



THE UNIVERSITY OF MANCHESTER
SUSTAINABLE DEVELOPMENT GOALS



INTRODUCTION

The United Nations' 17 Sustainable Development Goals (SDGs) are our world's call to action on the most pressing challenges and opportunities facing humanity and the natural world. With their unique role in creating and sharing knowledge, universities have a direct role in addressing the challenges set out in *Transforming our world: the 2030 Agenda for Sustainable Development*.

As one of the world's leading research institutions and the UK's only university to have social responsibility as a core goal, The University of Manchester is playing a leading role in tackling the SDGs in four ways: research impact, learning and students, public engagement activity and responsible campus operations.

The quality and scale of our impact against the SDGs has been ranked first in Europe and third in the world in the 2019 *Times Higher Education University Impact Rankings*. We've also championed sustainable development through higher education as a key signatory to the international SDG Accord which commits ourselves to transparent reporting and goal-setting through publications like this.

This report is aimed at a wide range of local, national and international audiences across the public, private, NGO, policy and education sectors. We hope it stimulates further ideas, actions and collaboration opportunities and partnerships so that, together, we can play a full role in tackling the world's SDGs by 2030.

Dr Julian Skyrme
Director of Social Responsibility
The University of Manchester

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End poverty in all its forms everywhere

RESEARCH

A Human Development Report for Greater Manchester

We published the *Human Development Report for Greater Manchester* in June 2017. The report mirrors the UN approach by measuring human development in Greater Manchester across three themes of health, knowledge and standards of living. It also examines key life stages from early years through school to adulthood, midlife, older working age and old age. The researchers found that most inequalities are down to differences in the labour market and that families with children are particularly over-represented in low skilled jobs or unemployment, relative to the average for England.

Global Development Institute

Our Global Development Institute (GDI) is Europe's largest research and teaching institute focused on poverty and inequality. The GDI runs the Effective States and Inclusive Development (ESID) Research Centre, which investigates how politics promotes inclusive development and government accountability. Recent research suggests that countries with the highest government capacity can reduce income poverty at twice the speed of countries with the weakest capacity. Spanning 16 countries, our research is deepening the understanding of governance in developing countries, and helping to influence policy and practices and improve people's lives.

Khalid Malik former director of the UN's Human Development Report Office.



PUBLIC ENGAGEMENT



Everyday Austerity

Our Everyday Austerity research project in our School of Environment, Education and Development has revealed the impact of austerity policies on everyday life for families and communities in Greater Manchester. As a result, we've advised, trained and empowered a wide range of local groups and communities to tackle social injustices resulting from austerity. Our findings were presented in an exhibition that turned peoples' stories into a series of drawings, photographs, audio excerpts and objects to engage the public and bring these experiences to life.



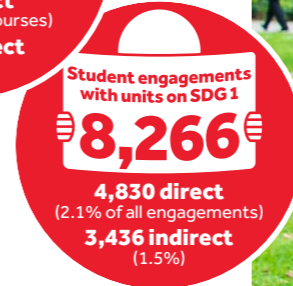
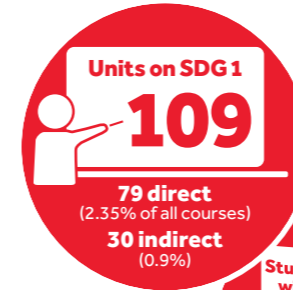
Research in numbers: SDG 1

13,360
publications
2009-18

3.67% of all UK
publications
2009-18
(based on SDSN keywords)

123
Citation impact
based on international
benchmark of 100

105
Research outputs
10.30%
National contribution
(based on Elsevier methodology)



LEARNING AND STUDENTS

Study programmes

Our Global Development Institute is the UK's largest university-based postgraduate centre specialising in international development. More than 2,000 students have completed master's programmes in international development since 2012.

Big Change Society

Based in our University's Students' Union, the Big Change Society supports people who are homeless by paying for essential items such as home deposits, training courses and clothes for job interviews. The society also signposts students towards the best ways they can get involved with ending homelessness and promoting responsible giving.

Amrita Live-in-Labs

Our Amrita Live-in-Labs Project puts scientific and engineering research to practical use for societal benefit in India, a country that is home to 33% of the world's poor. For example, students from our Department of Materials designed a smokeless stove for cooking in huts to reduce respiratory problems and developed strategies to educate children in mathematics in Chhattisgarh, a state with one of the poorest rates of educational achievement in India.



PhD students from our Global Development Institute

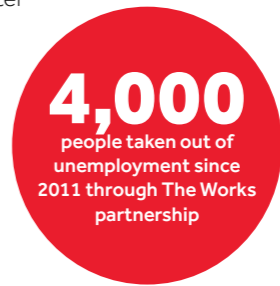
OPERATIONS

The Works

The Works aims to transform life chances in our local community by supporting unemployed people back into work. This is achieved through our employer-led one-stop-shop in a local community with free-to-use computers for job searches or writing applications, support for interview preparation and guidance by staff along the way. The initiative is led and organised by The University of Manchester in partnership with the Manchester Growth Company.

Student financial support

Many students from disadvantaged backgrounds face financial pressures during undergraduate study. We're committed to ensuring that financial issues do not present an obstacle for learners. We have one of largest cohorts of students from low-income households and one of the most generous financial support packages in the UK.





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



RESEARCH

Food insecurity in the UK

Working with Manchester City Council, Cracking Good Food, Save the Children, Oxfam and other charities, our Cathie Marsh Institute for Social Research and Institute for Collaborative Research on Ageing conducted pioneering research to document food insecurity in the UK following the economic recession. We studied homelessness, street begging, food-bank use and financial difficulties faced by older women, and developed a pilot tool for helping older people with their nutrition. Our research influenced the political debate on food insecurity and raised awareness of the issue in the media.

Sustainable agriculture through electronic engineering

The environmental impacts of intensive agriculture and a growing global population are increasing the need for more effective processes. Researchers in our Department of Electrical and Electronic Engineering are examining how electronic engineering might improve food supply and sustainable energy production, without increased pressures on our land. E-Agri Manchester aims to use e-devices for precision agriculture, reducing waste, increasing yields and making crops more resilient. This might involve using sensors that detect weeds, nutrient deficiency or low soil moisture. In support of this, we work across various projects including the N8 AgriFood programme, a research initiative of the eight most research-intensive universities in the north of England.

Research in numbers: SDG 2

12,683
publications
2009-18

3.69% of all UK
publications
2009-18
(based on SDSN keywords)

130
Citation impact
based on international
benchmark of 100

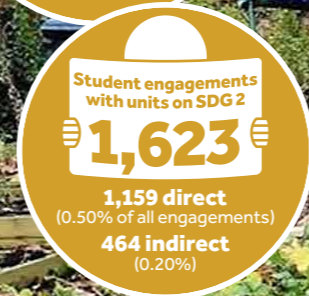
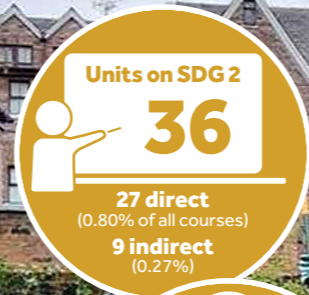
66
Research outputs
4.00%
National contribution
(based on Elsevier methodology)



PUBLIC ENGAGEMENT

Promoting good agricultural land management in Malawi

Our Department of Earth and Environmental Sciences is working with farmers in Malawi, some of the poorest in the world, to help share knowledge about plant and soil management through delivering free workshops and building a laboratory that will be the first of its kind in the country. Malawi is ranked within the five poorest nations of the world and one of the least developed. Its agricultural sector accounts for a third of its GDP and approximately 80% of its overall exports. Agriculture clearly holds great potential for enhancing the social and economic development of communities in Malawi.



LEARNING AND STUDENTS

Study programmes

Our students are gaining understanding on how to develop solutions to end hunger and food insecurity

Our BA in Geography offers the course unit Geographies of Food and Farming, which covers topics such as hunger, ethical consumerism, environmental sustainability, animal rights and social equity.

