA

Dr Lucia D'Ambruoso leads an international research programme in inclusive methodologies and health surveillance aimed at strengthening health systems in South Africa. The VAPAR project connects people and services in mutually supportive learning-and-action. The work aims to reduce inequalities in access to health systems, based on research evidence with practical and local relevance.

A learning platform has been developed through the VAPAR (Verbal Autopsy with Participatory Action Research) research programme and progressed by MRC/Wits Agincourt Rural Health and Health Transitions Research Unit. The platform supports and assists the public, policy makers, analysts, researchers, evaluators and planners to engage and learn by generating local data of practical relevance. The initiative helps to connect communities, government policy and planning, and researchers to generate, act on and learn from research evidence on key, local priorities. It addresses exclusion from access to health systems by connecting service users and providers to generate and act on research evidence.

The research has developed data on levels, causes and circumstances of deaths, and on how social and health systems settings contribute to outcomes. Working in the areas of under-5 mortality, water, alcohol and drug abuse, non-communicable diseases, and HIV/AIDS, the process provides local data, rigorously validated at community and health systems levels addressing priority issues and developing appropriate action plans.

<https://www.vapar.org/>



11 SUSTAINABLE CITIES AND COMMUNITIES



COMMUNITY REGENERATION AND BIODIVERSITY THROUGH FOOD ACTIVISM

There is considerable evidence that food growing and gardens have multiple benefits in urban areas, from increased food security, nutritional health, physical and mental well-being, community development and empowerment, educational impacts, social inclusion and environmental and biodiversity improvement.

Academics from the University of Aberdeen aim to conduct a scoping study examining the different aspects of food growing activism in Aberdeen City through schools, communities and allotments and how this is linked to food security, health and wellbeing, community regeneration, social inclusion, education and environment and biodiversity.

Arguably these have greater potential in areas of multiple deprivation linked to community

regeneration and food distribution networks. However, such developments are usually fragmented and lack coordination and integration across the different stakeholder groups involved. It is proposed that further work needs to be done to explore how to maximise the benefits for different groups using coordinated approaches that have the potential to address a range of requirements across different sectors and ages.

The timing of this project aligns well with work currently being undertaken by Aberdeen City's Food Growing Implementation Strategy Group linked to the Sustainable Food City programme, as well as Scottish Government policies aimed at reducing food insecurity and promoting social justice for all.

<https://www.abdn.ac.uk/research/explore/projects/35>



POLLUTION IN BABIES' LUNGS DURING PREGNANCY

Unborn babies have air pollution particles in their developing lungs and other vital organs as early as the first trimester, new research has revealed.

Scientists at the University of Aberdeen and Hasselt University, Belgium, studied air pollution nanoparticles, called black carbon - or soot particles - to see whether these can reach the foetus.

The ground-breaking findings show that the newborn baby and its placenta are exposed to air pollution black carbon nanoparticles proportionally to the mother's exposure.

These nanoparticles also cross the placenta into the foetus in the womb as early as the first trimester of pregnancy and get into its developing organs, including its liver, lungs, and brain.

This latest study is the first time this has been shown to occur and the team behind the study say the findings are very worrying.

Professor Tim Nawrot of Hasselt University said: "We know that exposure to air pollution during pregnancy and infancy has been linked with still birth, preterm birth, low weight babies and disturbed brain development, with consequences persisting throughout life."

The study authors conclude that now it is known that the developing baby in the womb is directly exposed to black carbon air pollution particles, uncovering the mechanisms involved in health risks has become even more urgent.

<https://www.abdn.ac.uk/news/16424/>



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



RESEARCHERS TEAM UP WITH WHISKY PRODUCERS

Researchers from the University of Aberdeen and James Hutton Institute have worked with The Glenlivet distillery to introduce environmentally sustainable solutions at Chivas Brothers' Speyside distillery to address water scarcity and protect whisky production.

Among the nature-based measures are small dams in the landscape supplying the distillery, designed to capture water during wet periods and to make this available when water is scarce.

Led by PhD student Jessica Fennell, the project is intended to help prevent the closure of the distillery during dry periods.

This year's heatwave saw temperatures soar across Scotland, and such periods are predicted to become more frequent due to climate change. Many distilleries have had to temporarily stop distilling in recent summers because of water

shortages, costing the industry millions. During the dry summer of 2018 groundwater supplies to The Glenlivet distillery decreased and did not replenish until the following spring.

After initially surveying the landscape to determine where dams would best protect groundwater supplies, the study team used a combination of field data collection and modelling tools to provide insights into how they operated once installed.

Jessica said: "Our results found that the features we installed will have a small but positive impact that could help increase water availability during periods of water scarcity and reduce flood peaks during high rainfall. Crucially, this could prevent the distillery closing during dry periods which has a significant cost impact."

<https://www.abdn.ac.uk/news/16226>



STUDY REVEALS ENVIRONMENTAL IMPACT OF PROCESSED FOODS

An estimate of the environmental impact of 57,000 food products in the UK and Ireland provides a first step towards enabling consumers, retailers and policymakers to make informed decisions on the environmental impacts of food and drink products.

