



Middlesex
University
London

MIDDLESEX UNIVERSITY

PRINCIPLES FOR RESPONSIBLE MANAGEMENT

REPORT 2022





FOREWORD



It is with great pride that Middlesex University renews its commitment to the mission of the UN Global Compact and UN Principles for Responsible Management (PRME). We were one of the first UK universities to sign up to the UN Global Compact and I am delighted to see how the breadth of work across the University supports the iterated goals of UN PRME.

As a global, connected community with three international campuses, we are united by a shared purpose: to create knowledge and put it into action to achieve impact through our distinctive practice-orientated education, research, and engagement. We remain fully committed to the UN PRME and to building on our work aligned with the Sustainable Development Goals (SDGs), which will become increasingly important over the next years.

One of the leading modern universities in professional, technical and creative education, we are focussed on knowledge that transforms lives and creates impact on the issues we care about. We work in partnership and bring people together to create solutions to complex problems, and we continue to consider the Principles in the research we undertake, and the ways we use partnerships and dialogue to create impact. At Middlesex, we believe that healthy lives and a sustainable environment are central to enhancing societal, organisational and personal achievements and wellbeing. It is with a sense of responsibility that we prepare our students to become business leaders in a changing world, in which their chosen sector will likely be impacted by the climate crisis. We collaborate, co-create with and inspire the next generation to embed sustainability best practices into their work across sectors.

At a time of significant change for our sector as well as nationally and globally, the past two years have been important for Middlesex University's contribution to advancing the mission of the UN Principles and to delivering the SDGs – with a sharp focus on making an impact via the three Integrating Themes from our Strategy to 2031: equity and improvements in health and wellbeing; inclusive socio-economic development and enriching lives through culture; and sustainability of communities and the environment.

The UN Principles are an important focus for our Business School, and – as this report demonstrates – they also shape our wider work, both in our global campuses in London, Dubai and Mauritius, and through our extensive international networks. The Principles will be important as we continue to shape our future, and we are also determined to do more to embed and advance the Goals at all levels of our institution.

As Deputy Vice-Chancellor, I am committed to building on our reputation for innovation and creativity and strengthening our sense of local and global responsibility. Over the past two years, our work has been vast, and it involved everyone in our whole global community of academics, researchers, professional services staff, students and partners. This report highlights some of the many impressive and transformative ways in which Middlesex University is improving outcomes for individuals, communities and organisations. I look forward with great interest to the continued success of UN PRME and to building on our involvement with its international community.

Professor Sean Wellington
Provost, Deputy Vice-Chancellor

Photo credit: David Holbrook Photography

MIDDLESEX

IN NUMBERS

2021/22



TOP 10
UK university for
business leaders and
entrepreneurs
(Hitachi Capital Finance, 2020)



93%
of our postgraduates
are in high skilled
employment
or further study
(Graduate Outcomes 2019/20)



+1,700
staff from
73
nationalities in London



+38,000
students
+274,000
alumni around the world



3
campuses
14
regional offices
worldwide



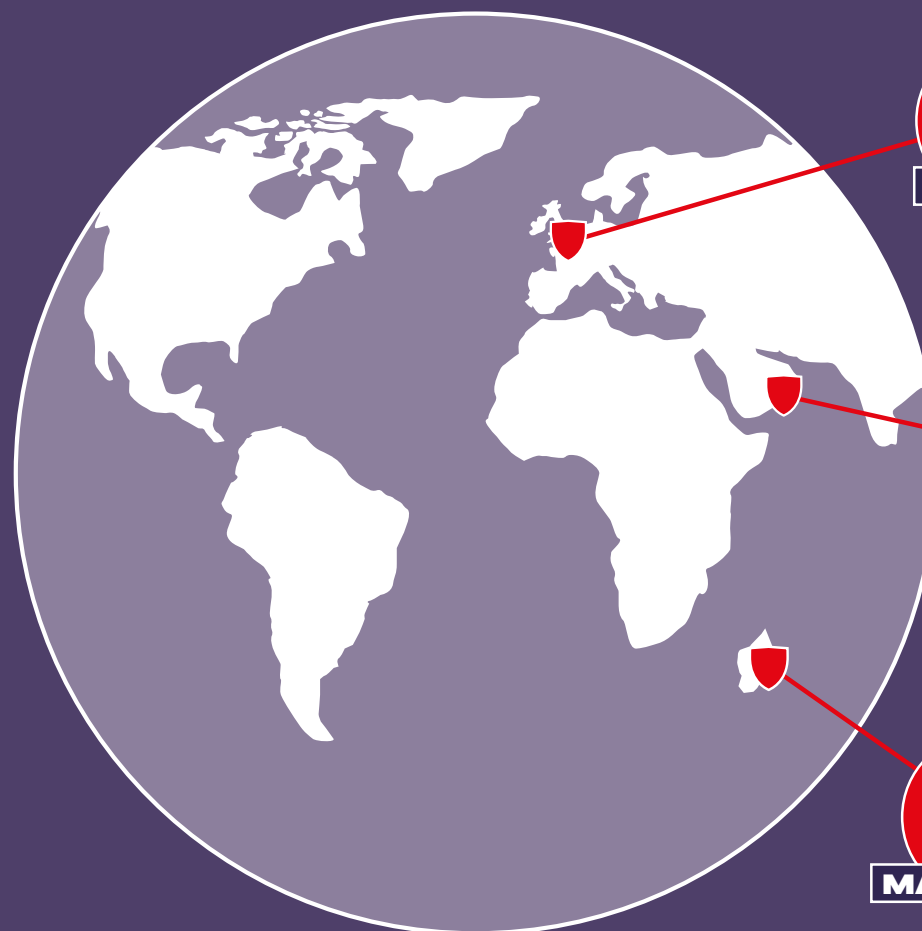
1,000
industry partners enhance
our education and student
opportunities



Increase in global impact of
our world-leading research
(REF 2021)



£23M
simulation-based
skills facilities
in London



LONDON



DUBAI



MAURITIUS



TOP 2
UK university
(THE Young Universities Rankings 2022)



TOP 200
university globally advancing
United Nations' Sustainable
Development Goals
(THE Impact Rankings 2021)

INTEGRATING THEMES

Our Strategy to 2031 integrating themes give us focus. They operate across our global network of campuses, include academics, professional services, students and alumni, and work across **Education, Research and Knowledge Exchange, and Engagement.**

Our community is committed to making a significant impact and contribution to the following global challenges:



SUSTAINABLE DEVELOPMENT GOALS

The UN Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. Our three integrating themes have clear links to these important goals, and each theme is relevant to a selection of the SDGs.

Middlesex is part of the SDG Accord which aims to inspire, celebrate and advance the critical role that Higher Education has in delivering the SDGs and the value it brings to governments, business and wider society. It also carries a commitment to do more to deliver the SDGs, to report annually on progress and to share learning with other educational institutions, both nationally and internationally.

EQUITY AND IMPROVEMENTS IN HEALTH AND WELLBEING

Taking action to make healthcare better for those who need it, we aim to reduce inequalities in people's care. Beyond healthcare, we are improving physical, mental and social health and wellbeing in all parts of society.

Links to SDGs:



SUSTAINABILITY OF COMMUNITIES AND THE ENVIRONMENT

Locally, nationally, and around the world, we support people to make their communities more sustainable and fairer and to protect the environment. Globally, our expertise influences economic, social and environmental policy and practice, enabling us to create change within communities.

Links to SDGs:



INCLUSIVE SOCIO-ECONOMIC DEVELOPMENT AND ENRICHING LIVES THROUGH CULTURE

With a belief that entrepreneurship can be key for a fair and inclusive future, we foster skills for economic participation and success to build a more equal, caring and prosperous society. We use culture and creativity to enrich the lives of individuals and communities and we contribute to organisations of all types through impactful research and knowledge exchange.

Links to SDGs:



Visit [MDXstrategy2031.co.uk](https://mdxstrategy2031.co.uk) to see our themes come to life through video and examples of our work. Keep checking back for updates as our living strategy continues to evolve.



STRENGTHENING OUR FOCUS ON THE

SDGs

Middlesex University is signatory to the UN SDG Accord, which aims to inspire, celebrate and advance the critical role of higher education in delivering the SDGs, and the value it brings to governments, business and wider society.

Our UN SDGs Report 2021/22 summarises many of the University's key activities, research and collaborations in 2021/22 which advanced the delivery of the SDGs and our strategic purpose to create knowledge and put it into action to address global challenges. We consulted with key stakeholders and the University Executive Team to decide which of the SDGs are areas of strength in our learning, teaching, research and operations, as well as which Goals to focus on in our submission to the *Times Higher Education* Impact Rankings.

Through this process as well as through the research and reporting data that we have collected so far, the following Goals were identified as priority areas for our institution as we work to embed the SDGs across the University. While we do not intend to limit our contributions towards other Goals in any way, we believe that a focussed approach will provide direction and allow us to strengthen our impact as an SDG Accord signatory in future years.



[Read our UN SDGs Report 2021/22 here](#)



1. LEARNING AND TEACHING:

EMBEDDING THE SDGs IN THE CURRICULUM

SDG issues will be included in all courses in at least one core module – a curriculum review to implement this is under way. Through this, graduates will acquire both sustainable development skills and a global outlook. The Goals are integrated into our Strategy to 2031, as we educate for a sustainable and fair future for all, and prepare our students for the increasingly interlinked and global challenges of this decade and beyond.

The SDGs are already referenced in some courses but this has not been systematic throughout the University, and we are working to embed education for sustainable development in all taught courses. This work will be maintained through our 2031 Strategy, which aims to deliver learning that empowers students to thrive and achieve while contributing positively to meeting the Goals.

The graduate competencies, which inform the skills and qualities we aim to develop through learning and teaching at Middlesex, are also under review to include the principles of education for sustainable development.

Our learning and teaching information was provided by Faculty Deputy Deans and Heads of Departments. The examples below do not cover every aspect of SDG engagement from all Departments, rather provide an overview of how different subjects are engaging at undergraduate and postgraduate levels.





FACULTY OF

BUSINESS AND LAW

Sustainable development currently informs many business and law courses. All programmes that are proposed for validation or review are expected to have reference to sustainable development and specific SDGs.

TOURISM AND HOSPITALITY

- In their first year, undergraduate Tourism and Society students spend five weeks considering ethical and sustainability issues in tourism, and their first summative assessment is on this topic. In third year, the Tourism Policy module covers how the SDGs can inform tourism-led development. The module also examines the consequences and policy responses to climate change and considers the sustainability of mega-events such as the Olympics
- Tourism subjects are currently working to embed the Goals in core undergraduate teaching. They will include two sustainability core modules, on concepts and implementation/consumer behaviour in year 2 and one on community and wellbeing in year 1
- Events Management students examine the environmental, socio-cultural, political and economic impacts of events as well as their legacies.