Looking to the future, students studying Bioscience degrees can take the course unit Plants for the Future, which explores how plant biology can be used to address social and environmental challenges such as sustaining our food supply, providing renewable energy, and protecting the environment. Through the Green Biotechnology unit, the course also covers sustainable food production, energy generation and pharmaceutical production.

Manchester Central Foodbank

We're proud to have the UK's first student-run foodbank based on campus. Manchester Central Foodbank was founded in 2013 by a group of students who were passionate about tackling food poverty. The foodbank provides three days' nutritionally balanced emergency food and support to local people experiencing food poverty.

Grow your own

The Student Action-run Incredible Edible Manchester aims to connect communities while turning disused plots into sources of healthy food. Since 2014, volunteers have helped to develop local allotment spaces in Manchester and maintain a plot in the heart of Fallowfield. The project is run by our volunteer team in partnership with the Students' Union.

OPERATIONS

We support the **Humanity Giving Back** charity through food donations and staff volunteering. Started by one of our chefs, Janice Stephenson, the charity aims to help those in need by collecting surplus food and clothing from halls and campus food outlets and distributing these to homeless families and domestic violence shelters. The charity also organises an annual Christmas dinner for those in need.



Our Students' Union is also establishing a 'Community Fridge' to tackle **food waste and hunger**.



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

RESEARCH

Helping more women survive breast cancer

Research in our Division of Cancer Sciences has revolutionised breast cancer treatment worldwide. In the 1970s, we developed a breakthrough therapy using tamoxifen, a drug that blocked oestrogen receptors in tumours, causing the cancer to grow more slowly or stop growing altogether. Since then we developed anastrozole, which has replaced tamoxifen as the major endocrine therapy for breast cancer – a development that has benefited 1.5 million women globally. Through this and other groundbreaking research more women with early breast cancer are cured, while remission in advanced stages of the disease lasts longer.

Early intervention for deaf children

Permanent childhood hearing impairment (PCHI) is the most common childhood sensory deficit. It is potentially devastating because of its impact on communication skills, education and emotional well-being. However, early intervention can minimise these impacts. Years of pioneering research within our Division of Neuroscience and Mental Health led to the implementation of universal newborn hearing screening in England, now the NHS standard of care. Through these changes more than 5 million babies have been screened and more than 9,500 identified with PCHI. The average age at which a hearing aid is fitted has reduced from one year to 80 days.

Research in numbers: SDG 3

21,399
publications
2009-18

3.82% of all UK
publications
2009-18
(based on SDSN keywords)

132
Citation impact
based on international
benchmark of 100

659
Research outputs
3.78%
National contribution
(based on Elsevier methodology)

PUBLIC ENGAGEMENT

Britain Breathing

Britain Breathing is a project that aims to engage the UK population to act as 'citizen sensors' to help scientists better understand seasonal allergies like hay fever and asthma and their triggers. In partnership with the British Society for Immunology and the Royal Society of Biology, our School of Biological Sciences and Department of Computer Science have developed a free app that allows the public to record their allergy symptoms, and where they occur geographically, and safely share that data with the project team. This data set can then be combined with other publicly available data (such as weather, pollen or pollution statistics) to build a better understanding at a national and personal level of allergies and allergy triggers.



Cloudy with a Chance of Pain

Cloudy with a Chance of Pain is the world's first smartphone-based study to investigate the association between pain and the weather. This large-scale citizen science project welcomes anyone in the UK with arthritis or chronic pain aged 17 and over to take part. Our researchers are now analysing more than 5 million pieces of symptom data alongside weather data from across the UK and this information will be used to generate pain forecasts, allowing people to plan their weekly activities.

LEARNING AND STUDENTS

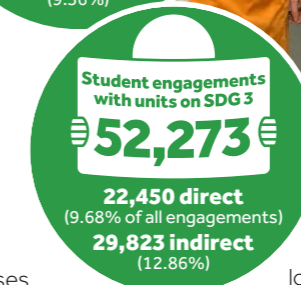
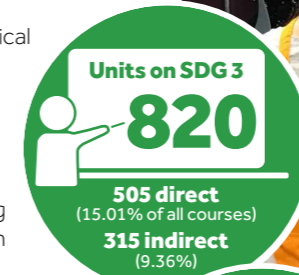
Study programmes

We have the UK's largest medical school and are the biggest provider of graduate health-care professionals to the NHS in England's north-west. We also offer pioneering programmes in areas including global health, humanitarianism and international healthcare leadership.

We have a range of opportunities to enable our students to explore and better understand the challenges and opportunities surrounding health care. Including shorter specific courses. Our six-week Global Health and Humanitarianism programme covers global health and humanitarian responses to disasters, including the associated procedures and the ethical dilemma of providing aid.

Dental health access

From their third year, dental students help to fight dental health inequalities by providing essential treatment to



low-income and homeless patients in our local communities as part of their training.

Students also provide free treatment at the Emergency Dental Clinic on campus to around 2,000 patients a year.

#Huckathon

One of the key barriers to delivering health support in developing countries

OPERATIONS

We broke the **Guinness World Record** in 2015 for training more than 900 members of the public in cardiopulmonary resuscitation in one continuous session.

Our **Counselling Service's Six Ways to Wellbeing** programme offers a wide range of workshops, events, support and advice to staff and students.

Greater Manchester will be the first place in the country to establish a dedicated centre to support higher education students with mental health needs thanks to a new partnership between the region's four universities and the **Greater Manchester Health and Social Care Partnership**.

is the lack of maps of rural areas. Emergency efforts depend on knowing where people live and how to get there. #Huckathon is an easily accessible Geographical Information Systems tool that has been used by several hundred volunteers to physically find and map hidden villages and roads in previously war-torn Northern Uganda. These maps are then being used by medical teams to deliver emergency care more effectively.

Since 2015, **Sporticipate**, our beginner-level sport programme for all staff and students, has increased sport participation by 243%.

We signed the **Time to Change** pledge in 2013 and took action to reduce mental health discrimination by holding annual activities to support this.

Around 2,000 of our students work in **peer support** roles every year, advising students in lower years through study sessions and mentoring schemes.



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

RESEARCH

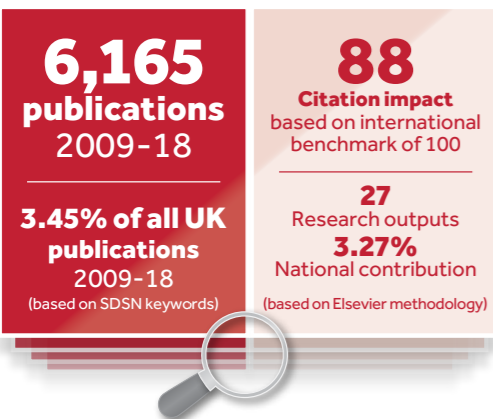
Making maths easier

Traditional maths programmes in schools and universities involve teacher-centred lessons and test-centre assessment. Our research shows that this approach is associated with poorer learner attitudes and a high drop-out from maths after GCSEs and A-levels. Our research has shown that alternative learning and assessment methods such as pupil-focused courses and coursework are more effective and help to improve students' understanding and use of maths, leading to more positive attitudes.

Promoting good mental health in schools

Our Institute of Education is leading a study on how schools create environments that identify, assess and monitor mental health needs and support. This research has helped around 200 schools across England to assess young people's mental health and improve their services. It's also changed the way local authorities identify young people in need. For example, Simon Munk, Newham's Children and Young People's Mental Health Lead, said that our evaluation of intervention programmes provide "a really considerable contribution to improving the outcomes of adolescents with mental health difficulties and ensuring that society understands what interventions work".