The paper, to which the University of Aberdeen's Rowett Institute has contributed, compares the environmental impacts of meat and meat alternative products such as plant-based sausages or burgers, and finds that many meat alternatives had a fifth to less than a tenth of the environmental impact of meat-based equivalents.

When comparing the environmental impact score to their nutritional value as defined by the Nutri-score method, products that were more sustainable tended to be more nutritious, including meat and meat alternatives.

A study by the Food Standards Agency shows that over half of consumers in the UK want to make more sustainable decisions on the environmental impacts of foods and at the same time, food corporations are setting ambitious net zero greenhouse gas targets. Yet there is a lack of detailed environmental impact information on food and drink products that could allow consumers and corporations to make more sustainable choices.

<https://www.abdn.ac.uk/news/16243>



13 CLIMATE ACTION



COOL FARM TOOL WINS HERALD RESEARCH PROJECT OF THE YEAR

Research led by the University of Aberdeen has been honoured with a top accolade at this year's Herald Higher Education Awards 2022.

The Cool Farm Tool (CFT), which aims to tackle greenhouse gas emissions in food production, received the award for Research Project of the Year, which was sponsored by the Scottish Funding Council.

Developed by leading climate scientist Professor Pete Smith, from the University's School of Biological Sciences, the CFT is an online calculator for farmers to calculate the farm gate carbon footprint and environmental impact of farm produce to inform farming and field-level management decisions, based on robust quantification methods.



Now widely available as a free-to-use app by farmers and companies on a global scale, the CFT is a partnership involving the University's internationally recognised Soil Science Centre of Excellence, led by Professor Smith, Unilever and the Sustainable Food Lab.

Professor Karl Leydecker, Senior Vice-Principal of the University of Aberdeen, said:

"The Cool Farm Tool is a superb example of University research making a real-world difference and it's good to see recognition for it and Professor Pete Smith, who is internationally renowned for his work.

<https://newsquestscotlandevents.com/events/heawards/>



AI AND DATA SCIENCE PROJECT TO HELP FOOD SECTOR LOWER EMISSIONS

Scientists at the University of Aberdeen are embarking on a £1.1m project that will harness the power of artificial intelligence to help the UK's food and drink industry reduce its carbon emissions.

Co-created with businesses and industry stakeholders across the UK, the Enhancing Agri-Food Transparent Sustainability (EATS) project will gather and interpret complex data from new data sources on food and drink supply chains, using cutting-edge AI and data science techniques.

This data will be used to build a trusted digital sustainability platform where farmers, producers, and industry stakeholders can see the level of emissions created by food and drink items throughout their production, allowing them to identify where improvements in processes could be made to lower emissions and including tools to encourage changes in practice.

The project, funded by the Engineering and Physical Sciences Research Council (EPSRC), is an interdisciplinary collaboration led by the University of Aberdeen and involving researchers from the University of Dundee, the University of Nottingham, and Scotland's Rural College, who will provide expertise in areas including social science, chemical engineering and agricultural policy. Other partners include businesses and food and drink industry stakeholders across the UK.

Peter Edwards, Professor of Computing Science at the University of Aberdeen, is leading the EATS project.

<https://www.abdn.ac.uk/news/16017>



13 CLIMATE ACTION



PUPILS EXCEL IN CLIMATE CHANGE GAME CHALLENGE

Pupils from three north-east schools were celebrating after wowing the judges in a challenge that tasked them with designing and marketing an interactive climate change game.

Primary seven students from Ashley Road Primary in Aberdeen, Hillside School in Portlethen and Dunnottar School in Stonehaven took part in the challenge run by the University of Aberdeen Business School and supported by retailer Geek Retreat.

As part of the seven-month project, which started in November 2021, the pupils were asked to think about what makes a good game before building a business case outlining how their game would work and its unique selling point, as well as its name, logo and slogan.

They conducted market research, looking at existing competitors and outlined how they would go about marketing their games to their target

audience. They were also asked to consider what an advert for it would look like.

The ideas and prototypes were then put before a judging panel from the Business School, as well as Scott Leslie and Chris Robertson of Geek Retreat, the retailer, gaming café and events hub on Union Street, Aberdeen.

Winning teams from each of the schools were selected and invited for a tour of the University's Old Aberdeen grounds.

The pupils from each school were presented with a trophy, certificate and a range of games from Geek Retreat.

<https://www.abdn.ac.uk/news/16118>



SOLAR USE IN GREEK TOURISM INDUSTRY

Using solar panels in the tourism industry in countries like Greece and Cyprus will not only help reduce carbon emissions but also significantly reduce costs, research has found.

A case study carried out on a typical Greek island tourist hotel on Rhodes challenges the commonly held belief that 'tourism is hard to decarbonise' and 'renewables are too expensive'.