LAW AND POLITICS

- BA International Politics and Law course core content covers the politics of sustainability and development in which the SDGs are explored, while Law undergraduates have the option to study a Human Rights Law module which is particularly relevant to SDG 16 Peace Justice and Strong Institutions

- Students studying LLM/PG Dip/PG Cert Human Rights Law and MA Global Governance and Sustainable Development will deepen their understanding of the SDGs through modules such as Sustainable Development and Human Rights; Minority Rights and Indigenous Peoples in International Law; Global Governance for Sustainable Development; Urban Social Justice; and Environmental Crime and Green Criminology.

BUSINESS AND ECONOMICS

- Undergraduate Microeconomics core modules cover natural resource overuse and scarcity, externalities (pollution, environment etc.), market failure and government regulation. Macroeconomics core modules cover issues such as sustainable economic growth and green stimulus policy. In econometrics, students carry out regression analysis to understand the relationship between emissions per capita and GDP per capita
- Undergraduate Business Management students have the option to study the Sustainable Business module in year 3, which focusses on competences needed to develop sustainable business.

FACULTY OF

HEALTH, SOCIAL CARE AND EDUCATION

Values of intersectional equality, diversity and inclusion are core to the Faculty's student learning experience. We strive for our education to unlock and inspire more equitable health and education outcomes for everyone.

EDUCATION

- The Education curriculum addresses inequality, discrimination and inclusion in several modules including Education in the Social World, and Children's Rights and Special Educational Needs
- In the undergraduate Education Studies programme, the comparative education modules address issues related to gender and access from around the world in an increasingly globalised education sector
- The MA programme in Childhood and Education in Diverse Societies advances SDG 16 Peace, Justice and Strong Institutions in education as students look at influencing cultural change through community leadership
- The Initial Teacher Training programme works with local schools to create effective learning environments for the trainee teacher.



Photo credit: David Holbrook Photography

HEALTH AND SOCIAL CARE

- Many of the health programmes work in partnership with local NHS trusts to provide placements where students can learn in practice. Nursing subjects also address issues of health inequality and discrimination in healthcare access through the compulsory Expansive Learning Module
- The Social Work Law Module includes specific teaching on co-production as well as addressing poverty, inequalities in access to services and quality of life. The first year Social Work module Community Project and Practice involves placements dealing with issues of inequality and disadvantaged communities.

MIDDLESEX EXPANSIVE LEARNING MODULE EMPOWERS NURSES TO TACKLE HEALTH INEQUALITIES

Our innovative Expansive Learning nursing module inspires and equips students to actively tackle inequalities in health care by understanding how socio-economic factors affect health and well-being outcomes. Nursing students examine the health impacts of issues such as equality, racism, poverty and poor housing and the module emphasises the potential broader public health advocacy role of nurses. The module was highlighted as one of 12 case studies in the Royal College of Nursing report *Leaving No-One Behind: the Role of the Nursing Profession In Achieving the United Nations Sustainable Development Goals in the UK*.

SCIENCE AND TECHNOLOGY

Our Science and Technology courses require and inspire students to engage with the socio-economic health and environmental contexts of their subjects and research projects, and we are working to formally embed the SDGs in all courses.

NATURAL SCIENCES

- BSc Biology core modules cover biodiversity, ecology and sustainable biotechnology (SDG 12 Responsible Consumption and Production, SDG 14 Life Below Water, and SDG 15 Life on Land). In 2021, students attended a field trip in the Outer Hebrides where they carried out marine biodiversity surveys, water quality monitoring, and studied how birds behaved in the environment
- BSc Public Health students examine how physical, chemical, biological, social and psychological stressors impact on human health and the environment
- Students on the BSc Environmental Health apprenticeship degree gain real world experience in upholding healthy environments and protecting public health. Core modules cover the real-world impacts of pollution, health stressors, occupational safety and housing conditions as well as possible interventions
- All healthcare science and biomedical science courses engage with SDG 3 Good Health and Well-being at a minimum
- The MSc Biodiversity, Evolution and Conservation in Action course engages students in projects where they can make a real impact while learning about biodiversity, evolution and conservation. They spend one month in Mauritius undertaking training at and participating in a research project by Ebony Forest, Durrell Wildlife Conservation Trust and the Mauritian Wildlife Foundation
- MSc Sustainability and Environmental Management directly references the SDGs throughout its content. It focusses on 'learning by doing' methods which bridge the gap between theory and practice. In 2021/22, for example, students began an air quality monitoring project on the Hendon campus, where they set up monitors at various stations including close to the main road to assess the differences. They have presented their findings so far, and the project will continue with future cohorts as they work with the local council to support air quality data monitoring and improvement measures.



Nearly one in five of privately rented homes in London fail the Government's Decent Homes Standard. In October 2021, a new course at Middlesex run in partnership with Greater London Authority began training private rented sector enforcement officers to tackle rogue landlords and support the city's 2.4 million private tenants. The Advanced Private Sector Housing Interventions course trains graduates to ensure rental properties are in a decent condition across the capital as part of the Mayor of London's 'Better Renting Programme', which addresses SDG 1 No Poverty, SDG 3 Good Health and Well-being, and SDG 11 Sustainable Cities and Communities.



DESIGN ENGINEERING AND MATHEMATICS

- In the Statistical Thinking and Processes module of the MSc Applied Statistics course, students are asked to identify a topic on sustainable consumption and environmental welfare, and formulate a practical problem to review and solve through literature review and discussion of ethical considerations
- The MSc Engineering Management course's final project covers global issues. In 2021/22, the project's brief 'solar electric car charging station in a city of your choice' required students to give a report: a full quantitative analysis; recommendations; forecasting environmental issues and costs; installation and maintenance; risks; and return on investment
- The MSc Building Information Modelling (BIM) Management and Integrated Digital Delivery is aimed at executive level students, and the course content has recently been updated. Two of the three 60 credit modules now have specific tasks based on the UN SDGs:
- Operational BIM: For project 1, students are asked to consider sustainability issues and the SDGs from multi-disciplinary perspectives to write a mock tender submission for a built asset. For project 2, students write a request for proposal from a client's point of view asking for an integrated digital delivery strategy for overhauling an organisation's processes, and implementation of the UN SDGs
- Strategic BIM: Students write assessed e-journals related to achieving sustainability and the UN SDGs through use of construction and industry 4.0 technologies.
- The new MSc Building Information Modelling and Construction Technologies was validated in 2021/22, with eight new modules which are aligned with at least eight of the SDGs. Two modules cover all of the SDGs
- BSc Architectural Technology has embedded the UN SDGs throughout its course content, looking at environmental,

social and economic factors through teaching and project briefs. The SDGs were mapped to learning outcomes at programme and module level in the recent revalidation in 2022



- The **MDX Living Pavilion** project is ongoing and was designed by Architectural Technology students with sustainability at its core. Each year, student cohorts from various subjects such as media and architecture continue to evolve the project informed by sustainability principles for upkeep, practice and new uses
- Engineering in Context is a second-year module, shared by two engineering undergraduate courses, which looks at environmental issues such as waste and recycling, and how behaviour change can impact these factors. Part of the module also covers monitoring energy use in the UK; using data from Digest of UK Energy Statistics reports, students review changes in response to governmental policies and other factors. The module also covers material selection, considering the embodied carbon and end of life impact of various material choices.

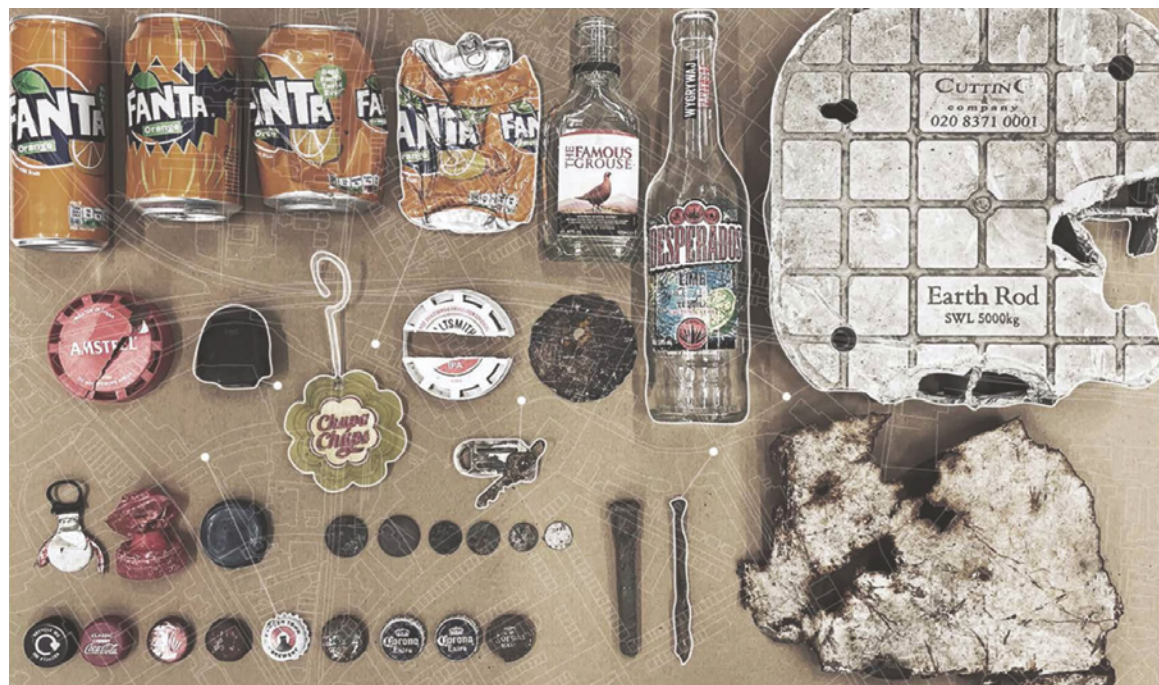


Image from a waste age student portfolio

FACULTY OF

ARTS AND CREATIVE INDUSTRIES

The Faculty of Arts and Creative Industries is working to embed sustainability and the SDGs within courses while maintaining creative freedom for students to develop their personal style.

In 2021/22, a number of innovative and socially engaged projects required students to think about the SDGs, the 2031 Strategy Themes and community interests. These projects tended to be interdisciplinary collaborations with other departments and Faculties at Middlesex, as well as collaborations with universities in the UK and abroad, and community organisations, highlighting the role of creative subjects in progressing SDG 17 Partnerships for the Goals.

VISUAL ARTS AND DESIGN

— The Humans of Interiors/Diversity by Design project was a collaborative research project and a series of workshops conducted over the last few years by the University of Lincoln and Middlesex University London. The project aimed to promote discussion across education and industry on the social sustainability of spatial design, specifically the impact of visualisation for diversity and accessibility in future spaces. Engaging with SDG 10 Reduced Inequalities, SDG 11 Sustainable Cities and Communities, and SDG 17 Partnerships for the Goals,

the research activities highlighted equality, diversity and inclusion as an integral part of the design process. The principles clearly inspired the work produced within the programmes of Interior Design and Interior Architecture while also enhancing a sense of belonging and community in the University

- The overarching theme of 2021/2022 in BA Interior Architecture for years 1 and 2 was waste. In the context of climate change and sustainability, the Waste Age project challenged students to design spaces and systems that addressed waste as a product of excess consumption, to speculate on how we might redeploy the mountains of waste that are emblematic of this excess. Students engaged deeply with the Goals and devised concepts for repurposing disused sites in Camden. From community kitchens, public hygiene and water access spaces through to clothing recycling hubs, students connected the waste problems in London to wider societal issues that could be addressed through community partnerships and socially engaged architecture.