Research in numbers: SDG 4



PUBLIC ENGAGEMENT

Children's University of Manchester

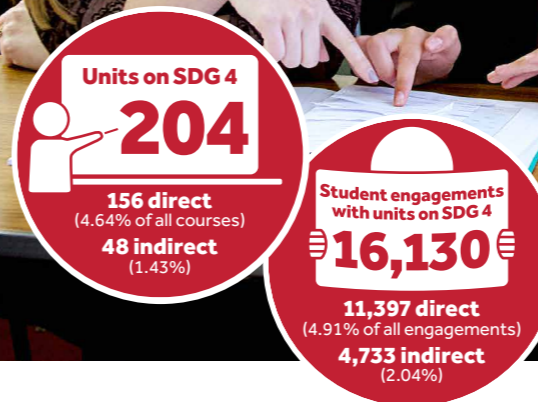
Our interactive platform shares University research and teaching with primary-aged learners and their teachers around the world. Using quizzes, games and videos, we work with local primary schools to help raise aspirations and introduce pupils to higher education.

Great Science Share

This is a national campaign led by our Science and Engineering Education Research and Innovation Hub. By promoting child-centred learning in science, the campaign and platform of resources give young people the opportunity to communicate their scientific questions and investigations to new audiences – in their own ways. The campaign engages around 20,000 students every year.

ScienceX

Every March, our Faculty of Science and Engineering takes some of our most engaging science research into one of Europe's busiest shopping centres. ScienceX, a free, interactive weekend festival of exploration and experiments for children, is part of British Science Week. It supports around 25,000 face-to-face interactions with the public, over half of whom are pre-school or primary age, and gives children the chance to discover the fun and relevance of science and engineering.



LEARNING AND STUDENTS

Extra enrichment

Our University College of Interdisciplinary Learning offers 34 courses that any student can take to broaden their horizons beyond their main subject. Courses range from mental health, bioethics and AI to climate change, global citizenship and sustainability. For the academic year 2019-20, we're developing a new course based on the SDGs.

Training tomorrow's teachers

Part of providing a first-rate education is to enable our students to go out and offer the same to others. Our University trains around 300 primary and secondary teachers every year through PGCE and School Direct courses.

All of our PGCE courses are recognised by Ofsted as 'outstanding' and we rank consistently high for teaching quality and student satisfaction (83% in

2017/18). We also train teachers to work in disadvantaged schools through our Teach First programme.

Transformation by Innovation in Distance Education

The Transformation by Innovation in Distance Education initiative aims to improve the quality of higher education in Myanmar and is bringing together other UK universities and partners, with the ambition of benefitting more than 500,000 students and producing more employable graduates. It aims to become a catalyst for further improvements across the higher education system, helping to support strategy and leadership for the future of the sector in Myanmar.

OPERATIONS

University Library

Our University Library is one of only five National Research Libraries in the UK and one of the best-resourced academic libraries in the country. It offers reference facilities to north-west sixth-form and mature students and their teachers to help with A-level, AVCE and Access course work.

Over **4 million** printed books and manuscripts, **41,000** electronic journals, 500,000 electronic books and several hundred databases.

1,000+ local school and college students access our library facilities each year.

School Governor Initiative

Our multi award-winning School Governor Initiative supports the leadership and development of local state schools and colleges by encouraging our staff and alumni to become school governors. Schools with university staff governors have received higher than average inspection ratings.

1,000+ staff and alumni volunteer their expertise through the programme.

Governors give **11,000+** days of support and help **400,000+** pupils.

Widening access

29.2% of undergraduate students come from low-income households of less than **£25,000** a year and **7.9%** of our entrants are from low participation neighbourhoods – this is above the English Russell Group average.

£25m is invested every year in widening participation outreach and bursaries.



5

Achieve gender equality and empower all women and girls

RESEARCH

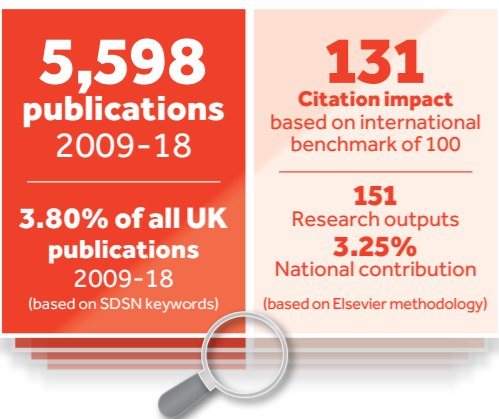
Improving the rights of women workers in global supply chains

Research undertaken within our Global Development Institute and Alliance Manchester Business School has long focused on the important role of women workers in global production. We have collaborated with major companies and international organisations to better understand the challenges women workers face and develop a diverse selection of strategies to better promote and enable gender equality. Our research has led to changes in policy and practice that benefit women workers at the UK Ethical Trading Initiative, the International Labour Organisation, Oxfam, Nike, Marks & Spencer and the Department for International Development, among others.

Fathers' experience of shared parental leave

A perceived gender inequality in the home is the length of time new fathers take for paternity leave, and their level of involvement in the child's day to day care. Shared parental leave (SPL) allows employed parents to choose who takes parental leave. Our Work and Equalities Institute conducted interviews with parents about their experiences of SPL and worked with the charity Working Families and the think tank Fatherhood Institute to create video case studies and resources relating to SPL that employers and employees can access. This research has informed a key part of the government's wider SPL campaign.

Research in numbers: SDG 5



PUBLIC ENGAGEMENT

Girls Night Out

Girls Night Out is all about celebrating women and girls in STEM (science, technology, engineering and maths). Held twice a year, the event was established by our Jodrell Bank Discovery Centre to support women and girls aged 12+ who study or work in STEM, or who are interested in pursuing a career in a STEM subject. Visitors are able to chat to early career researchers and find out more about Women in Science.

Dragonfly Day

Dragonfly Day is an event we hold on campus that gives Year 8 and 9 girls the opportunity to work with female scientists, engineers and mathematicians to find out more about studying and working in STEM. Girls take part in a speed networking activity, two interactive workshops and attend a guest lecture from one of our female academics.



LEARNING AND STUDENTS

Study programmes

Gender equality is embedded across our whole curriculum and a wide range of our degrees offer modules on gender and sexuality. Our aim is to enable students to understand and analyse these issues and support them in developing their own stances.

Religion and Theology students assess the impact of changing gender roles, relationships and critical theories on religious traditions in the western world through the Religion, Culture and Gender course unit, while our MA in Gender, Sexuality and Culture brings together scholars from many different fields to explore feminist and queer theory, sexual identities and gender history.

Reclaim the Night

In partnership with the Students' Union, we organised this annual march to demonstrate for the right to walk the streets at night without fear of sexual violence, street harassment and assault.



Units on SDG 5

135

95 direct
(2.82% of all courses)

40 indirect
(1.19%)

Physics summer schools for women

In partnership with the University of Sheffield, we're running summer schools for female undergraduates to address gender equality in the field of physics. In 2018, 15 students took part, spending two weeks in the UK and two weeks in one of our partner countries, Sweden and Spain.

Student engagements with units on SDG 5

7,660

5,228 direct
(2.25% of all engagements)

2,432 indirect
(1.05%)

OPERATIONS



Women in STEMM

Since 2008 we've been a member of the Athena Swan Charter, a scheme that rewards good practice in teaching and research and promotes gender equality. All of our 15 STEMM Schools hold Athena SWAN Awards.



Parental leave

Female staff who are pregnant or adopting can take up to a year's maternity leave with six months on full pay. Fathers can take additional leave through our shared parental leave policy.

Workplace Nursery Scheme

Our two campus nurseries offer subsidised accessible childcare facilities for staff and students. And through our Workplace Nursery Scheme, nursery fees are paid from gross income, giving staff tax savings.

Equal pay and progression

Our 2017 gender pay gap report found an average gender pay gap of 17.1% and actions are being taken to improve this. Women in academic and professional roles are invited to the women-only leadership development programme Aurora and there has been an increase in the proportion of female senior academics from 23.2% in 2009 to 31.1% in 2017.