Using novel numerical modelling for electric energy consumption and production, the analysis shows there will be huge cost benefits for the Mediterranean economy particularly when the price of imported energy from fossil fuels is at an all-time high because of the current conflict in Ukraine.

By applying a net metering system at Kolymia Bay Art Hotel it was found that the carbon emissions associated with its energy system could be reduced by more than 30%.

Relying less on fossil fuels could also bring other benefits such as being more reliable and better for health. During the heatwave of 2021 loss of electricity for cooling due to power outages as a result of high demand on the system presented one of the biggest risks to human health demonstrating the importance of creating self-sustaining energy systems such as with renewables.

Zara Mulholland, a MSc student from the University of Aberdeen's School of Biological Sciences, co-authored the study published in the journal *Energies* with Professor Frithjof Kuepper, University of Aberdeen and Dr Martin Spiller, ISATEC Germany.

<https://www.abdn.ac.uk/news/16217>



14 LIFE BELOW WATER



MARVELLOUS MOLLUSCS PROJECT IMPROVES ACCESS TO COLLECTIONS

Improved access to one of the University of Aberdeen's nationally significant collections for visitors, school-pupils, and the public, has been achieved through the year-long 'Marvellous Molluscs Project', reigniting its use for learning and research.

The Mollusc collection, housed in the Zoology Museum, won the NatSCA (National Sciences Collections Association) 'Bill Pettit Memorial Award' which supports the conservation, access, and use of natural science collections.

The University's Zoology Museum has collections ranging from molluscs to mammals and is an important and diverse part of the University's museum collection which is a Recognised Collection of National Significance.

The project, supported by the NatSCA grant, has also improved the storage of the molluscs to extend the longevity of the collection for future uses.

The collection comprises approximately 2,550, mostly British, specimens collected from the 1840s to the 1970s. The specimens were gifted to the museum by former students, academic staff, and amateur shell collectors, and also include several specimens from as far afield as Madagascar, America, China, Peru, and Jamaica.

<https://www.abdn.ac.uk/news/15955>



IMPACT OF OFFSHORE WIND ON MARINE FOOD CHAINS

The impact of offshore wind across the marine food chain will be explored in a new project.

Led by Professor Beth Scott from the University's School of Biological Sciences, the Physics-to-Ecosystem Level Assessment of Impacts of Offshore Windfarms (PELAGIO) research will cover all aspects of the food chain from plankton productivity to prey availability for predators.

It is one of three projects which are part of the Ecological Consequences of Offshore Wind research programme (ECOWind) which will investigate all possible effects of offshore wind on the marine environment. The findings from the programme, which is bringing together experts from science and policy, will inform policy measures designed to minimise negative impacts on marine life while tackling climate change.

In response to concerns over climate change and energy security, the UK Government has made ambitious targets for offshore renewable energy. However, the cumulative effects of building offshore wind farms at such a scale, coupled with the consequences of other human activities on marine life, are not well understood, particularly when also considering the future effects of climate change on the sea.

Professor Scott said: "We will blend state-of-the-art platforms, ocean robots and satellite observations with cutting edge numerical modelling to design new low-carbon methods to provide the data and evidence needed to understand how plankton, fish and seabirds are interacting with these man-made additions to our oceans."

<https://www.abdn.ac.uk/news/16297>



15
LIFE
ON LAND

PROJECT TACKLING LAND DEGRADATION IN ETHIOPIA

The University of Aberdeen is leading an international collaboration of researchers in a £1 million project that aims to improve land and soil degradation in Ethiopia, which affects over a quarter of the East African country.

Land degradation in Ethiopia is caused by a wide range of factors including deforestation and agricultural practices and affects the food security of nearly a third of the country's 110 million population.

With climate change predicted to increase the risk of future loss, the Ethiopian Government has established specific 'closed' conservation areas where activities are restricted, to allow degraded land to recover. However, this practice mostly affects the poor in these communities as they depend on access to support their livelihoods.

In a bid to balance the needs of communities with effective land management, the Ethiopian Bureau

of Agriculture is supporting the project involving researchers in Ethiopia, Sweden, and the UK.

The project - Reducing land degradation and carbon loss from Ethiopia's soils to strengthen livelihoods and resilience – is funded by the UKRI Global Challenges Research Fund (GCRF).

Professor Euan Phimister, from the University of Aberdeen Business School, is coordinating the research. He said: "Land and soil degradation is a major problem in Ethiopia, and we will implement and evaluate various options to improve land conservation measures, including how benefits to local communities from closed conservation areas can be increased in a fair way while safeguarding soil conservation."

<https://www.abdn.ac.uk/news/14502/>



INNOVATIVE RESEARCH TO SUPPORT EXPANSION OF FOREST AND WOODLAND IN THE UK

A study led by the University of Aberdeen is one of six major research projects to benefit from a £3 million funding pot to explore the most effective ways to expand the UK's trees, hedgerows, woodlands and forests in rural and urban settings.