MEDIA AND PERFORMING ARTS

In partnership with Barnet Mencap, restorative justice provider Why me?, and Fixation Academy, as well as learning from focus groups with participants with autism and/or learning disabilities, BA Film students produced and delivered four short educational, campaign films which make the processes of restorative justice more accessible to individuals with learning disabilities and/or autism. These films are being used by our partners as a tool for facilitating conversations with clients and referrals, ultimately contributing to tackling the rise in disability-related hate crime. The project won a Learning on Screen Award and feedback showed that all students agreed that this was a unique learning experience, particularly for improving their understanding of learning disabilities and autism and for the opportunity to work with neurodivergent actors. Some students expressed feeling well equipped to continue working with actors with disabilities, as now they have a sense of being able to guide them in preparing for a role.

EDGELANDS BY JANE SCOBIE, BA FINE ART

Edgelands was a landscape installation project by Middlesex BA Fine Art graduate Jane Scobie shown at Wild Ken Hill re-wilding and regenerative farm in West Norfolk in March 2022, and later at the Middlesex University graduate show in June 2022. The project explored past and present uses of the land, from being farmed for centuries using increasingly intensive machinery, to now being returned to wild flowers and native species such as turtle doves. Jane created textiles and sculptures using natural matter from the area, placing them along a path so visitors could learn about changes in the landscape through objects as they explored it, so that they become aware of the active relationship between the landscape, its unique materials and inhabitants and the human 'maker'. Edgelands demonstrated how art can facilitate more meaningful interactions between people and the ecosystems we inhabit, contributing to the aims of SDG 11 Sustainable Cities and Communities and SDG 15 Life on Land.



Seasons and Cattle, Edgelands, by Jane Scobie



Seed Bank Totem, Edgelands, by Jane Scobie



Cast and crew photo of one of the restorative justice short films



PRINCIPLES

Middlesex Business School became the first non-corporate organisation to join the UK branch of the UN Global Compact. The School has continued to be a proactive member, including supporting the UK Chapter of the PRME network, PRME internationally and the UK Global Compact Secretariat.

PRINCIPLES ONE, TWO AND THREE:

PURPOSE, VALUES AND METHODS

The highlights included in this report are only a few examples of our commitment to embedding the values of global social justice, sustainability, and health and prosperity for all into the design of our taught programmes, and our research and knowledge exchange activities. Our purpose is to implement a creative model of high-quality global education that makes a transformative difference to learners, inspiring and equipping them to shape a better world.

From the collaborative project between all three of our global campuses on Student-Led Translation of the SDGs into an Understandable Language and Reality, through to curriculum co-creation for embedding SDGs and Climate Framework into the BSc Architectural Technology programme, Middlesex University excels in working in partnership.

Our approach to teaching and learning is focused on practice and external collaboration towards a tangible impact on the improvement of individuals' lives and the sustainability of communities. This means that our students can flourish in society and the world of work because they have developed the skills and mindset of social justice, sustainable change, and entrepreneurialism. Students are enabled and encouraged to put these values into practice through a range of student activism opportunities and engagement with local communities through volunteering.

SPOTLIGHT:

- Project on evaluating refugee crisis response in Greece and Italy, working with International Organisation Migration and United Nations High Commissioner for Refugees Greece
- Working with Fashion Revolution on responsible design, showcasing event 'Un-Wasting' as an integral part of the design process and as an integral part of supporting the development of a more sustainable fashion industry
- Project on extending Maternity Protection and Reproductive Rights at Work in the Global South
- Project on Gender, Justice and Security (GCRF Hub), funded by Global Challenges Research fund
- Improving the treatment of Black and Minority Ethnic (BME) staff in the UK National Health Service.

At Middlesex we believe that research should have a positive impact on the public realm, improving equality, diversity and inclusion, and reaching disadvantaged groups. Our aim is to undertake first class research, applying cutting-edge methods and working across boundaries to solve complex global problems and to achieve outcomes which are genuinely inclusive in their impact.

PRINCIPLES FOUR, FIVE AND SIX:

RESEARCH, PARTNERSHIP AND DIALOGUE

As a community, we create collaborative advantage aligned with our Strategy to 2031 integrating themes, in support of education, research and knowledge exchange, and our civic agenda, whether on a local or global scale. Over the past two years, our work was extensive and vast, and it involved everyone across our global community of academics, researchers, professional services staff, students and partners.

Across our campuses in London, Dubai and Mauritius, at Middlesex we produce action-oriented research aimed at informing policy to improve outcomes for the environment and communities. We engage broadly with business, industry, the professions and the public – irrespective of time differences, geographical locations, and cultural backgrounds – to develop fairer, healthier and more prosperous and sustainable societies.

Our research and engagement activities facilitate dialogue, consultation and challenge at multiple levels both nationally and internationally.

The Research Excellence Framework (REF) 2021 exercise, which is the UK's system for assessing the quality of research in UK higher education, recognised the social impact of our Business and Management research as number one in the uk.

In addition our research outputs are providing practical policy guidance to the UK Task Force on Nature-Related Financial Disclosures.

SPOTLIGHT:

- UK Research and Innovation funded research on mapping impact of COVID-19 on Polish migrant workers who were working in precarious professional and personal circumstances with limited access to adequate health and financial support
- The Assuming Responsibility for Climate Change (ARCC) project where Middlesex acted as a hub, working across borders to bring together international organisations and universities from 12 countries to build educational tools to address the climate crisis
- Middlesex University Dubai projects as a member of UN Global Compact Accelerator Programme Target Gender Equality, which supports companies working in partnership with Global Compact to advance women's participation in business at the most senior levels
- Gender Responsive Resilience (GRRIP) project, funded by Global Challenge Fund, which connected networks of disciplines and sectors to promote new ways to think about gender and resilience. Research has generated insights to inform gender responsive policies that support resilient planning on behalf of vulnerable communities
- Production of a guidance document, funded by the Natural Environment Research Council, under the Integrated Climate-Nature Transition Risk Framework, NatureFinance; the Economic and Social Research Council; and the Productivity Insights Network, on analysis of the processes by which finance providers (debt, equity and insurance) can facilitate the improved operation of UK small or medium-sized enterprise finance markets for a sustainable future.



2. RESEARCH: KNOWLEDGE INTO ACTION

FOR THE SDGs

Interdisciplinary work and collaboration in research and knowledge exchange are central to our mission to turn knowledge into action. The case studies in this report are just a few examples of our extensive work in 2021/22 that has contributed to social change and justice, health and technology advancements, and addressing the challenges outlined by the SDGs.

Our dedicated research centres are key spheres of impact and collaboration to address the SDGs. Their research and knowledge exchange create genuine impact in society to address sustainable development challenges. The work of the Flood Hazard Research Centre contributes to SDG 13 Climate Action among others by informing UK and international policy and professional practice to mitigate and prepare for the impacts of flood risks. We were ranked 1st for Business and Management research in the UK for world-leading social impact in **REF 2021**, with The Centre for Understanding Sustainable Prosperity and the Sustainable Development Research Cluster collaborating on cutting-edge research to understand how a more equitable society and sustainable economy is possible while addressing threats to our planet and its ecosystems.

Equality, diversity and inclusion underpin everything we do at Middlesex University. Our research community works

collaboratively to shape a brighter and more inclusive future, as is reflected in the strong engagement with SDG 10 Reduced Inequalities across all of our Faculties' research outputs. Our approach is to increase our impact as a globally connected university whose research is interdisciplinary and designed for impact across geographical and cultural boundaries. In 2022 we were ranked in the top 3 young universities for international outlook by *Times Higher Education*. We will increasingly seek opportunities to work with our overseas campuses and global partners on innovative research which is aligned with our strategic Themes and the SDGs.

[Read our REF 2021 Impact Case Studies here](#)

GROUND BREAKING RESEARCH INTO NANOPLASTICS SHED BY TAMPONS INTO THE BODY

An estimated 18 billion tampons are used globally every year. Principal investigator Leonardo Pantoja Munoz and a team of Middlesex biomedical researchers set out to investigate the health and environmental impact of tampons. They found that an average of 9.4 billion nanoparticles are released per tampon used, which works out at as 86 trillion fibres over an average person's lifetime's use. With plastics breaking down into microscopic nanoplastics in the body, health risks arise from the particles themselves; the release of pollutants coating the particles in a thin film, and from the leaching of additives in the plastic.

The research is thought to be the first look into the generation of nanoplastics inside the human body. Co-author Alejandra Gonzalez Baez said: "We realised

how little we know about tampons' composition and what happens once they are introduced into the body. I was shocked to find out about the lack of regulations in the production of period products, and many of the guidelines are only voluntary. It is important to say we are not against tampons – as they have facilitated women's lives for decades. We are just looking for answers to some questions." It is hoped the research will trigger increased interest in the possible health impact of tampons and lead to improving information available to consumers so they can make informed decisions.

AIR QUALITY MONITORING AND TREE PLANTING IN HENDON



Tree planting with the community for Barnet Tiny Forest

Dr Christophe Viavattene, course leader of MA Sustainability and Environmental Management, began the air quality monitoring initiative in 2022. AQmesh sensor systems were installed in March in various spots on our Hendon campus, with students learning how to take readings and present their findings. The project is still in its early stages and so far activities have included early data collection by students, with one student using the air quality data for their research dissertation. Plans for the project, which students will help to develop, include: creating a data analysis platform where air pollution measurements are integrated with other factors; surveying and interviewing students on their

perception of air pollution and its health impact; drawing up strategies to reduce local exposure; and writing strategies for communicating with students and local residents about air quality.

Dr Viavattene's students have also been involved in the Barnet branch of Tiny Forest, a European tree-planting initiative led by Earthwatch. Students have been involved in planting over 600 trees in a densely planted, tennis-court size plot, as well as a subsequent data monitoring campaign to understand the health of the trees. Work in partnership with Barnet Tiny Forest is ongoing.

PROTECTING CHILDREN FROM ONLINE PORNOGRAPHY



Dr Elena Martellozzo interviewed by Dan Walker from Channel 5 News in January 2023 on Issues related to child online safety

Dr Elena Martellozzo is an associate professor in Criminology at Middlesex University and the associate director of the centre for Child Abuse and Trauma Studies (CATS), with extensive experience in researching subjects related to online harms and abuse against women and children. She has acted as an advisor on child protection to governments and practitioners in Lithuania, Italy, Bahrain, and Rwanda to support the development of national child internet safety policy frameworks and led and co-led research project both in the United Kingdom and internationally.