54%
of students starting their first degree are women
Over half
of our staff are female

6 CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

RESEARCH

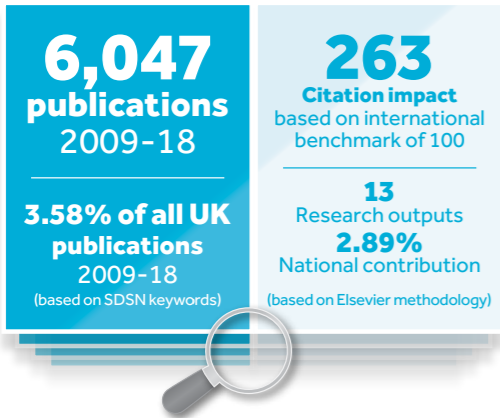
Better water filtration

Our National Graphene Institute Membranes Lab has pioneered a graphene-oxide membrane that can filter salts out of water, making it safe to drink. This game-changing technology is more efficient and affordable than other desalination technologies and could give clean water to millions of people who need it most. Graphene desalination could also offset the effects of climate change, or natural disasters such as severe flooding and reduce pressure on modern cities' water supplies, providing affordable and sustainable alternative water solutions.

Arsenic exposure

In partnership with Public Health England and other agencies, a team of our researchers carried out groundbreaking work on arsenic exposure in Cambodia, Bengal and the UK. Arsenic-contaminated groundwater used for drinking and crop irrigation poses a serious health risk, and this research established the extent of arsenic exposure and how arsenic enters well water. It also revealed that rice consumption can be a major exposure route for arsenic, which led to changes to Food and Agricultural Organisation recommendations on intake and an acknowledgement of rice as an arsenic exposure route by the European Food Safety Authority.

Research in numbers: SDG 6



PUBLIC ENGAGEMENT

How clean are your hands?

Most microbial infections can be avoided by washing our hands correctly. To demonstrate the importance of effective hand washing, researchers at our Division of Pharmacy and Optometry deliver a 'How clean are your hands?' workshop in primary schools and at public events to thousands of people across Greater Manchester.

The researchers apply an ultraviolet glow-spray onto children's hands and encourage them to shake hands in a circle to demonstrate the spread of germs, which is highlighted by a UV torch. Children, their parents and their teachers then learn correct handwashing techniques and are able to check the effectiveness of their technique with the UV torch.



OPERATIONS



We sell exclusively One Water on campus, an ethical company that donates all of its profits to fund clean water systems in Africa while costing the same as other water brands.

Staff and students can request **free tap water** to fill their water bottles at all our campus catering outlets.

There are **41 free drinking water** dispensers in University buildings.

There are almost **1,200 bathrooms** on campus of which more than **800 are publicly accessible**.

LEARNING AND STUDENTS

Study programmes

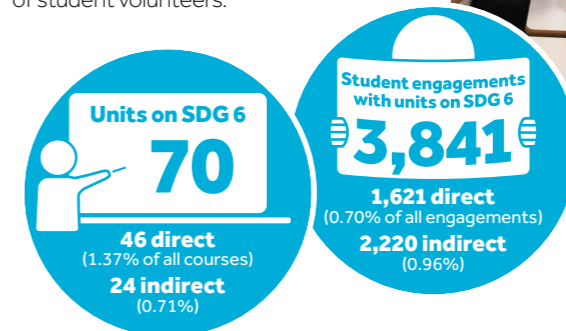
Our research informs cutting-edge teaching on clean water and sanitation.

Civil Engineering students take a course unit on Water Engineering, which covers water and wastewater treatment and resource management, while our Environmental Monitoring, Modelling and Reconstruction Masters degree offers a unit on Water Movement that looks at solutions to groundwater contamination.

We also offer a pioneering free online MOOC (Massive Open Online Course) on Water Supply and Sanitation Policy in Developing Countries. With half a billion people worldwide having poor water supplies and two billion with poor sanitation facilities, this course opens up access for citizens and leaders around the world to explore what can be done to solve this complex global issue.

Once a Month

The student action group Once a Month is fighting period poverty by raising awareness of how expensive sanitary products are and how this often makes them inaccessible to homeless women. The group provides sanitary products including tampons, sanitary towels, hand sanitiser and baby wipes to vulnerable women across Manchester with the help of student volunteers.





Ensure access to affordable, reliable, sustainable and modern energy

RESEARCH

Synthetic bio-propane

Although many sustainable biofuels on the market today are derived from plants, they have an adverse impact on food security, land use and the environment. Our Institute of Biotechnology's research on the biosynthesis of propane gas, in collaboration with The University of Turku in Finland and Imperial College London, could revolutionise biofuel production, making it more environmentally friendly, sustainable and affordable. Propane is easy to transport and store and is cleaner than other fuels when burned. Bio-propane synthesised using microbes is also a renewable source of energy, which can help reduce pollution and cut costs without the negative impacts.

Addressing energy poverty in Europe

Energy poverty affects more than 50 million people in the European Union. The European Energy Poverty Observatory is a European Commission-funded project led by the University, which aims to measure, monitor and share knowledge and best practice on energy poverty, and design measures to combat it. Our researchers also lead ENGAGER, a research network connecting more than 150 scientific researchers, policy activists, decision-makers, media representatives and businesses from over 30 countries who are working together to investigate and improve household-level energy poverty.

Research in numbers: SDG 7

12,919
publications
2009-18

4.83% of all UK
publications
2009-18
(based on SDSN keywords)

220
Citation impact
based on international
benchmark of 100

57
Research outputs
4.15%
National contribution
(based on Elsevier methodology)

PUBLIC ENGAGEMENT

Tackling fuel poverty

UrbanChain is a university spin-off start-up company developed to reduce the cost of utility services for vulnerable households in the UK and worldwide. It is developing a blockchain platform for the energy market to enable the trading of electricity between energy producers and vulnerable households.

Energy outreach activities



Our Dalton Nuclear Institute is engaging the public on major issues associated with nuclear power, such as safety, sustainability, decommissioning and waste management. Every year they bring their knowledge and research to events such as British Science week, ScienceX, bluedot festival and the Re-think energy conference. School children are engaged in face-to-face activities with PhD students and fun, free simulation games have been developed online to share knowledge about different forms of energy.

LEARNING AND STUDENTS

Study programmes

Our students are learning how to ensure access to affordable, reliable, sustainable and modern energy for all.

Our Geography unit Energy, Society and Space examines the key scientific and political issues associated with energy provision and demand, and highlights the role of space and place in the movement towards a greener energy future.

Among our master's courses we offer Renewable Energy and Clean Technology, which equips students with a detailed understanding of solar, wind and marine energy generation technologies and the factors which influence their integration into zero-carbon built infrastructures.

Engineers Without Borders

This young-person-led charity focuses on removing barriers to human development through engineering. Students volunteering with Engineers Without Borders (EWB) learn about technology's role in development, and organise weekly outreach events with local schools to promote engineering and awareness of international development issues. EWB Manchester is building a wind turbine to provide energy for rural areas and they are also trying to help with local homelessness issues by building raised beds to grow vegetables.

Rethink Energy conference

Our Manchester Energy and Environment Society has organised two undergraduate-led conferences on energy, sustainability and the environment, with talks from industry professionals and academic experts. The conference was run by students from our Manchester Energy and Environment Society and supported by the Dalton Nuclear Institute amongst other sponsors. The conference will take place again in March 2019.