Forests and other treescapes account for 13% of the UK's land surface and capture approximately 21 million tonnes of carbon dioxide a year, providing an important contribution to the UK's goal of reaching net zero carbon emissions by 2050. They can also reduce flooding, improve biodiversity, reduce pollution and benefit people's wellbeing.

The Farm Tree project, which has secured £0.5 million of funding, is focused on balancing farm and landscape-scale demands for integrating trees on agricultural land.

It will see researchers build on existing agroforestry initiatives and develop practical tools for farmers to enhance the expansion of trees on agricultural land.

The team will focus on Scotland as the main study region and explore how agroforestry could make important contributions to water resources management, achieving Scotland's ambitious policy target of reaching net zero by 2045, and wider benefits.

<https://www.abdn.ac.uk/news/16371>



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



ABERDEEN LAW PROJECT

The Aberdeen Law Project (ALP), a student operated legal advice service, has two primary aims. First, to bridge the access to justice gap by offering free legal advice and representation to those that need it most. Second, to reduce the justice gap through efforts on law reform and a programme of community outreach initiatives that educate individuals and third sector organisations on the law.

Those involved with ALP, the only organisation of its kind in the area, volunteer their time to give a voice to those who would otherwise go unheard and hope to those who would otherwise feel hopeless. ALP provides an essential service to the local community as well as a fantastic opportunity for law students at the University of Aberdeen to develop their skills.

This academic year has seen ALP expand its online services while creating new initiatives. Client

work remained very successful and saw, due to the lockdown, a rise in the number of housing queries. This year was also marked with numerous cases won in new areas of the law, such as inheritance and equality laws.

We have continued to provide online services to pupils through our online 'So you want to be a lawyer' events which have reached more than 100 students this year.

This year was also marked by the creation of multiple partnerships with third-party organisations, including Aberdeen Cyrenians, Aberdeen South Foodbank, APEX Grampian and GREC.

<https://www.abdn.ac.uk/giving/blog/aberdeen-law-project-success-thanks-to-donors/>

<https://abdnlawproject.com/>



PROTECTION OF ABDUCTING MOTHERS

The Protection of Abducting Mothers (POAM) project is a collaborative research project which explores the intersection between domestic violence and international parental child abduction within the European Union. The project is concerned with the protection of mothers who have abducted their children, in circumstances where their action motivated by acts of domestic violence from the left-behind father.

The return proceedings outlined in the 1980 Hague Convention and the Brussels IIa sections of EU law, have an unintended potential not only to compel the return of the abducted child but also to de facto compel the return of the mother who was fleeing alleged domestic violence. The woman's partner has used international and European Union law to secure the return of his child and the probable return of the mother too. Evidence suggests that this unintended consequence occurs on a frequent basis, and it is important to ensure that there are protective measures to safeguard the returning mother, with professionals trained in the application of the law where the abduction has taken place against the background of domestic violence.

The POAM project is led by the University of Aberdeen's Dr Katarina Trimmings, and involves three further partner institutions – the University of Munich (Professor Anatol Dutta), the Milano-Bicocca University (Professor Costanza Honorati), and the University of Osijek (Professor Mirela Župan).

<https://research.abdn.ac.uk/poam/>



17 PARTNERSHIPS
FOR THE GOALS

PROJECT SEARCH SUCCESS

Project Search launched at the University of Aberdeen in September 2013 and is hosted on our King's College campus. Every year the programme offers one-year internships to around twelve young people (aged 16-24) with learning disabilities. They are supported to undertake three work placements at the University or with partner organisations in roles including administration, grounds, maintenance, IT, media services, childcare, catering, or retail. In parallel, they study towards the City & Guilds Certificate in Employability Skills.

The programme operates on a partnership basis involving several organisations, including Values Into Action Scotland (VIAS) (<https://viascotland.org.uk>) (which holds the licence to operate the programme) and North East Scotland College (<https://www.nescol.ac.uk>) (where Interns are registered students). Interns also receive support from various other partner organisations, including Skills Development Scotland, the Department for

Work & Pensions, and the Aberdeenshire Council Employability team.

Since September 2013, an average of 68% of our graduates have moved into employment across the north-east of Scotland, around 10x the average employment rate for those with a learning disability who do not enter a post-school programme.

In October 2022, the programme received national recognition, being awarded two DFN Project SEARCH Outcomes Awards in recognition of its employment rates for Session 2020/21 which was in the top 10% of the 120 project sites across the UK, Ireland and Iberia.

<https://www.abdn.ac.uk/staffnet/working-here/project-search-2431.php>

COLLABORATIVE
RESPONSES TO CRIME
AND CHRONIC VIOLENCE
IN MEXICO

A University of Aberdeen project aims to establish a network-based approach to partnering between civil society, government and communities in response to non-war violence and organised crime. The primary output of the research will be a Guide to Participatory Research for Effective Collaboration in Response to Non-War Violence, aimed at civil society organisations (CSOs) looking to engage with the state and those communities affected by organised crime in Mexico.