Elena is a pro-active member of the UK Centre for Internet Safety (UKCIS), where she meets regularly with other key representatives from academia, government, NGOs and industry to share information, identify, evaluate and commission new research relevant to child internet safety. Since 2016, she has helped UKCIS create a peer network or community of practice, seeking to engage key leaders and policy makers in accelerating urgency about the online safety environment.

She is also an expert advisor for the European Institute for Gender Equality (EIGE) on Cyber violence against Women and Girls, mapping national policies, undertaking research, analysing data and developing definitions on cyber violence against women and girls across the EU-27.

As a published peer-reviewed author, and well-established national and international Criminologist, Elena is frequently invited as a speaker by the media including the BBC, New York Post, Sunday Times, The Guardian, Channel 4, Radio 4, ITV, The Times Radio.

In addition, she regularly presents and delivers expert training on online safety and prevention to professionals working in the online safety and sexual health area including the Police.

URBAN AGRICULTURE — VERTICAL FARMING

'Urban Resilience in Agriculture Through Highly Automated Vertical Farming in Vietnam and the UK' is an interdisciplinary project which focusses on the challenges of food security in an inner-city context, and explores the scope for addressing them through increased take-up of urban agriculture among residents.

Funded by British Council Global Partnerships, the research is a collaborative effort between Middlesex University and the Van Lam University in Vietnam. The project is undertaken by the London Digital Twin Research Centre, and is led by Professor Huan Nguyen (Faculty of Science and Technology) with support from Dr Meri Juntti (Faculty of Business and Law) and Professor Balbir Barn (Faculty of Science and Technology).

Empirical work involves surveys and interviews to understand the attitudes and barriers among urban residents to grow edible plants, as well as their willingness to engage with digital solutions to increase the take-up of small-scale agriculture in London, UK and Ho Chi Minh City, Vietnam.



Edible London greenhouse at Wolves Lane, London
Photo credit: Meri Juntti

A significant objective is to develop digital solutions that address existing barriers and enable sustainable food production that has the potential to enhance food security and access to fresh produce among urban residents in diverse contexts. The research teams have engaged with and provide training for local schools and existing city farms to increase impact.

EXTENDING MATERNITY PROTECTION AND REPRODUCTIVE RIGHTS AT WORK IN THE GLOBAL SOUTH

800 million women globally are unprotected in terms of sexual reproductive rights and maternity rights in the workplace. This has negative effects for infant and maternal mortality, and holds women back in the workplace.

Led by Dr Bianca Stumbitz, research within the Middlesex **Gender and Diversity Research Cluster** investigated women's sexual reproductive and maternity rights in informal work economies in the Global South, with studies taking place in Ghana, Malaysia and South Africa.

Completed in 2020, the research explored national contexts of maternity and sexual reproductive health rights in the workplace, and barriers and drivers to workplace rights for women. It particularly focused on migrant and informal economy workers who tend to experience more precarious employment.



PIONEERING RESEARCH INTO FLOOD RISK MANAGEMENT AND INVESTMENT



Photo credit: Chris Gallagher on Unsplash

One in six properties in England is at risk of flooding, while damage from floods costs the UK around £1.1 billion every year. Our **Flood Hazard Research Centre (FHRC)** has been delivering leading research on flood risk assessment, management and impacts for more than 30 years. In recent years, leading FHRC academics Dr Edward Penning-Rowsell and Dr Sally Priest have worked on innovative metrics for calculating financial losses from flooding, using algorithms which link flood characteristics to potential fatalities and casualties.

The FHRC also developed innovative approaches to flood loss management which consider damages resulting

from flooding which are not traditionally quantified, such as business interruptions and wider health impacts, including on mental health.

FHRC research impacts national and international policy, guiding the economic analysis within the current National Flood Risk assessments of England and Scotland, as well as flood consideration by the Climate Change Risk Assessment. Research by the FHRC has directly informed UK government spending for flood risk management, and in 2020/21 their work contributed to an additional £763 million in local investment for flood risk management.

ADVANCING INDIGENOUS PEOPLE AND LAND RIGHTS

Indigenous people make up less than five per cent of the global population, but manage an estimated 80 per cent of our planet's biodiversity. Challenges for indigenous peoples to realise their internationally recognised rights to land and resources in the face of apathetic or unwilling governments is a critical issue for sustainable development.

Dr Cathal Doyle, Senior Lecturer in Law, specialises in the rights of indigenous peoples under national and international law and is a founding member of the European Network on Indigenous People. Dr Doyle co-authored a report, together with Yale University Human Rights Law Clinic and Forest Peoples Programme, looking at how environmental safeguards and indigenous peoples' human rights have been undermined and rolled back in the context of COVID-19.

The **report** made key discoveries about the attempts at land-grabbing and violence against indigenous people as governments in Brazil, Colombia, the Democratic Republic of the Congo, Indonesia and Peru were prioritising the expansion of logging, industrial agriculture and the energy sector in or near indigenous territories.

Its call on governments and businesses to strengthen protection of indigenous peoples in the face of COVID-19 disruption, especially as indigenous-managed forests are key to protecting against future pandemic outbreaks, was publicised by *The Guardian* and Al Jazeera in 2021.

"Much of the world's remaining biodiversity and many of its intact forest ecosystems are found in indigenous peoples' territories. If their internationally recognised rights are guaranteed, indigenous peoples can use their traditional knowledge and livelihood practices to protect these vital lands and resources that are essential for their own survival and for the realisation of the Sustainable Development Goals."

Dr Cathal Doyle, Senior Lecturer in Law

Top left: Photo credit: Dominique Fofanah

Top right: Photo courtesy: Stefan Kisler and the Indigenous Federation of Quechua people of the Pastaza river basin, FEDIQUEP

MIDDLESEX DUBAI STUDENTS ENGAGING IN PREPARATIONS FOR COP 28

At Middlesex University Dubai, under the umbrella of the Institute of Sustainable Development, student volunteers from a diverse range of disciplines took part in a series of climate change activations with Liter of Light, a grassroots organisation from the Philippines that provides an open source design for a low-cost solar lighting solution for disadvantaged communities.

The students took part in three main activations and activities to bring attention to the global commitment to protecting the planet in the run-up to the United Arab Emirates' (UAE) hosting of COP28 in 2023.

Our first activation saw students volunteer at Expo 2020's Sustainability Pavilion, which took place before the launch of Liter of Light's film, 'Theory of Light'. Using solar lamps that were then donated to underprivileged communities, the students spelt out an inspiring message of 'This Is Our Time', encouraging Expo visitors to consider the immediate impact of climate change on their lives and the environment.

A second activation, which took place after Expo 2020 on World Earth Day in April 2022 at the Dubai Knowledge Park campus, saw Middlesex students illuminate Dubai's skyline with a call-to-action urging world leaders to 'Invest In Our Planet'. Created using 500 solar-powered

lamps, the solar artwork was unveiled at sunset and covered in *The National*, the most prominent English language daily publication in the UAE.

In addition, student volunteers visited local schools in Dubai to build the solar lamps with school children and raise awareness of the Liter of Light cause. The students focussed on raising awareness among the younger members of Dubai's education community of the importance of sustainable development, while developing their leadership and communications skills and instilling in them a sense of responsibility and advocacy.



On Earth Day 2022, Middlesex University Dubai and Light It Forward UAE spell out inspiring climate message using solar lamps built by the university's students (Photo credit: Middlesex University Dubai)

MIDDLESEX DUBAI MEDIA STUDENTS VISIT TADWEER WASTE MANAGEMENT CENTRE IN DUBAI



Middlesex University Dubai students learn about the impact of waste management on the global circular economy at Tadweer Waste Management Center in Dubai (Photo credit: Middlesex University Dubai)

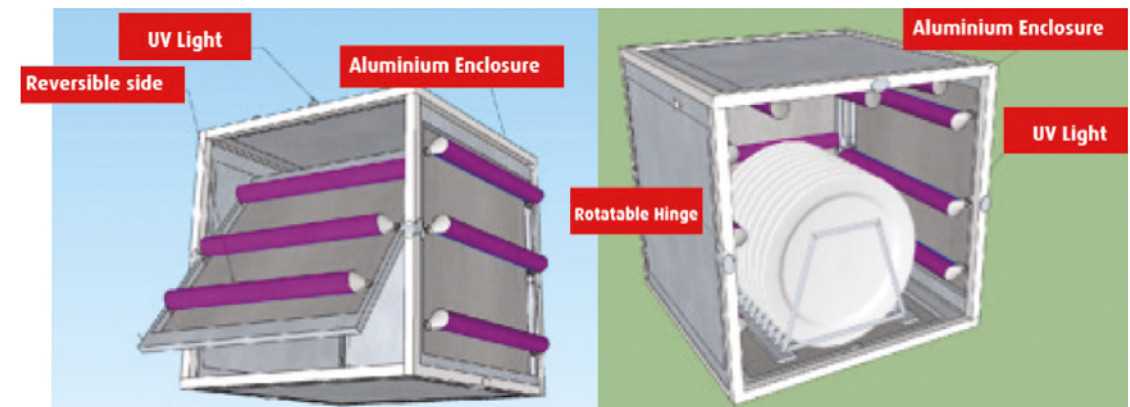
In partnership with Green Hope Foundation, a delegation of Middlesex University Dubai Media students and members of Club Impact, a student society that focuses on impactful engagement across the local community, visited Tadweer Waste Management Centre in September 2022.

The Green Hope Foundation is a non-profit organisation that raises awareness of sustainable development in society and has operations in 28 countries. Its founder, Kehkashan Basu, has visited the campus on many occasions to raise awareness of her community and advocacy activities in the field of sustainable development.

The Tadweer team shared with the students how general waste is sorted to identify materials that can be steered away from landfill and how aluminum cans are repurposed. Our students also learned about the extensive composting operation that provides new soil for farms in the UAE and beyond.

The visit strengthened the students' knowledge of the positive impact that waste management has on the circular economy both locally and globally.

MULTI-PURPOSE DISINFECTANT CHAMBER USING UV LIGHT



Germicidal Ultraviolet (UV) light technology has been around for many years and has been widely deployed in hospitals. However, the COVID-19 pandemic provided the opportunity for researchers at Middlesex University Mauritius to design its application to counteract the SARS-CoV-2 virus.

In collaboration with the Mauritius section of IEEE, the world's largest technical professional organisation dedicated to advancing technology for the benefit of humanity, Dr Amar Seeam from Middlesex University Mauritius developed a multi-purpose disinfectant chamber using UV-light which can be used to disinfect personal items, rooms and spaces. The chamber makes use of visible light at 405nm, a wavelength which has recently been pitched to have virucidal properties and is safe in terms of human exposure.

This project was funded by the Mauritius Research and Innovation Council under the 'Fast-track innovative projects to counter the impacts of COVID-19' scheme.