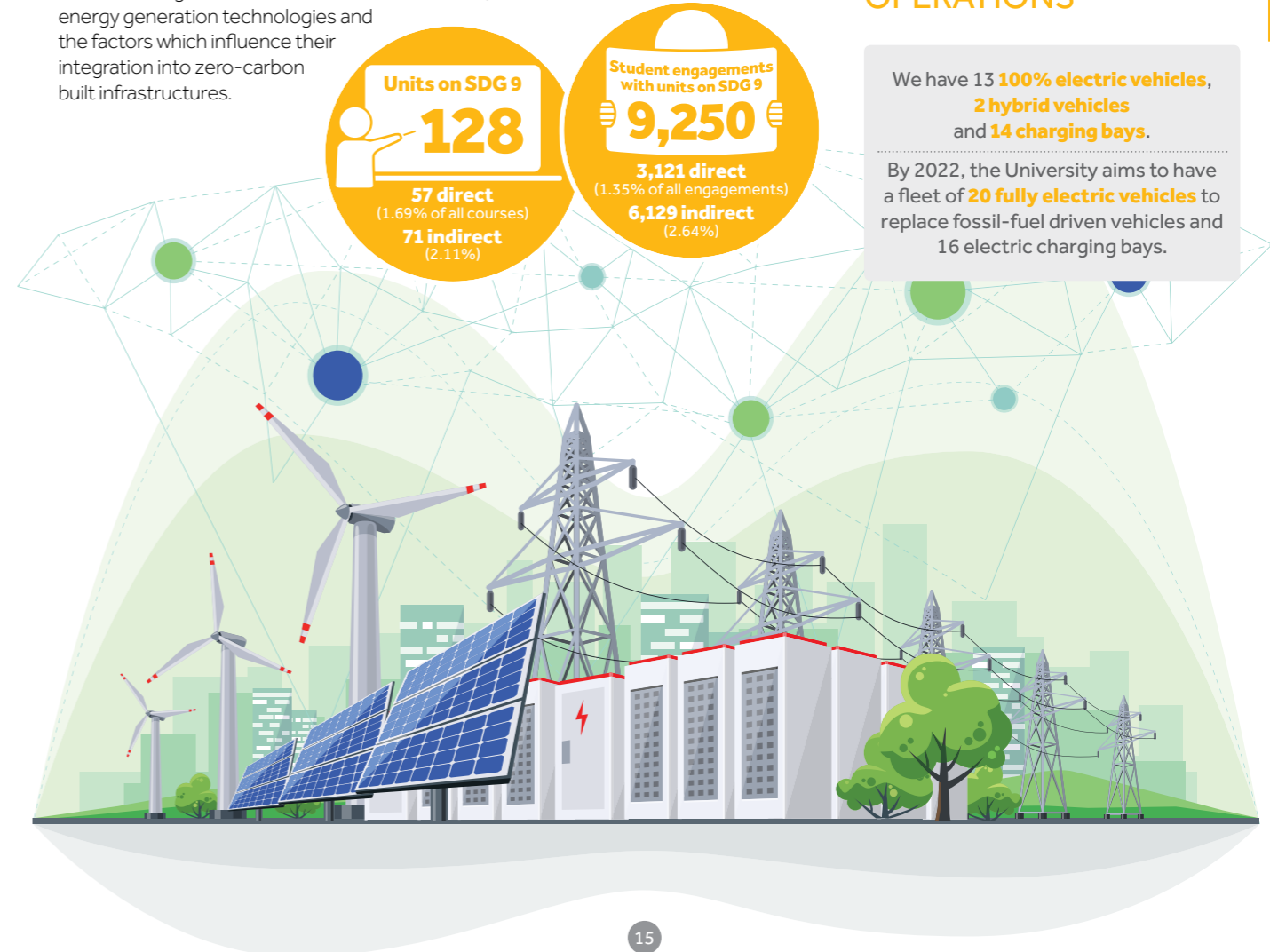
OPERATIONS

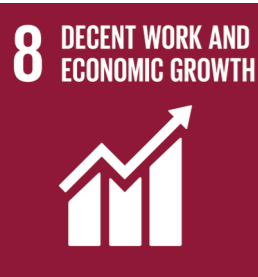
We have **13 100% electric vehicles**, **2 hybrid vehicles** and **14 charging bays**.

By 2022, the University aims to have a fleet of **20 fully electric vehicles** to replace fossil-fuel driven vehicles and **16 electric charging bays**.

Units on SDG 9
128
57 direct
(1.69% of all courses)
71 indirect
(2.11%)

Student engagements with units on SDG 9
9,250
3,121 direct
(1.35% of all engagements)
6,129 indirect
(2.64%)





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

RESEARCH

Promoting inclusive growth in Greater Manchester

In Greater Manchester, an estimated 620,000 people live below the UK poverty line. Our Inclusive Growth Analysis Unit (IGAU) researches the link between economic growth and poverty. IGAU identified that inequality is inherent in the current economic model and is developing new evidence-based strategies for inclusive growth in Greater Manchester and other UK regions. IGAU has published an annual Inclusive Growth Monitor that captures both economic growth and poverty, and has helped shape and co-create strategies to foster more inclusive growth in Greater Manchester and more widely across the UK.

Just Work in Greater Manchester

Our Work and Equalities Institute identifies factors for more inclusive and fair work and employment conditions. One project, Just Work in Greater Manchester, seeks to identify routes to more decent work and generate greater security for the most vulnerable. The research explores challenges in the workplace and how employers are responding to an increasingly diverse workforce. It also looks at how these challenges are understood by different groups and how they connect with wider society. The research will be used in conversation with key stakeholders and policymakers, and will contribute to new policy formations.

Research in numbers: SDG 8

23,871
publications
2009-18

4.23% of all UK
publications
2009-18
(based on SDSN keywords)

153
Citation impact
based on international
benchmark of 100

70
Research outputs
National contribution
3.96%
(based on Elsevier methodology)

Image (right):
Artwork by Paul Gent,
communicating
findings from the
Racism at work report.



PUBLIC ENGAGEMENT

Racism at work

In partnership with Business in the Community, our Centre on Dynamics of Ethnicity produced the *Equality, Diversity and Racism in the Workplace* report. The report contained an analysis of over 2,000 comments relating to racial harassment and bullying at work, and more than 3,000 comments relating to the promotion of equality and diversity in the workplace. The research findings were communicated through short films and graphic novels to highlight the nature, extent and human impact of racism at work, and offered effective strategies for addressing these issues.

Capacity-building for NGOs, businesses and government

We deliver a wide range of free events which are open to the public, including vocational training, executive education and continued professional development for the private, third and state sector. Our annual **Prometheus** programme offers learning and development opportunities for third-sector leaders. We offer free training, conferences and capacity-building courses for **teachers**. We've also launched a pioneering new **NGO Explorer** site to build networks across development NGOs through a comprehensive searchable database.

LEARNING AND STUDENTS

Study programmes

Our students are learning about how to promote inclusive and sustainable economic growth, employment and decent work for all. For example, our undergraduate Management degree has a specialisation in Sustainable and Ethical Business, which offers modules on Ethical and Sustainable Business and Equality and Fairness at Work.

Workplace Ethics Challenge



The Workplace Ethics Challenge aims to empower third year students with skills and experiences that will improve their confidence and help them stand out in a crowded graduate job market.

Graduate employability

Manchester is the most targeted university in the UK for top graduate

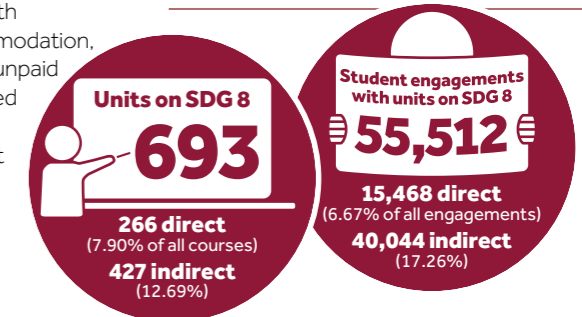
employers. Over 94% of our students find employment or enter further study shortly after graduating.

SmartWorks

The charity SmartWorks provides support to unemployed women who have job interviews, equipping them with the appropriate clothes, skills and confidence they need for job success. In 2018, staff volunteers ran a campaign where they collected 50 bags of smart clothing donations – one of the largest donations ever received by the charity.

Work experience bursaries

Widening participation is about making sure that there are no barriers to studying or learning and addressing patterns of under-representation. A significant barrier facing widening participation students trying to gain work experience are the costs associated with work-related travel, accommodation, dependent care costs and unpaid roles. In 2017/18 we awarded 95 students with bursaries totalling £51,000 to support them with these expenses.



OPERATIONS

Living wage and worker's rights

As an accredited Living Wage Employer, all of our 12,000+ staff are paid at least the voluntary living wage level in the UK set by the Living Wage Foundation. This also commits us to drive the living wage further into our supply chain. In addition, we also offer family friendly-policies and generous pensions, sick pay and annual leave allowances.