The project focuses on the role of participatory research in enhancing responses to this violence. UN Resolution A/RES/73/338 and SDG16 acknowledge the global rise in violence outside of war, recognizing that organised crime can aggravate existing societal violence and corrupt the states that are supposed to respond. UN agencies call for civil society to play a lead role, but there is little clarity on how civil society can engage effectively with states subject to organised crime on the one hand, while connecting with communities disrupted by violence on the other. The network approach will consider how academics can partner with civil society to develop research that enhances collaborative responses. Alongside the Guide, a series of academic articles in Spanish and English will highlight arts and humanities insights on such topics as the role of churches, legal strategies and arts-based forms of research, as well as issues around community representation.

<https://www.abdn.ac.uk/research/explore/projects/55/>





SCIENCE DIPLOMACY TRAINING PROGRAMME

The Covid-19 pandemic and the resulting global crisis have highlighted both the growing divide between scientific evidence and government decisions, and the need for coordinated global responses to challenges that do not understand borders.

A University of Aberdeen project proposes the design and implementation of a training programme to equip researchers with the knowledge, tools and networks necessary to effect evidence-informed actions to tackle the interdisciplinary challenges of the University's Aberdeen 2040 sustainability strategy, including climate action, biodiversity, energy transition, global health, frontier technologies (e.g. AI, quantum, neurorights), gender equality, and cross-cultural diversity and inclusion.



Bridging this gap is urgent, especially in the context of the climate emergency, enabling scientists to better convey their research in policy and diplomatic spheres, while also ensuring that sound scientific data underpins national and international climate resilience decision making processes, agreements and actions.

However, these conduits are not always clear, and researchers aren't typically familiar with the language, norms and culture of the world of policy. If we aspire to influence global climate policy with our research, we need to understand the scientific entry points to climate governance frameworks, and how to communicate and package our research to be useful to policy and decision makers.

<https://www.abdn.ac.uk/research/explore/projects/12/>

£4M INVESTMENT IN 20 NEW RESEARCH POSTS TO SOLVE MAJOR GLOBAL CHALLENGES

The University of Aberdeen is set to invest nearly £4m to recruit 20 experts to address the key global challenges facing society.

Supported by funding from the University's Development Trust the positions will strengthen work towards the Aberdeen 2040 strategy and are based around five themed research areas; Energy Transition, Environment and Biodiversity, Health, Nutrition and Wellbeing, Social Inclusion and Cultural Diversity and Data and AI.

The campaign message - 'Where great minds come together' - reflects the University's focus on interdisciplinary teaching and research, a key strand of University Principal Professor George Boyne's ambitions to promote collaboration across disciplines to lead the research agenda of the future.

Professor Marion Campbell, Vice-Principal for Research, said: "This significant investment in 20 academic posts is indicative of our ambitions to bring a highly motivated group of top researchers to Aberdeen to work collectively and individually to solve major global challenges, from energy transition and climate change to the global food crisis and devastating healthcare inequalities.

"At the University of Aberdeen, we're dedicated to creating a brighter future for all and harnessing the power of our collaborative research to answer the most important questions that will bring benefits to our world both locally and internationally.

"Research is at the core of everything we do and we are dedicated to bringing this next cohort of researchers to Aberdeen to help solve the world's challenges and as a result bringing about economic, environmental, social, cultural, health and wellbeing benefits for all.

<https://www.abdn.ac.uk/news/16358/>





HIGHEST UK HONOUR FOR UNIVERSITY AT CEREMONY IN ST JAMES PALACE

Members of the School of Biological Sciences were presented with the Queen's Anniversary Prize - the highest Honour for UK further and higher education - at a ceremony in St James Palace, London.

The prestigious award was granted to the University for world-leading research and education in Soil Science promoting the control of greenhouse gas emissions and sustainable food production.

Scientists at the University have established a world-leading centre of excellence in Soil Science which strives to find solutions to some of society's greatest threats including the climate crisis and environmental change.

The University made major contributions to the COP26 conference in Glasgow.

Representatives of the University were presented with the Queen's Anniversary Prize by HRH Prince Charles, The Duke of Rothesay and HRH The Princess Royal, Princess Anne, at the ceremony on Thursday, 17 February 2022.

Professor George Boyne, Principal and Vice-Chancellor of the University of Aberdeen, said: "It is a great honour to be presented with the

prestigious Queen's Anniversary Prize which is high commendation indeed of the ground-breaking and world-leading research at the University of Aberdeen.

"The impressive work of our soil scientists will make a significant contribution in some of humanity's greatest challenges including climate change and the deterioration of our global soil resource. It is fitting that our staff and students have been recognised with this coveted award."

Professor Marion Campbell, Vice-Principal for Research, said: "Understanding soils at all scales enables us to respond to the climate crisis, address food security and rebuild our loss of biodiversity globally.

"The research carried out here in Aberdeen is locally relevant and internationally impactful.