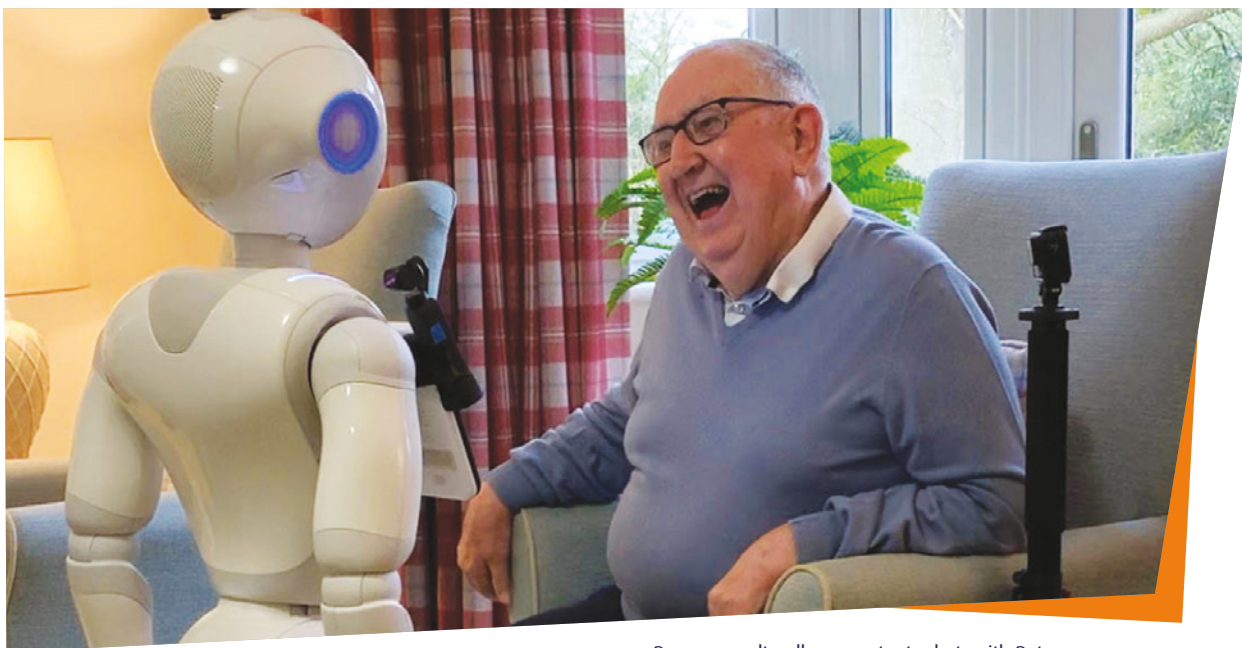


DEVELOPING THE NEXT GENERATION FIELD SERVICE MANAGEMENT SOLUTION

In collaboration with industry partner Navigation and Geocoding Technologies Ltd (NAVEO), Middlesex University Mauritius designed and implemented an innovative Next Generation Field Service Management (FSM) solution.

Funded by the Mauritius Research and Innovation Council, under the Collaborative Research and Innovation Grant Scheme, the project developed a next-generation FSM solution. This leverages innovative technologies, including

Internet of Things, Augmented Reality, Artificial Intelligence and Geographic Information System Tools, to provide a common robust and scalable IT platform allowing stakeholders from multiple sectors to offer rich insights to their customers.



Pepper, a culturally competent robot, with Peter

USING ARTIFICIAL INTELLIGENCE TO SUPPORT SOCIAL AND HEALTH CARE

The health and wellbeing of ageing populations is a paramount public health issue this century. People in the UK are living longer than ever before. There are already more than 15,000 people over the age of 100 – a figure which is set to increase. Over the coming decades, the growing number of older adults means increasing demand for health and social care resources. Our cutting-edge research is supporting long-term solutions.

Irena Papadopoulos, Professor of Transcultural Health and Nursing, was a co-investigator for the **CARESSES project**,

a ground-breaking study exploring the use of autonomous robots for older adults in care settings. The project considered whether robots could provide reliable care for vulnerable people and their potential to reduce anxiety and loneliness

Professor Papadopoulos explored the cultural and ethical conditions for the robots to work in a real-world care settings, finding that culturally competent robots have potential to reduce loneliness and poor mental health in older people.

SUPPORTING VULNERABLE COMMUNITIES DURING COVID-19

In 2020, Middlesex research began to focus on the impacts of the pandemic for vulnerable groups. Post-Doctoral research fellow Dr Zahra Hussain analysed the experiences of craftswomen in South Asia during the early months of lockdown for the **Global Challenges Research Fund Gender, Justice and Security Hub**. This interdisciplinary programme aims to deliver on SDG 5 Gender Equality and SDG 16 Peace, Justice and Strong Institutions, and the implementation of the Women, Peace and Security (WPS) agenda by developing a strong base of evidence around gender justice and inclusive security in societies affected by conflict.

Dr Hussain's work responded to the immediate impacts of the pandemic, exploring resilience among craftswomen communities in conditions of crisis and fragility – which many were facing as they could not sell their work while markets were shut. The study called for governments and NGOs to recognise how they can support craftswomen communities, such as by improving digital infrastructure and offering training to help them sell their products online when markets are inaccessible.

DRIVING A MORE SUSTAINABLE FUTURE FOR THE FASHION INDUSTRY

Sustainable innovation is vital for the fashion industry to address its vast waste, pollution and emissions impacts. The Centre for Sustainable Fashion (CSF) based at University of the Arts London (UAL) has been leading the way on making sustainable fashion concepts a reality in recent years. In 2020/21, Middlesex contributed to Rethinking Fashion Design Entrepreneurship: Fostering Sustainable Practices, a collaborative project led by CSF, seeking to drive the role of creative entrepreneurship and design in the future of a sustainable fashion industry.

Dr Andrea Werner, Professor Fergus Lyon, Dr Ian Vickers and Dr Patrick Elf from our **Centre for Enterprise and Economic Development Research (CEEDR)** explored sustainability as a creative endeavour, examining four key areas: design

and operations; business networks and ecosystems. They also look at working practices and entrepreneurship and business models. It also explored how the government can support innovative fashion business models to drive progress.

The findings from the project have identified barriers and opportunities for making small scale, sustainable fashion business models more viable in the current industry landscape. This contributes to finding environmentally sustainable growth solutions for the fashion industry, in which many players are seeking to scale up innovation and sustainable solutions.

BUILDING NATURE MEASUREMENTS AND IMPACTS INTO SMALL OR MEDIUM-SIZED ENTREPRISE FINANCE

More than half of the world's economic output – US\$44 trillion of economic value generation – is highly or moderately dependent on nature. Yet most companies, investors and lenders today inadequately account for nature-related risks and opportunities in their decisions. Co-directed by Dr Robyn Owen and Dr Suman Lodh, Middlesex Centre for Understanding Sustainable Prosperity and GreenFin researchers examined the UK's small or medium-sized enterprise (SME) finance markets in relation to how they risk assess the climate and biodiversity impacts of their SME finance customers and portfolios. The research team partnered with Shoremount, a consultancy with expertise in training SMEs for B Corp certification, to assist with analysis of what works for SMEs in respect of their climate and biodiversity self-reporting.

As UK planning policy moves to a mandatory 10% biodiversity net gain, and market security is increasingly related to resource availability and demonstrable mitigation actions, corporate reporting needs to increase its consideration on biodiversity and scope 3 emissions to give a full picture of climate opportunity and risk.

Our research outputs are providing practical policy guidance to the UK taskforce on Nature-Related Financial Disclosures to improve the reporting activities of SMEs, offering insights into finance market trends, practical policy briefing and 'how to' finance guidance tools. These will be tailored to assist UK SMEs, including with access to finance support agencies, as well as their investors and insurers.

HEALING TOGETHER DOCUMENTARIES HIGHLIGHTING MENTAL HEALTH ISSUES IN INDONESIA AND GHANA

MDX Associate Professor in Visual and Cultural Psychology Dr Erminia Colucci collaborated with academics and local mental health advocacy groups in Ghana and Indonesia to produce two documentaries exploring collaborations between mental health professionals and healers in these regions, where the subject of mental health illness remains taboo and most people use faith-based and traditional healers. Professional mental health workers face difficulties carrying out community-based interventions. In addition, coercive practices remain commonplace, particularly when faith-based communities do not acknowledge mental health issues or care. The films were produced as part of the Together for Mental Health project, and attempted to bring together spiritual leaders, faith-based healers and mental health professionals to further the conversation about mental health and reciprocal learning to develop helpful tools for mental health wellbeing.

The award-winning documentaries have been shown at film festivals around the world, including in Australia and Italy. The films explored how mental health professionals who might not share the same views can collaborate effectively with healers to encourage discussion and learning around mental health, with the aim of developing accessible tools to support mental health in the community. Of the work, Dr Colucci stated “We are never going to change these views, and some of these views and beliefs might actually be helpful for healing and recovery, so it’s more a question of how we can work together and collaborate.” The project demonstrates the complexity of achieving the aims of SDG 3 Good Health and Well-being in action, highlighting partnerships and cross-cultural collaboration if health professionals are to establish trust and provide meaningful, culturally respectful care.



Above: Penglukatan praying scene from one of the documentaries



Above: Praying in Romo Opoy, scene from one of the documentaries



WIND ENERGY AND THE JUST TRANSITION

A just energy transition to reliable, renewable power for all is an urgent requirement to achieving the UN SDGs, particularly SDG 7 Affordable and Clean Energy and SDG 11 Sustainable Cities and Communities. Principal Investigator Dr Lisa Schulte and academics in the Business School collaborated with universities in South Africa and Denmark on a project examining windfarm communities and the wind turbine industry in Germany, Denmark, South Africa and the UK. From 2012 and 2022, data was gathered through conversations with a wide range of stakeholders including industry experts, local citizens, skill formation providers, and municipal policy makers to understand community outcomes leading to either acceptance or resistance to windfarms and

skill formation, job quality and social dialogue in the wind turbine manufacturing industry.

The final report was published in 2022 and therefore impacts are beginning to appear, nonetheless the report offers valuable policy recommendations on how structural change, meaning here the expansion of the wind turbine industry, can be managed so that communities and workers benefit more broadly as governments look for ways to scale up low-carbon energy in an equitable way, providing opportunities and community benefits.

PARTNERSHIPS FOR THE GOALS

PROJECT ARCC

Project ARCC, which stands for Assuming Responsibility for Climate Change, was launched in 2020 and finished in April 2022. Middlesex acted as a hub for the project, bringing together international organisations and universities from 12 countries to build educational tools to address the climate crisis and stimulate reflections among young people. ARCC delivered remarkable outputs including over 40 webinars on topics ranging from precision agriculture to the built environment and rethinking travel and commuting needs in response to climate change. Webinars were attended by up to 215 students at a time, and all learning resources from the project are [available online](#).