Together with our Students' Union, we've affiliated to the independent, non-political Worker Rights Consortium. The organisation improves the conditions of workers in the garment industry through the monitoring of university supply chains.

Dignity at Work and Study Policy

Our Dignity at Work and Study Policy ensures that everyone has the right to be treated with respect during their time at The University of Manchester. We do not tolerate discrimination, bullying or harassing behaviour from any staff or students. Managers are trained to be aware of their responsibilities for making sure that everyone at the University is safe and protected from any form of harassment.

Fairtrade

We've been a certified Fairtrade university since 2005 and our Food On Campus shop sells lots of useful Fairtrade goods.

As a lead partner in **The Works**, we've supported **4,153 local people** back into work since 2011. The social and economic value generated is equivalent to an estimated **£60.6 million** a year.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote sustainable industrialisation and foster innovation

RESEARCH

FutureDAMS: Renewable energy from water

More than 3,700 large dams are currently planned or under construction to service growing demands for energy and irrigation. Many of these are in low- and middle-income countries. Maximising the benefits that these dams bring, while minimising the negative social and environmental impacts, remains a huge challenge. The FutureDAMS group, a partnership of 17 universities led by us, brings together engineers and social scientists from across Africa and Asia to develop innovative solutions. Our research will help to improve the design, selection and operation of dams to support sustainable development and resilience in a warming world.

Green growth: increasing resilience in cities

Green infrastructure (GI), such as green roofs and street trees, delivers a range of crucial environmental benefits to urban communities and could play a key role in climate-proofing cities. Despite a wealth of research on the many benefits of GI, its implementation and uptake in current and new developments in the UK is lacking. In collaboration with the public, private and third sectors, our School of Education, Environment and Development are identifying barriers and opportunities for GI uptake and will use our research to create and test approaches that will develop scaleable policy and practical solutions.

Research in numbers: SDG 9

31,601
publications
2009-18

4.29% of all UK
publications
2009-18
(based on SDSN keywords)

191
Citation impact
based on international
benchmark of 100

11
Research outputs
3.26%
National contribution
(based on Elsevier methodology)

PUBLIC ENGAGEMENT

Manchester Innovation Labs

Our Manchester Innovation Labs include workshops that are designed and facilitated by creative consultancy FutureEverything. Businesses work in small groups with a team of academics to develop a research project and pitch proposals for seed-corn funding to a panel of experts. These labs have led to several successful outcomes for the University and businesses, including collaborative research funding proposals and new cross-disciplinary relationships. Academics who participated are more confident in the value of engaging with businesses and businesses can see the benefit of academic engagement and relationships that can be revisited for other projects.

Greater Manchester Engineering Challenge

The Greater Manchester Engineering Challenge is an annual campaign developed by our Science and Engineering Education Research and Innovation Hub to inspire children into engineering, train teachers and establish partnerships between schools, industry and engineers. Teachers and pupils engage with engineers to work through a specific challenge, covering topics such as plastics, air pollution and homelessness. The campaign develops the research into 'Tinkering for Learning', taking theory into practice and reaching around 2,000 students, two-thirds of whom are female. It's supported and sponsored by the Institute of Engineering and Technology, the Institution of Mechanical Engineers, the Comino Foundation and Siemens.

LEARNING AND STUDENTS

Study programmes

We're empowering the next generation to innovate and transform our natural and built environments to create more efficient and sustainable places.

For example, our Innovation, Management and Entrepreneurship master's degree offers a course unit in Eco-Innovation Management focusing on how industries respond to the challenges of becoming more sustainable through innovation.

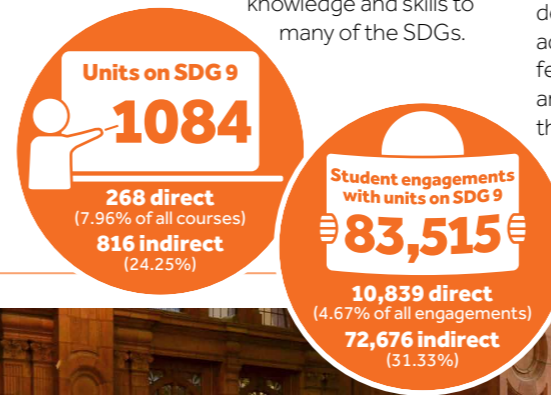
Masood Enterprise Centre

Our Masood Enterprise Centre supports our students to solve problems, innovate, recognise opportunity, manage risk and apply their subject knowledge and skills to many of the SDGs.

Through a programme of teaching, learning and business start-up support, the Centre helps students to capitalise on their ideas and the world-leading research output from the University to address a wide range of SDGs.

Q-Step paid internships programme

Over the last five years, the Q-step paid internship scheme has placed 200 students in 60 public, private and third-sector organisations to undertake social research that makes a difference and helps to identify and progress social issues locally, nationally and globally. The projects have addressed gender data gaps in developing countries, food poverty, recycling, immigration, socio-demographic factors affecting university admission rates, violence against females, bilateral spending on HIV/AIDS, and modelling UK deprivation. In 2019, the scheme will be extended to three Latin American countries to develop a data programme around the global SDGs.



OPERATIONS

We've generated more than 44 spin-out companies from commercialised research which are tackling some of the world's greatest challenges.

Fostering innovation

Our University of Manchester Innovation Centre Limited was founded to develop and maintain world-class infrastructure for spin-outs and spin-in ventures. It provides state-of-the-art premises for biotech and hi-tech companies and bespoke conferencing and events facilities, allowing businesses the freedom to concentrate on their core business development. We also have an intellectual property team (UMIP) that helps turn innovative ideas by the University's research base into commercial reality, thereby boosting research and development, stimulating the economy and creating jobs.

Since 2004 our commercialisation activities have contributed £680 million to the UK economy. Since 2012 UMIP has granted over £155,000 to social entrepreneurs across the University who aim to improve the world and make it a better place through the Social Enterprise Ignition Fund.

In 2016/17 we attracted more than £331 million in external research funding from industry and other partners, helping to foster a culture of collaborative innovation in tackling the world's greatest challenges.



Reduce inequality within and among countries

RESEARCH

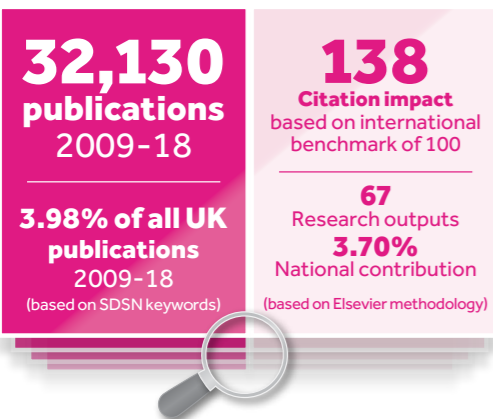
The power of direct cash transfers

Researchers at our Global Development Institute have suggested that direct cash transfers to the very poorest people in society are both financially feasible and politically sustainable. Cash transfers directly reduce income inequality and enable families to escape from extreme poverty. Our book *Just Give Money to the Poor* (Barrientos, Hulme and Hanlon) influenced the UK government's support for anti-poverty cash transfer programmes in Sub-Saharan Africa and south Asia. Our research helped to pilot a new anti-poverty transfer programmes across all of Uganda. Also, \$2 per month was pledged to all children born after the 2006 Peace Accord in Southern Sudan as a direct result of our work.

Supporting migrants' rights in the UK

Our criminology researchers, in partnership with the NGO Migrants' Rights Network and local community groups working in Manchester, investigated how migrants become undocumented and suggested policy reform to address the challenges in the current immigration system. By sharing key recommendations with policymakers and developing a policy briefing, we're contributing to national policy debate on undocumented migrants both in Greater Manchester and across the UK.