"The impressive work of our soil scientists will make a significant contribution in some of humanity's greatest challenges including climate change and the deterioration of our global soil resource. It is fitting that our staff and students have been recognised with this coveted award" observed Professor George Boyne, Principal and Vice-Chancellor.

"The award of a Queen's Anniversary Prize is testament to the excellent work being done by our soil scientists at the University of Aberdeen and I am pleased they have received this recognition."

Head of the School of Biological Sciences Professor Graeme Paton said: "I could not be prouder of the staff and students at the School of Biological Sciences for receiving this honour.

"Our School is made up of the cleverest minds from around the world who are dedicated to world class research which will benefit future generations. I am delighted that so many of our current and previous hard-working staff have been recognised and honoured at the Queen's Anniversary Prize celebrations in London.

"This year will be a transformative one for the School of Biological Sciences as well as the wider University with the opening of the Science Teaching Hub and the recruitment of a Director for our new interdisciplinary Centre for Environment and Biodiversity.

"The research of our staff and students is making an immense contribution to some of the greatest challenges of our time and it is fitting that their tremendous efforts are recognised with this coveted award.

"The issues we face in maintaining sustainable soils are greater now than ever before and at Aberdeen we have the techniques, skills and people to address these challenges and make a real difference.

"I look forward to seeing the continued impact that the School's research will have in years to come."

The Queen's Anniversary prize, which was established in 1993, is awarded every two years in recognition of world-class excellence and achievement.

<https://www.abdn.ac.uk/news/15775/>





ENTERPRISE & INNOVATION

As well as conducting world-leading research, the University of Aberdeen works to nurture the development of practical applications from that research. This ranges from providing support for entrepreneurial students and recent graduates through our ABVentures programmes, through to support with commercialising academic breakthroughs and developing their medical, commercial and industrial applications. In 2022, this support has seen a variety of different projects emerge, ranging from graduate food and drink entrepreneurs through to cutting edge medical applications.

Two Raccoons: The co-founders of Two Raccoons, Elliott and Lasse, started their business to fight food waste across Scotland by turning surplus fruit into wine, winning a Scottish Young EDGE prize for under 30s. In 2021, Two Raccoons saved over 5 tonnes of fruit surplus from being wasted and are currently working with food businesses, foodbanks and other organisations to make use of surplus fruit. Two Raccoons aim to become the world's first fully circular zero-waste winery. <https://tworaccoons.co.uk>



Zephyrus Aerolabs: A clean-tech start-up in Aberdeen, Zephyrus Aerolabs is pioneering an aerial emission monitoring solution to support rapid mitigation efforts needed to sustainably achieve Net Zero. The green technology incorporates a fully adaptive custom-built unmanned aerial vehicle (UAV) equipped with accurate, state-of-the-art emission sensors. The system can be used to monitor greenhouse and hazardous gas emissions in real-time, with relatively low cost and high efficiency. <https://www.zephyrusaerolabs.com/>



Grown Agritech: Another Aberdeen start-up, Grown Agritech are working to develop sustainable and innovative indoor growing products to produce local, fresh, pesticide-free food and bring production close to consumption, eliminating food miles. Grown Agritech products and services are environmentally sustainable and economically viable, helping tackle food security and climate change by offering fresh produce, commercial indoor growing systems, and digital crop consultancy services. <https://grown.org.uk/>



Magnitude AI: This start-up is developing technology that will help diabetic patients to track, monitor and predict their health-sensitive information. Magnitude AI founder and University of Aberdeen Artificial Intelligence (AI) researcher, Adinath Ghadage, founded the business upon a unique alert system application to connect patients with health services in real-time, to manage and overcome emergencies. The monitoring system will flag potential emergencies and effectively distribute resources such as ICU preparation and specialist doctors. <https://magnitudeai.co.uk/>



Two of these fledgeling businesses are finalists in the 2022 Converge competition - Scotland's largest programme supporting company creation from the university sector. Two Raccoons are finalists in the Converge Create Change category; and Zephyrus Aerolabs in the Converge Net Zero category, hoping to win a share of the £310K prize fund and start-up support, with winners to be announced at an awards ceremony in Edinburgh in November 2022. <https://www.convergechallenge.com/28-academic-innovators-go-head-to-head-for-310k-prize/>. Previous finalists from the University of Aberdeen have included Aiber and Elasmogen.