ACTIVE ENERGY PROJECT

The Active Energy project was run from between 2007 and 2020 by artist and researcher Dr Loraine Leeson to connect the life experiences of older people to new developments in technology. Work with seniors group The Geezers at an AgeUK centre led to a focus on renewable energy, because the issue of older people being unable to heat their homes was pertinent. The tidal River Thames nearby was not being tapped for its energy potential. Initial work included low-cost turbines developed for tidal and wind power, together with exhibitions and conference presentations in the UK and US. Each stage in the project used the arts to draw out local knowledge and bring these ideas to public attention to drive action. Since 2016, work focused on the creation and installation of floating water wheels in a Thames tidal basin and the Queen Elizabeth Olympic Park, supported by the Arts and Humanities Research Council and the National Lottery among other sources of funding. Tidal flow has been harnessed to drive a pump that oxygenates the water to keep fish alive at times of high pollution. In 2022, the innovative project was recognised by the *Times Higher Education* Awards, winning in the Knowledge Exchange/Transfer Initiative of the Year category.



Above: European Court of Human Rights
Photo credit: Shutterstock

MIDDLESEX LAW STUDENTS VISIT EUROPEAN COURT OF HUMAN RIGHTS

The Middlesex Law students' annual visit to Strasbourg is an experiential, immersive learning experience enriched by cross-campus collaboration between all three Middlesex University global campuses. Students across our London, Dubai and Mauritius campuses have the option of studying European human rights law, which is also offered to LLM and PhD students. Yet the institutions studied as part of the programme, principally the European Court of Human Rights in Strasbourg, France, can be perceived as remote and abstract.

In 2016, in order to bridge this gap and provide an opportunity for experiential learning, colleagues across the University's global campuses came together to arrange a trip to Strasbourg. The trip enables our students to visit the Court and other institutions of the Council of Europe, which is the organisation of 46 member states created after World War II to champion human rights, democracy and the rule of law across the continent.

Between 2016 and 2019, 108 students from Dubai and Hendon – from undergraduate to PhD level – have met Judges of the Court and attended its public hearings,

as well as met officials of the Commissioner for Human Rights and toured the distinctive buildings of the Council of Europe. Despite COVID-19 which meant that from 2020 to 2022 the activities were delivered virtually, participation widened, with more than 200 Middlesex students having the opportunity to directly engage with and ask Judges questions.

The in-person trip will resume in May 2023 and will be led by Dr Alice Donald and Dr Tenia Kyriazi. Around 40 students will visit Strasbourg to meet three Judges of the Court and will benefit from a unique opportunity to meet the UK diplomatic representation at the Council of Europe. Anticipation is high for the chance to enrich the study of legal cases and principles with real life understanding of the day-to-day work of the world's foremost human rights court.

GIVING VOICE TO AFRICAN CLIMATE DEBATE



Dr Adeelah Kodabux, Senior Lecturer in International Relations at Middlesex University Mauritius, was invited by the Mo Ibrahim Foundation as one of its Now Generate Network members to contribute her views to enhance their next edition of the Ibrahim Index of African Governance (IIAG).

During 2022/23, she participated with other researchers in collaboration with the IIAG research team to add new perspectives to the IIAG.

Dr Adeelah's contributions were acknowledged in the latest **2022 IIAG report**.



Left: Dr Adeelah Kodabux at the 2022 Ibrahim Governance Forum in London photographed with the Foundation's Now Generation Network members

Centre: Dr Adeelah Kodabux with Zeinab Badawi following a conversation about striking the right balance between development and climate goals



Right: Dr Adeelah Kodabux with Mo Ibrahim, founder of the Mo Ibrahim Foundation at the 2022 Ibrahim Governance Forum in London

In May 2022, Dr Kodabux was also invited to participate in the Ibrahim Governance Weekend (IGW). The event's theme was entitled 'The Road to COP27: Making Africa's Case in the Climate Debate'. At the event, Dr Kodabux shared her views about African countries' right to development with fellow Now Generation members and Mo Ibrahim himself as well as Zeinab Badawi.

MEASURING IMPACT OF SEA LEVEL RISE IN MAURITIUS

Among the Small Island Developing States (SIDS), the coastal areas of Mauritius are considered among the most vulnerable to sea level rise. Between 1987 and 2007, an annual increase of 2.1 mm in the sea level has been observed around Mauritius.

While the coastal zone is of great importance to Mauritius, impacting on agriculture, commerce and tourism, the lack of indicators and measurement about how sea level rise will affect different sectors and regions over the coming years is a major concern to coastal users.

To address this limitation, a team including Dr Girish Bekaroo and Aditya Santokhee at Middlesex University Mauritius collaborated with the University of Technology

Mauritius to develop a simulation tool which enables temporal analysis of the future impacts of sea level rise in Mauritius.

This research project was funded by the Higher Education Commission in Mauritius. Using tools such as Geographic Information System, different sea level rise scenarios were performed, ranging from 1m to 100m, to eventually analyse adverse consequences on the coastal zones.



Above: Mauritius with rising sea levels of 0m and 100m respectively.
Right: Le Morne Beach with rising sea levels of 0m and 100m respectively.



OUR RESEARCH IN NUMBERS

Research engagement with the SDGs increased significantly this year, with a total of 289 outputs on the research repository relating to one or more SDG compared to 153 outputs in 2020/21. During the year 2021/22 we developed an SDG tagging function on the research repository, meaning academics can now mark relevant SDGs for their paper or project output when they are depositing work.

We are excited about the potential of this tool to familiarise academics with the SDGs and encourage them to think about their work in relation to the broader context of sustainable development. The SDGs are mapped on to our Strategy's three integrating Themes, which frame our institutional mission. As such, we hope that in coming years research produced at Middlesex will be relevant to at least one of the three key Themes and academics will increasingly establish links to the SDGs in their work.

An increase in outputs related to the Goals this year must be attributed in some part to the new research repository tool. However, it is likely that depositing users, being familiar with the full scope and context of their research, were able to highlight relevance of their work to the SDGs independently, allowing us to capture a fuller picture of research engagement with the SDGs than in 2020/21.

As in 2020/21, outputs engaged with SDG 3 and SDG 10 most frequently, which reflects the significant research across Faculties on healthcare and health technology, as well as our values of Equality, Diversity and Inclusion being central to the knowledge we produce. Research engagement with SDG 16 significantly increased from last year from 3.6% to 10.5% of total outputs, reflecting a stronger focus on human rights issues and restorative justice, particularly within the Faculty of Business and Law. It is useful to monitor how our overall research

performs in relation to each Goal year-on-year, and look for emerging trends in terms of SDGs which are consistently or increasingly well represented, and opportunities for improvement. This will inform the Goals we identify as key focus areas where the university can deliver the most impact.

METHODS

The research data was obtained by reading titles and abstracts of the 799 total outputs deposited in the period, and all SDG-tagged research repository outputs that were verified as relevant. Every effort was made to ensure accuracy and that clear links to SDG aims were identified, however we acknowledge the possibility that some relevant papers may have been missed due to human error. We aim to continue improving accuracy of our research methods for SDG reporting, and to raise awareness and understanding of the new SDG tagging feature.

This year, we deepened our understanding of research engagement with the SDGs by breaking down the research repository outputs data by faculty rather than only the funded projects to give a more comprehensive overview of faculty activity in relation to each of the SDGs. This allows us to begin tracking progress and more meaningfully identify opportunities for improvement in specific Goals for each Faculty.

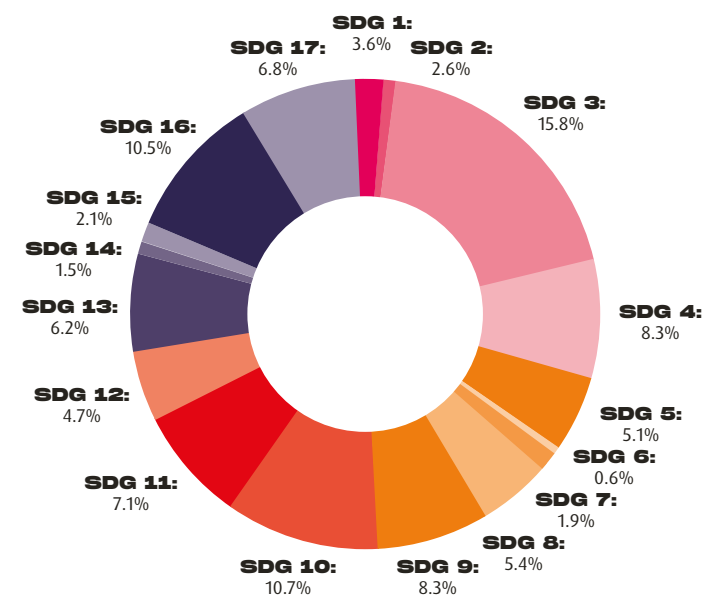
SDG KEY:

SDG 1 No Poverty
SDG 2 Zero Hunger
SDG 3 Good Health and Well-being
SDG 4 Quality Education
SDG 5 Gender Equality
SDG 6 Clean Water and Sanitation
SDG 7 Affordable and Clean Energy
SDG 8 Decent Work and Economic Growth
SDG 9 Industry, Innovation and Infrastructure

SDG 10 Reduced Inequalities
SDG 11 Sustainable Cities and Communities
SDG 12 Responsible Consumption and Production
SDG 13 Climate Action
SDG 14 Life Below Water
SDG 15 Life on Land
SDG 16 Peace, Justice and Strong Institutions
SDG 17 Partnerships for the Goals

ALL OUTPUTS BY SDG

This year, a total of 289 research outputs related to one or more SDG compared to 153 projects in 2020/21. Outputs engaged with SDG 3 and 10 most frequently, which is a testament to our work towards achieving our institutional mission to create healthier, fairer and more equitable societies, particularly in healthcare research. SDG 16 emerged as a prominent area of engagement, and outputs related to this goal significantly increased since last year, with particularly strong contributions from the Faculty of Business and Law. Engagement with SDG 7, though still not a key Goal with only 1.9% of outputs relevant, has more than doubled since 2020/21, resulting from a slight uptake in research related to low carbon energy. However, SDG 13 engagement was lower compared to last year, which suggests there is potential to strengthen the link between low carbon energy research and the aims of SDG 13, and opportunities for interdisciplinary research on climate action.



RESEARCH OUTPUTS BY FACULTY

This year, data gathered from the research repository has highlighted our strengths in terms of where our research addresses specific SDGs, and has allowed us to begin tracking progress and identifying opportunities to increase research focus on Goals in specific areas. The Faculties of Business and Law, and Science and Technology

demonstrated their strengths on the SDGs both in terms of funded research and overall outputs. The Faculties of Health, Social Care and Education, and Arts and Creative Industries had a lower number of overall research outputs, but a higher percentage of their funded research – over 60% and 90% respectively – was relevant to the SDGs.