Research in numbers: SDG 10



PUBLIC ENGAGEMENT

Ahmed Iqbal Ullah Race Relations Resource Centre

Our Ahmed Iqbal Ullah Race Relations Resource Centre is an open access library, based in the city of Manchester's Central Library, specialising in the study of race, migration and diversity. The Centre enables research into racial and ethnic history, supports teachers in educating young people growing up in multicultural Britain, and empowers communities with the information and knowledge they need to promote an anti-racist world. The Centre also delivers an extensive and exciting programme of outreach work in schools and colleges.

Diversity Champions

Our Diversity Champions project uses Holocaust education as a foundation to engage local young people with issues of equality and human rights and to challenge hate crime. Schools take part by recruiting their own learners to undertake training in mental health, equality and diversity, anti-extremism and LGBTQTI rights in partnership with the University. Diversity Champions work with our History department to learn about immigration during World War II and undertake sessions with Holocaust survivors. The students also visit Auschwitz, giving them the opportunity to learn about one of the most historic and catastrophic events of prejudice in modern history.



LEARNING AND STUDENTS

Study programmes

Students address inequalities in a wide range of modules. For example undergraduate Sociology students examine international issues of forced migration and look at the nature of social inequalities in contemporary Britain.

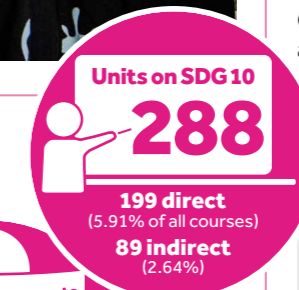
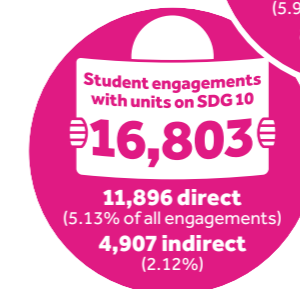
Social Justice Challenge

All second-year students can take part in the Social Justice Challenge, an online programme that explores key issues relating to migration, homelessness, education, mental health, energy and trade.

In 2017/18, 1,350 second-year students took the online Social Justice Challenge as part of our wider Stellify initiative.

Black Lawyers Matter

2018 saw the launch of the Black Lawyers Matter project within our School of Law. The project aims to encourage and inspire local black males to study law at university.



Access and Participation Plan

A high proportion of our students come from lower socioeconomic backgrounds (22.8% in 2016/17), which is above the English Russell group average (20.4%), while the percentage of our students who have a disability (15%) is above the national average (11%). In 2016/17, 25% of students starting their first degree with us were the first in their family to go to university and 4% of first degree students were from developing counties.



OPERATIONS

We're the most **LGBT-inclusive** university in England according to the 2018 Stonewall Workplace Equality Index – an audit of workplace culture for LGBT staff. We're also the highest placed Higher Education Institution in England and this is the fifth year that the University has featured in the Top 100.

Achieving Your Potential is a development programme for all University staff with a disability and is delivered by people with impairments.

Our development programme **StellarHE** aims to address the under-representation of BAME (black, asian and minority ethnic) leaders in senior positions by equipping participants with skills that reflect the unique challenges of BAME staff in higher education.

14% of professional staff, **19%** of lecturers and **11%** of senior lecturers are from BAME backgrounds. The University aims to increase this share of senior lecturers to **19%**.

19 staff networks with around **3,000** members support the promotion of equality in the workplace.

Our **Equity and Merit** programme helps the brightest minds from some of the least developed countries in Sub-Saharan Africa – Rwanda, Uganda, Tanzania and Ethiopia. Since 2007, 255 students have been fully supported to study master's programmes that contribute to the sustainable development of their countries. These scholarships are jointly funded through the University and the generosity of our donors.



Make cities inclusive, safe, resilient and sustainable



RESEARCH

Age-friendly cities

By 2030, at least a quarter of city dwellers will be aged 60 or over. Researchers at our Manchester Institute for Collaborative Research on Ageing trained a group of 18 older residents, aged between 58 and 74, as co-researchers who then conducted 68 interviews across Manchester with older people who were experiencing social exclusion, poverty, or health problems. This research has influenced policies for improving the quality of life for older people in urban communities, particularly those traditionally marginalised across previous policy and research.

Climate Resilient Cities and Infrastructure

Our Manchester Urban Institute (MUI) aims to realise more inclusive cities that are economically, environmentally and socially sustainable through its research, training and engagement. MUI's expertise is focused into five key themes: resilience, sustainability, energy, spatial inequality and urban governance. As part of the Climate Resilient Cities and Infrastructure project, our researchers worked with partners from eight European countries to develop tools to make cities more resilient to extreme weather and climate change. A key output from the project was the European Climate Risk Typology, which provides policymakers, researchers and citizens with the opportunity to visualise and compare climate risk in European cities.

Research in numbers: SDG 11

16,274
publications
2009-18

3.74% of all UK
publications
2009-18
(based on SDSN keywords)

216
Citation impact
based on international
benchmark of 100

53
Research outputs
3.84%
National contribution
(based on Elsevier methodology)

PUBLIC ENGAGEMENT

Age-friendly culture

Manchester Museum and the Whitworth are two of our University's public-facing cultural institutions that support more sustainable communities by engaging with people of all ages across our city-region. Together with our researchers, their public engagement work has been instrumental in Manchester's status as the UK's first World Health Organization Age-Friendly city. The Whitworth's exhibition 'Danger! Men at Work' was co-curated with older male residents in a local care home. And our Manchester Museum will soon open the world's first Centre for Age Friendly Culture, to act as a beacon for the role of arts and culture in ageing well. At the other end of the age-spectrum our Whitworth gallery has organised a child-led exhibition 'We are 11' and puts on regular 'Art Baby' sessions for new-borns and their parents and grandparents.

Multilingual Manchester

Manchester is one of Europe's most linguistically diverse cities. Our award-winning Multilingual Manchester initiative connects the University – our research and our students – with the opportunities and challenges associated with local language diversity. Students and staff undertake projects with local mainstream schools, supplementary schools, hospitals, city councils and residents to map out, celebrate and engage people with language diversity.

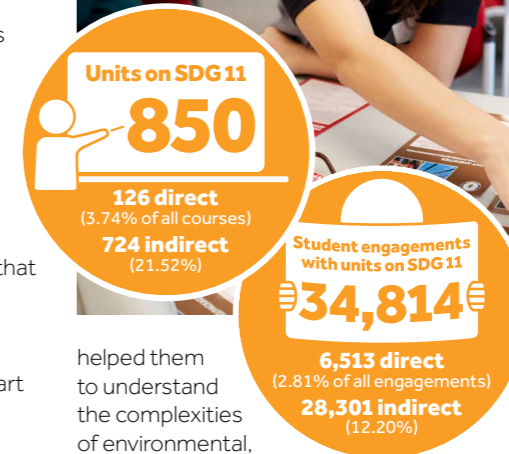
LEARNING AND STUDENTS

Study programmes

As tomorrow's professionals, students at Manchester are learning how to make cities inclusive, safe, resilient and sustainable. For example, undergraduate Environmental Management students and master's students in our Global Development Institute explore the challenges in creating green infrastructure in cities that is resilient to climate change.

Sustainability challenge

On their second day at university, as part of our wider Stellify initiative, all 8,000 first-year students can take part in an interactive event facilitated by more than 230 staff. Working in groups, students consider the challenges arising from constructing a new university campus in the fictional city of Millchester, analysing costs and carbon whilst paying attention to the needs of the local community. Over the last three years, 24,143 students have taken part in the challenge, which has



helped them to understand the complexities of environmental, social and economic dilemmas in a realistic setting.

Biko Bikes

Biko Bikes is a student-led project which promotes cycling and contributes to a more sustainable Manchester by offering affordable bike rental and teaching students about bike maintenance.

Student Action

Student Action is our largest student-led volunteering group. It runs a range of volunteering projects connected to sustainable cities such as supporting refugees and asylum seekers to improve their English, hosting soup kitchens in the city centre for the homeless, cleaning up local parks and organising weekly socials for elderly and disadvantaged community members.

OPERATIONS



We've partnered with Nationwide Cycling Academy to provide over **600 discounted second hand bikes** to students.