Aiber: A University of Aberdeen spin-out developing a medical device to help non-professionals manage health care emergencies in remote settings has received investment totalling over £2m. Aiber, the trading name for MIME Technologies, received £1.6m from BGF, a large UK and Ireland investor, with further investment from Scottish Enterprise and Equity Gap. The technology uses natural language generation for smart first response to health emergencies at sea or in the air. The tech offers first aid software with onboard kit, designed with input from two of the world's leading airlines. It is designed for use on aircraft and ships by non-medical professionals, with the technology connecting live event data with on-the-ground care teams, to guide informed decisions about health situations ranging from burns or allergic reactions, to heart complaints. <https://www.lifesciencescotland.com/news/inverness-based-medical-technology-firm-aiber-completes-2m-fundraising-round>





Vertebrate Antibodies: A collaboration between Aberdeen researchers and spin out Vertebrate Antibodies Ltd has resulted in development of AI-assisted technology, the Universal EpitoGen SARS-Cov-2-test, which has surpassed existing covid tests in the National Institute for Biological Standards and Control (NIBSC) quality assurance assessment. The test has proven to be almost 100% accurate in detecting antibodies present in infections. The agile and innovative EpitoGen technology is effective in detecting an antibody response to new variants and can therefore assess the prevalence of circulating variant strains in the community, including OMICRON, while new mutations can be added in only a few days. The work was funded from the Scottish Government Chief Scientist Office Rapid Response in Covid-19 (RARC-19) research programme. Professor Mirela Delibegovic, academic lead from the University of Aberdeen said: "The news that our tests are so remarkably accurate is extremely exciting, particularly given the increasing worry around the emergence of new variants." The team are expanding the scope of the technology to incorporate diagnosis of infectious and auto-immune diseases such as Lyme Disease and Type 1 Diabetes. <https://www.abdn.ac.uk/news/15626/>

Elasmogen: This University of Aberdeen biopharmaceutical spin-out company has secured £8 million of investment from BGF, Scottish National Investment Bank, and Scottish Enterprise. The investment will allow further development of Elasmogen's next-generation drugs through pre-clinical trials. The company's unique soloMER™ platform (based on small, stable molecules derived from the shark immune system) has been used to discover and develop new potential therapeutics that could target solid-tumour cancers, systemic inflammatory diseases, and inflammatory conditions of the gut. The soloMER™ technology was first developed at the University of Aberdeen before further development by spin out Haptogen Ltd, which was later acquired by US pharma company Wyeth, and subsequently by Pfizer. <https://www.elasmogen.com/bgf-scottish-national-investment-bank-and-scottish-enterprise-join-forces-to-invest-8m-in-aberdeen-biologics-company-elasmogen/>



EnteroBiotix: Started by former University of Aberdeen medical student, Dr James McIlroy, during his training, EnteroBiotix is a biopharmaceutical company developing novel microbiome-based therapeutics against a range of diseases. The company has seen substantial recent investment in the technology with the announcement of the final closing of its oversubscribed USD \$21.5 million (UK £15.5m) Series A financing in 2022. The investment will underpin further development of their microbiome drug pipeline and manufacturing. The investment from Thairm Bio, Kineticos Ventures, Scottish Enterprise, and SIS Ventures will accelerate EnteroBiotix's mission to transform patient care and improve the lives of those facing debilitating and chronic diseases that are impacted by the microbiome. <https://www.enterobiotix.com/news/enterobiotix-raises-over-21m-in-series-a-financing>





REFLECTIONS ON COP26

The 2021 United Nations Climate Change Conference, commonly known as COP26, took place in Glasgow between the 1st and 12th of November 2021. It was a major milestone for the climate agenda, one of the most significant since the inception of the Paris Agreement in 2014. The UK presidency of the COP (Conference of the Parties) had set an ambitious task of “keeping 1.5°C alive”, referring to the stretch target of the Paris Agreement to keep global warming increases below 1.5°C to limit some of the most destructive impacts of climate change. High on the agenda were the complex issues of adaptation to climate impacts and the increasing importance of compensation for ‘loss and damage’, reflecting the reality that climate impacts are here and are having an impact across the planet, particularly in vulnerable countries and regions.

The international community submitted more ambitious plans and commitments to cut emissions by 2030 – but these commitments, and the critical actions that need to follow – have generally fallen short of the ambition needed to stay within the 1.5°C target. The UN in its Emissions Gap report 2021 highlighted that the current round of pledges stand to increase warming in the range of 2.2°C to 3.2°C by the end of the century, woefully inadequate to limit climate damage. As we progress towards COP27, there is considerably more momentum and action needed to address the crisis. In Egypt this year, major effort will be dedicated to closing this gap and to increasing resources to help climate-vulnerable countries adapt to the already dangerous and costly impacts they are facing now.

For the University of Aberdeen, engaging in the COP was a transformative process for our students and staff. With the opportunity afforded by a global climate conference so close to home in Glasgow, the University developed an extensive range of public-facing events and activities that brought together our community to discuss, debate and offer solutions. We sent a large contingent of students and staff to the negotiations in Glasgow, and this direct participation and engagement in the negotiations and civil society events has shaped our view and our strategy for addressing the climate emergency.

Our events and regional partnerships ensured that the voices of our communities and regional stakeholders could engage in a positive and robust debate over how to achieve and embed the goals of the Paris Agreement. Our COP26 ‘Sustainable Futures Seminar Series’ and events such as ‘Energy and Climate Crisis in Africa’ and ‘CSR in the Arctic’ collectively engaged with over 500 University and public attendees. Our Mock COP event empowered 60 students from 11 local secondary schools to discuss solutions for climate justice; while our climate capsule engaged local schools and University staff to share their thoughts about the future of our planet. The capsule included a message from Camilla, Queen Consort in which she outlined “My hope and prayer is that the inspiring efforts made by this generation of young people to fight climate change will lead to a better, more sustainable future for everyone.”