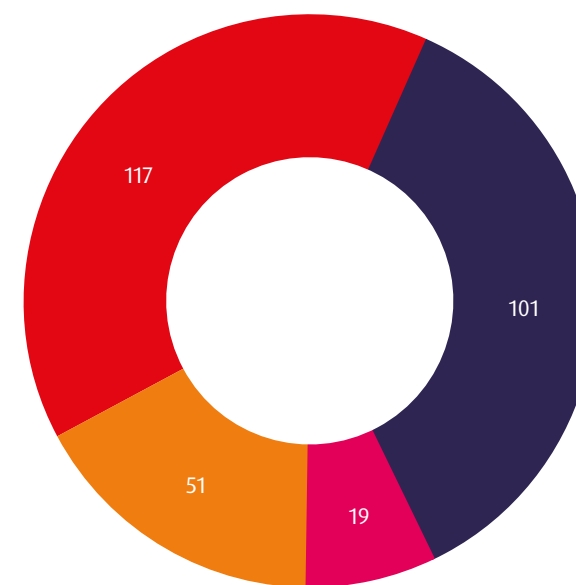


Figure 1 Total research repository outputs in 2021/22 for each Faculty

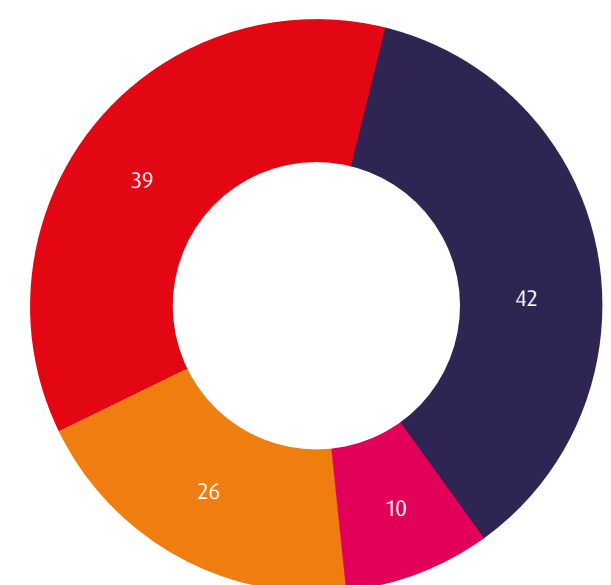
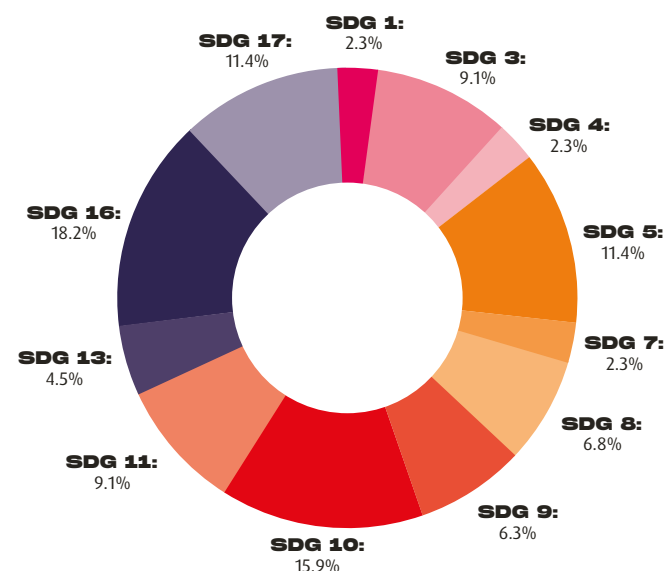


Figure 2 Total funded projects active in 2021/22 led for each Faculty

SCIENCE AND TECHNOLOGY BUSINESS AND LAW ARTS AND CREATIVE INDUSTRIES HEALTH, SOCIAL CARE AND EDUCATION



FACULTY OF ARTS AND CREATIVE INDUSTRIES

Many of the outputs demonstrated the potential of creative subjects to cross boundaries and create connections to address the Goals through inter-disciplinary partnerships. As a result of their strong focus on sparking activism and change in communities through collaborative creative projects, Arts and Creative Industries had the highest engagement rate of the Faculties for SDG 17 and SDG 16.

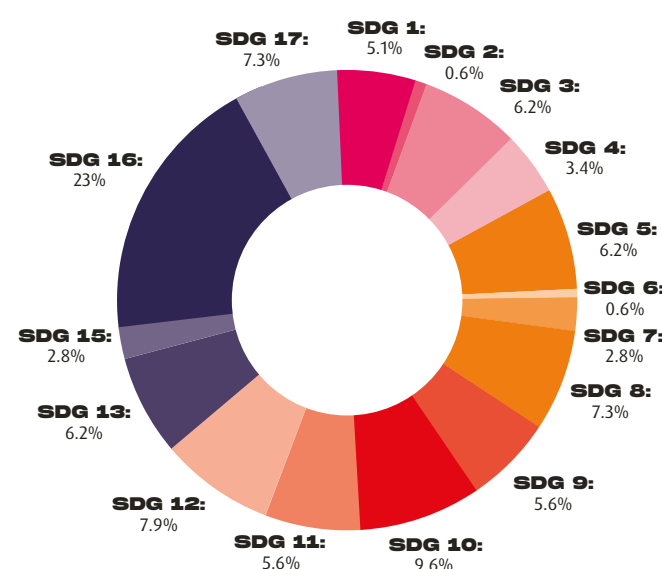
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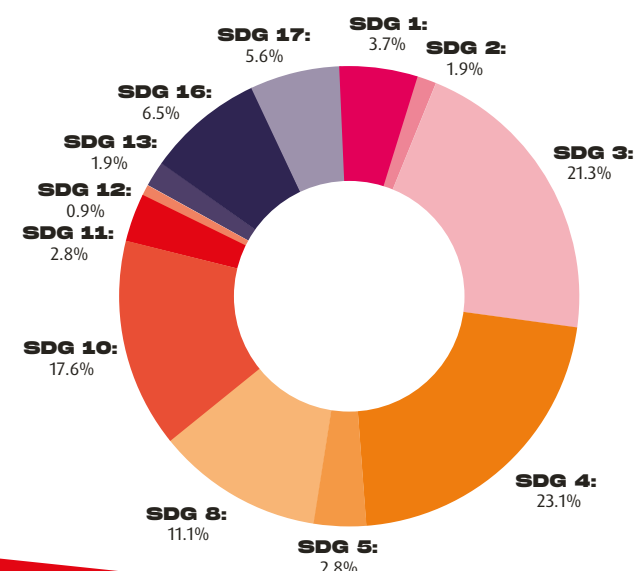
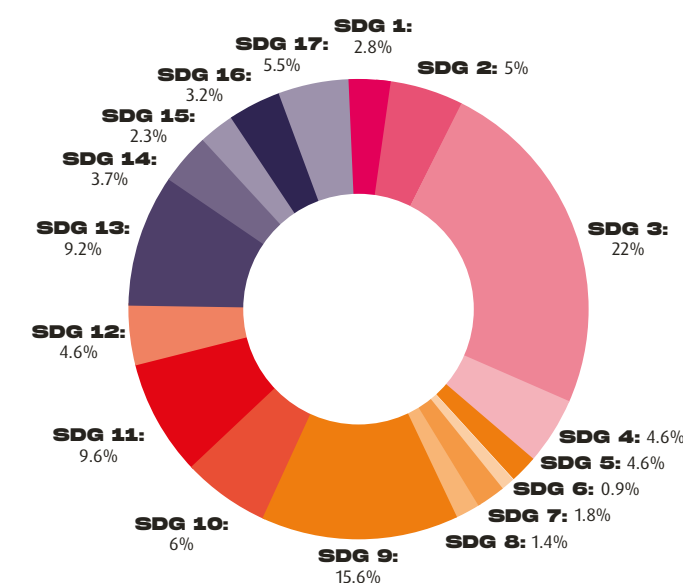
FACULTY OF BUSINESS AND LAW

The Faculty of Business and Law produced a high number of outputs with impact made across 16 of the 17 Goals. SDG 16 was a prominent area of engagement, highlighting our strong focus on social justice particularly in Law subjects. SDG 1 and SDG 2 emerge as areas with potential for further engagement, especially through business and enterprise in relation to equitable economic empowerment and poverty reduction.



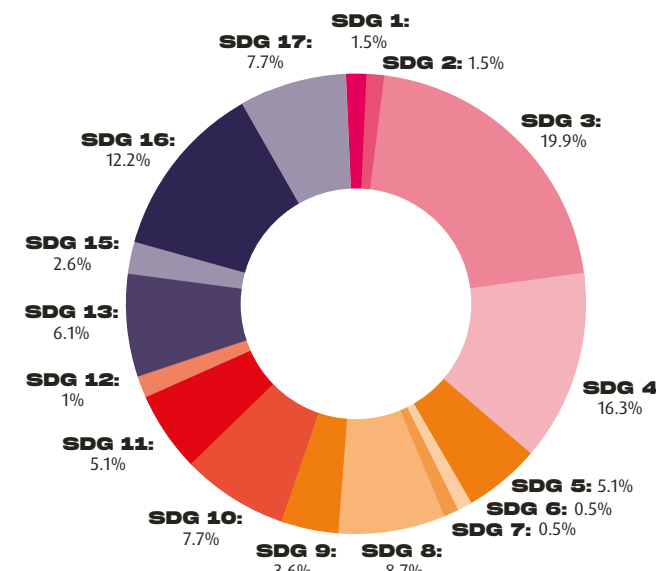
FACULTY OF SCIENCE AND TECHNOLOGY

The Faculty had the highest number of SDG relevant outputs and showed broad engagement across all 17 Goals. SDG 3 had the highest engagement by a significant number, which can in large part be attributed to our innovative computer science research to address global public health risks. Science and Technology showed the highest engagement with SDG 13 among our Faculties, as there were many strong outputs from across departments and research centres, such as the Flood Hazard Research Centre addressing flood risks and protection for coastal communities through partnerships and policy guides.



FACULTY OF HEALTH, SOCIAL CARE AND EDUCATION

As per its focus and expertise, the Faculty engaged heavily with SDG 3 and SDG 4. Encouragingly, SDG 10 emerged as another area of strength, suggesting research in Health, Social Care and Education is drawing important connections between inequality and access to education and healthcare. Lower engagement with SDG 5 represents a relevant area for potential development in this Faculty, particularly on urgent challenges such as girls worldwide accessing and remaining in education, and protecting sexual and reproductive health rights.



FUNDED PROJECTS

This year, 119 of the 219 active funded projects were related to one or more of the SDGs. The breakdown of the funded projects data shows that we are making the strongest impact on SDG 3 and SDG 16 through funded research, which is consistent with the research repository outputs data. SDG 4 also emerged as an area of high engagement. This reflects the strength of our work to progress education approaches, especially in the wake of the pandemic, and access to education at all levels for disadvantaged and discriminated groups. It also highlights SDG 4 as a key area for delivering impact through our funded research.



A SUSTAINABLE CAMPUS

Students and staff began returning to campus in higher numbers following the lifting of COVID-19 restrictions in 2021/22, and we continued our work to align operational activities with our commitment to the SDG Accord.

REDUCING EMISSIONS AND INCREASING EFFICIENCY IN OUR BUILDINGS

This year we implemented measures to incentivise sustainable behaviours and improve resource efficiency: the environment team worked closely with MDX sports hub to promote active home to work/study travel, as we strive to promote healthy and low carbon commuting for all, and while our catering provider Chartwells successfully launched the Too Good to Go app on campus to reduce food waste.

In 2021/22, overall emissions were lower than in 2020/21 and have remained below pre-pandemic levels. Our full scope 1 and 2 carbon emissions breakdown from 2021/22 can be found on page 43. The University has solar panels and a combined heat and power system generating low-carbon energy for campus buildings. Our power production in 2021/22 is shown below.

77,064KWH of energy from 385 solar panels on campus roofs, a **5.4%** increase on 2020/21

294,186 KWH of heat from combined heat and power

We are continuing to work on meeting our targets set out in the Carbon Reduction Plan and on aligning our operations with SDG 7 Affordable and Clean Energy and SDG 13 Climate Action. In light of the energy market disruption in the UK, we are focusing on efficiency measures and technology upgrades to cut down on unnecessary heating/cooling and electricity use. We are working to upgrade controls to ensure that heating ventilation and air conditioning operate only when rooms are occupied, and we have upgraded lighting controls.

Our efforts to increase the proportion of renewable energy sources used to heat and power campus buildings are ongoing. Recent volatility in the energy market has somewhat delayed progress as the costs of energy contracts surged in the UK, and the cost of Renewable Energy Guarantee of Origin contracts in particular increased drastically. However, achieving our carbon reduction targets is an institutional priority and the University remains in dialogue with its energy broker and wider stakeholders to procure a suitable medium-term power purchase agreement for electricity from renewable sources.

EMBEDDING THE SDGS IN PROCUREMENT

A 2021/22 aim was to embed the SDGs in procurement.

We reviewed the procurement policy and tender questions, considering how we could align these with the aims of the SDGs through focussed questions. We have updated the process to require clear policies in the following areas from prospective contractors:

- Carbon emissions reporting and reductions targets
- Environmental sustainability of business operations and supply chain
- Proactive inclusive and non-discriminatory policies.

INCREASING BIODIVERSITY ON CAMPUS

- Twelve mature native trees were planted on campus in total this year, in line with our policy to plant two new native trees for every two we need to remove. Four Hornbeam trees replaced the previous two College Lawn trees which had to be removed due to disease, and eight small-leaved lime trees were added to the Paddock; these native species offer high carbon storage and attract local wildlife
- The long-standing Lime tree on College Lawn had to be removed due to disease. Approximately 10 feet of the old lime tree trunk has been left to regrow outer shoots and form a new, much smaller canopy to be managed every few years. This now hollow stump is a haven for wildlife, providing shelter and food for birds, insects and fungi, allowing native wildlife and the ecosystem to flourish
- Other measures to increase biodiversity potential on campus included native wildflower planting on campus grounds, with daffodils in the Grove Park and additional native wildflowers on the Paddock, as well as installing new bat and bird boxes on the Grove Park trees
- We handed out over one hundred small flower and herb grow-at-home kits to students and staff at SDG engagement events this year to raise awareness for SDG 15 Life on Land
- The London Wildlife Trust will work with us to update our Biodiversity Plan in the next academic year. From this, we will identify opportunities to further increase biodiversity on campus.

PROMOTING ACTIVE AND SUSTAINABLE TRANSPORT

- The free MDXMoves app was launched in October 2021, offering rewards for staff and students based on their recorded steps and workouts. Points earned can be used to claim a wide range of prizes, from coffees on campus to reusable water bottles, as well as experiences such as free classes and clinic treatments at the Fitness Pod
- The MDX Freewheelers bike scheme was relaunched in 2022 in collaboration with MDX Sports and Recreation Hub to encourage active travel. Students can rent a bike for free to travel to, from and around campus
- Through hybrid working, emissions from transport to work are reducing as employees do not need to commute every day. We are working to increase low-carbon travel to campus for staff and students,

and have invested in obtaining more accurate travel data in order to update our transport plan and increase focus on encouraging low-carbon travel.





Left: Middlesex University Dubai
 Top right: Ritterman Building, Middlesex University London
 Bottom right: Middlesex University Mauritius

EQUALITY, DIVERSITY AND INCLUSION



The Sustainable Development Goals envision a more equitable and inclusive world in which all people have the opportunity to be educated and look forward to a prosperous future. Equality, Diversity and Inclusion are at the heart of everything we do at Middlesex. We have continued to further embed these values across our community in 2021/22.

In the coming years, we are focussing on embedding diversity in the curriculum and deepening our culture of inclusion and representation at all levels. We are doing so through a broad and holistic approach to decolonising the curriculum, which is underway, with working groups of both staff and students, and through mentoring initiatives.

The University will continue work to ensure Black and minority ethnic staff are represented in senior positions across our departments. We are now working to achieve the Race Equality Charter Mark, awarded by Advance HE, having formed the Race Equality Steering Group to support our Strategy and activity towards these goals.



AWARDS IN 2021/22

- We achieved a Bronze Award in the Stonewall Workplace Equality Index in 2022 for our commitment to the inclusion of LGBTQ+ people in the workplace, placing 15th out of the 50 higher education institutions ranked Goals in the UK
- Middlesex gained the highest status, Disability Confident Leader (level 3), in the government's Disability Confident Scheme. The Scheme recognises organisations which play a leading role in changing attitudes for the better, changing behaviour and cultures in their own businesses, networks and communities, and reaping the benefits of inclusive recruitment practices.



Still from the Report.It.To.Stop.It campaign video on Youtube

REPORT IT TO STOP IT

We have introduced an online reporting system, Report.It.To.Stop.It, to tackle any misconduct in the form of discrimination, bullying, harassment, intimidation or violence. This provides clear reporting guidelines and gives the option to report anonymously. We produced a series of **campaign videos** as part of the Changing the Culture Initiative to encourage people to speak up in the face of hate crime incidents and discrimination.

HIV/AIDS: GUIDANCE AND CONVERSATIONS

With support from our disability and LGBTQ+ networks, we have developed HIV and AIDS guidance to foster an environment of understanding and open, respectful and honest dialogue that ensures staff are comfortable in having conversations about HIV and AIDS. Information is available to all managers so that they can support staff at work. Additionally, we ran the Positive Allies series of online webinars. Staff were encouraged to attend to understand more about HIV and AIDS, and what living with these conditions means in modern society.

REVERSE MENTORING

As part of our mission to deepen culture change, this year human resources services implemented a Reverse Mentoring Scheme to raise awareness of the experiences of underrepresented students and find approaches and policy changes that actively support equality and diversity. The Scheme offers opportunities for senior leaders (as mentee) to be partnered with a student (as mentor), so that colleagues can better understand the lived experiences of students from various perspectives, including through the lens of disability, race and gender.

BAME MENTORING ACROSS LONDON

The Global Majority Mentoring Programme was launched as a partnership between London Higher and London Metropolitan University, with Middlesex as one of the 16 participating London higher education institutions. The Programme aims to improve opportunities and career prospects for staff from underrepresented backgrounds by connecting them with a senior staff mentor within this wider London network. Participating colleagues will have one-on-one sessions with their mentor or mentee, as well as opportunities to attend networking events and workshops.

MIDDLESEX STUDENTS' UNION ACTIVITY IN 2021/22

In 2021/22 the Students' Union (MDXSU) were involved in creating the Student Trans Policy for supporting trans students, in line with SDG 10 Reduced Inequalities and SDG 5 Gender Equality.

MDXSU marked Black History Month 2021 with a celebration of Black culture and achievement. It ran a number of online events with guest speakers as well as a social media campaign amplifying Black ambition and excellence. MDXSU also curated a film playlist featuring prominent Black directors such as Spike Lee (BlackKkLansman), and films about key Black activist figures such as Martin Luther King and Nelson Mandela. Students can watch the films for free through UniHub.

The Students' Union is running a Decolonising the Curriculum campaign and has been collecting data through a survey to assess the perceived diversity and inclusivity of current curricula across departments. Working with the University, it will use feedback to understand where courses can be more BAME, LGBTQ+ and disability inclusive, and ultimately ensure that our students are exposed to a curriculum that celebrates inclusivity and history through a diverse lens.

[Read our Student Trans Policy here](#)

A SUSTAINABLE CAMPUS

Total Energy Use (kWh)	2019/20	2020/21	2021/22
Electricity from Grid	8,026,574	8,027,001	9,126,995
Electricity from Onsite Photovoltaics	70,008	73,123	77,064
Electricity from Onsite CHP Units	479,999	364,092	294,186
Natural Gas from Grid	7,189,319	9,179,421	7,639,821
Total Energy Use (kWh)	15,765,900	17,643,637	17,138,066

Note: data includes supplier and Middlesex University data

Electricity provision %	2019/20	2020/21	2021/22
Electricity from Grid	50.90%	45.50%	53.30%
Electricity from Onsite Photovoltaics	0.40%	0.40%	0.40%
Electricity from Onsite CHP Units	3.00%	2.10%	1.70%
Natural Gas from Grid	45.60%	52.00%	44.60%

Carbon Emissions (TCO2e)	2019/20	2020/21	2021/22
Total Scope 1 and 2	3,255.26	3,385.00	3,137.00
Scope 1	62.00	0.00	0.00
Scope 2	3,193.00	3,385.00	3,137.00

Note: DEFRA conversion factors are used to provide carbon emissions. Carbon associated with electricity generated from onsite CHP plants is reported under natural gas conversion factors to avoid double counting emissions.

BREAKDOWN OF ENERGY USED IN 2021/22


53.30% grid electricity


44.60% natural gas


0.40% solar


1.70% combined heat and power

TOTAL ENERGY USED 2021/22 17,138,066 KWH

Emissions Intensity Ratio	2019/20	2020/21	2021/22
Net Internal Area (m ²)	41,276.00	41,276.00	41,276.00
FTE* Staff	1,637.48	1,603.00	1,573.00
FTE Students	16,987.00	18,046.00	13,463.00
Total FTE	18,624.48	19,649.00	15,036.00

Energy Intensity Ratio	2019/20	2020/21	2021/22
kWh/m ² (Net Internal Area)	382.00	427.46	415.21
kWh/FTE (Staff and Students)	846.50	897.94	1,139.80

Emissions Intensity Ratio	2019/20	2020/21	2021/22
Net Internal Area (m ²)	38,631.00	38,631.00	38,631.00

Carbon Intensity Ratio (Scope 1 and 2)	2019/20	2020/21	2021/22
TCO2e/m ² (Net Internal Area)	0.079	0.082	0.076
TCO2e/FTE (Staff and Students)	0.175	0.172	0.208

* Full-time Equivalent (FTE) at 1 April 2022



3,137.00 TONNES OF CARBON (TCO2) emitted in 2021/22

CARBON DIOXIDE EMISSIONS REMAINED BELOW PRE-COVID LEVELS in 2018/19

415.21 KWH PER m² in 2021/22



1,139.80 KWH PER PERSON in 2021/22

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