The regional COP26 forum facilitated by the University engaged with industry, public and community stakeholders in focusing leadership on COP outcomes. We took a deep, interdisciplinary approach to climate issues including specialist talks on topics ranging from renewable energy and storage to artistic expressions such as the incredibly popular ‘Songs of the Ocean’ from the Deep Ocean Initiative.

Reflecting on COP26, and with our focus firmly on COP27 and beyond, we have identified a number of areas where we want to continue to embed climate action, education and research. We will enact our own Climate & Sustainability Assembly series early in the new year as a means of fostering continual dialogue with staff and students on the development of our sustainability activities on campus. We will incorporate climate and sustainability into all levels of teaching, including curriculum mapping on the SDGs and cross school engagement. We also intend to facilitate capacity building of staff and students and will support a continued presence at future COPs in climate and biodiversity.

COP26 was an influential and defining experience for the University and its community and we intend to continue to use the legacy of COP26 to engage and promote positive action to achieve Net Zero.

<https://www.abdn.ac.uk/research/climate-capsule-766.php>

<https://www.abdn.ac.uk/news/15538/>

<https://www.abdn.ac.uk/news/15410/>





ABERDEEN UNIVERSITY STUDENTS' ASSOCIATION

The Aberdeen University Students' Association is the student-led organisation that supports, empowers, and represents the student community. Across its wide range of responsibilities, its activities support the Sustainable Development Goals (SDGs) in a variety of different ways. The examples below provide just a flavour of how the SDGs are addressed through the work of AUSA itself, or via the activities of the students and student societies it supports.

SDG 1 No Poverty & SDG 2 Zero Hunger: The student movement in Aberdeen has a long history of fighting poverty, with the annual Raising and Giving (RAG) and Torch Parade predating the creation of AUSA itself in raising funds for local charities. During the ongoing cost of living crisis, AUSA is working to fight student poverty, with one of the tools available being an advice service, which provides detailed guidance on housing and related issue, and also acts as a first point of contact for any student that finds themselves in financial difficulty.

The Students' Union also hosts a "public fridge" scheme, whereby surplus food from supermarkets or other catering outlets is collected and redistributed to students via the FoodSharing hub run by student volunteers. The Union's own café, "Union Brew", makes surplus available for the Hub. Mindful of the cost of food, Union Brew is also developing a budget menu of food and drink that will provide options at a fraction of the cost of the normal pricing.



SDG 3 Good Health and Wellbeing: The Student Mental Health Agreement (SMHA) is a commitment reached between the University and AUSA to improve the mental wellbeing of all students through the provision of awareness raising activities, the promotion and facilitation of self-care, and by ensuring that support is available and accessible to all. The programme includes larger scale initiatives such as the "take a break" programme during exam times and "mental health awareness week" which runs annually.



SDG 5 Gender Equality & SDG 10 Reduced Inequalities: The Liberation Network at the Student Union includes Black, Asian and Minority Ethnic, Women and Non-Binary, Disabled, LGBTQ+, and Trans Students' Forums. As part of any Liberation Network, it is important that spaces and structures are provided, where those belonging to any marginalised group can organise. The Student Union is working hard to ensure that students know these forums exist, and that the Forums have the support they need to be effective. Similarly, there are Section Forums for Mature, Postgraduate, International, Part-Time, and Student Workers groups, providing support for all students whose University experience can be affected by the particular circumstances surrounding their studies.

SDG 12 Sustainable Consumption and Production: The Students' Union building hosts a student run SwapShop that enables students to reduce waste and consumption by donating items they no longer need and picking up something they do, saving money and encouraging reuse. The Union also runs a free bike-hire programme that helps students travel sustainably during their studies without having to purchase a bike if they only need one for a short amount of time.

SDG 13 Climate Action: There are numerous student groups and societies that actively engage in climate action in different ways. Examples range from the Secret Garden Society that uses some under-utilised land provided by the University to grow crops, to the student Fossil Free campaign group, that successfully lobbied the University to divest from fossil fuels.

Meanwhile, the Union itself is working to embed climate action into its strategy. AUSA has identified sustainability as one of the cross-cutting themes in its last strategic plan and has also secured "Very Good" certification via the NUS-Green Impact scheme, reflecting the depth and breadth of the Union's sustainability ambitions and initiatives.



SDG 17 Partnership for the Goals: As well as contributing to the wider University community's sustainability agenda, notably through formal participation in institutional groups like the Sustainable Development Committee, the Students' Union is also a member of the North-East Scotland Climate Action Network (NESCAN) which is emerging as the primary forum through which to collaborate with a variety of external local groups on all aspects of sustainable development.