We received a **'Champion of Champions' award from Transport for Greater Manchester** for inspiring thousands of staff and students to opt for more sustainable journeys to work.

To encourage **low-carbon travel**, we offer:

- discounts on parking permits for low-carbon vehicles;
- a car share scheme;
- interest free loans for public transport annual season tickets and staff can buy discounted monthly and weekly tickets on campus.

Our bicycle users' group, **UMBUG**, is one of the largest in the country with over 1,000 members.

UMRun, our run-commute group, is the first to be established outside of London.

Over the past five years cycling and walking has increased by **7%** and student public transport use reached **45%**, reducing the University's carbon emissions for commuter travel by **35%**. **26%** of staff and **46%** of students now use active modes of travel.



Ensure sustainable consumption and production patterns

RESEARCH

Improving chemical production

Botanicals are used in many flavours and fragrances. However, some botanicals contain only minute levels of the target compound. Our Synthetic Biology Research Centre for Fine and Speciality Chemicals and Manchester Institute of Biotechnology are developing bacterial strains that produce these compounds. This could significantly reduce the environmental impact of traditional chemical synthesis and accelerate the production and scale-up of more sustainable industrial chemicals.

Sustainable Consumption Institute

Our Sustainable Consumption Institute (SCI) explores how adjusting consumption and production systems can bring about less resource-intensive ways of life. Our research allows us to better understand human needs, values and practices while exploring sustainable approaches to production, supply and distribution of goods and services. Research also looks at waste management issues, household sustainability, sustainable cities and the circular economy, among other themes. One specific example is SCI's research on sustainable meat, which includes new animal breeding technologies, meat-reduction initiatives, insect-based products and lab-cultured meat, and the consequences of these.

Research in numbers: SDG 12

18,307
publications
2009-18

4.23% of all UK
publications
2009-18
(based on SDSN keywords)

252
Citation impact
based on international
benchmark of 100

38
Research outputs
3.28%
National contribution
(based on Elsevier methodology)



PUBLIC ENGAGEMENT

bluedot festival



A unique festival of discovery, bluedot invites visitors to explore a stellar programme of music, science and culture. Held at Jodrell Bank, the University's iconic observatory, the festival works hard to minimise its environmental impact. It is free of single-use plastic, recycles the majority of waste, initiates car-sharing schemes, provides coaches for festival-goers, collects all food waste for composting and provides free water refill stations. Visitors also have the chance to offset their carbon footprint with a donation when they buy their tickets; alternative power supplies are replacing diesel generators. The festival was one of the first to use all LED festoon lighting.

Engaging our suppliers to be more sustainable

We've pioneered a free online Supplier Engagement Tool to engage businesses we trade with on issues of environmental, social and economic sustainability. This tool tracks impact and creates an action plan to make a bigger positive impact through our multimillion-pound supply chain. Through the tool, nearly 2,000 suppliers have been supported to create an action plan detailing their sustainability actions.

LEARNING AND STUDENTS



Study programmes

We have a global responsibility to better manage our shared natural resources, and that begins with a thorough and considered understanding of the associated issues, challenges and potential solutions.

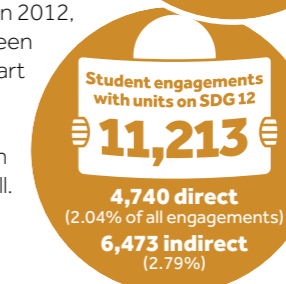
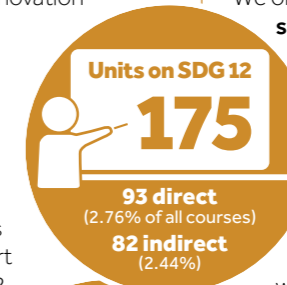
Sociology students undertake a Sustainability, Consumption and Global Responsibilities unit, which explores sustainable consumption and analyses the ways consumers, businesses and governments are responding to the sustainability challenge, while Chemistry students research ways to enable cleaner, more efficient chemical reactions and alternative fuels through the Environmental and Green Chemistry unit.

Industrial biotechnology

Industrial biotechnology is an important source of renewable energy and is transforming the way we manufacture chemicals and materials. We offer a six-week online course which outlines the key enabling technologies that underpin biotechnology research, as well as the wider issues involved in sustainable manufacturing, such as responsible research innovation and bioethics.

Give It Don't Bin It

Give It Don't Bin It is an annual campaign aimed at encouraging all 70,000 students to donate unwanted items to charity. Since the start of the campaign in 2012, £1.3million has been for the British Heart Foundation and hundreds of tonnes have been saved from landfill.



OPERATIONS

We were the winner of the Sustainable Business Award at the UK's most prestigious hospitality and catering awards, the **Cateys**.

We work with **local**



suppliers such as *Manchester Veg People* to keep food mileage and carbon emissions to a minimum and support the local economy.

We only use high quality British meat produced by farmers who practise **high standards of animal welfare** and who strive to look after the environment.

We only stock products that use **sustainably sourced palm oil**.

Meat Free Mondays and daily **vegan options** are made available at student halls.

We use 100% organic milk, 80% organic eggs and 54% organic beef and **wonky fruit and veg** that would otherwise be wasted in student halls.

We were the first university to reach **Level 5 of the government's Flexible Framework** for responsible and sustainable practices and policies on procurement.



Take urgent action to combat climate change and its impacts

RESEARCH

The Tyndall Centre for Climate Change Research

The Tyndall Centre is a network of universities, including The University of Manchester, that brings researchers together to develop sustainable responses to climate change. The Centre works with local, national and international leaders from the public and private sectors to promote informed decisions on mitigating and adapting to climate change.

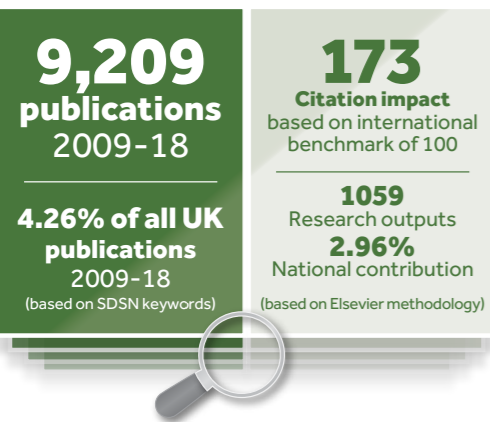
One recent example of Tyndall Manchester's impact has been SCATTER (Setting City Area Targets and Trajectories for Emissions Reduction) – a groundbreaking tool providing city regions with the opportunity to standardise their greenhouse gas reporting in line with the Paris Climate Agreement. This was directly adopted by Manchester

City Council to set a series of ambitious new five-year carbon budgets and a commitment to becoming zero carbon by 2038.

Carbon calculator

Measuring the carbon footprint of industrial activity is important in mitigating climate change effects. However, the complexity of industrial supply chains makes this difficult. In partnership with a variety of organisations, researchers at our School of Chemical Engineering and Analytical Science developed a free, award-winning carbon footprint tool that can be tailored to different industrial sectors. The tool offers a quick and easy method for identifying carbon hot spots and opportunities for reducing emissions and enables organisations to accurately assess and manage their carbon emissions.

Research in numbers: SDG 13



PUBLIC ENGAGEMENT

The Lived Experience of Climate Change: A Story of One Piece of Land in Dhaka

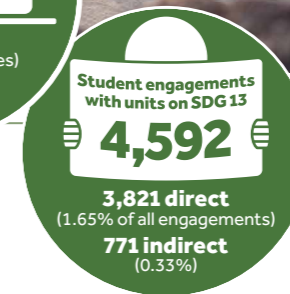
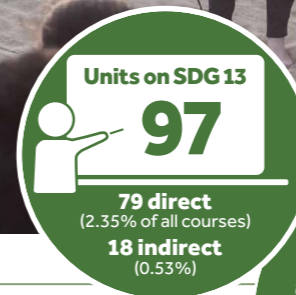
Our School of Education, Environment and Development researcher Dr Joanne Jordan has teamed up with a diverse range of partners to raise awareness of the everyday realities and impact of climate change on the lives of low-income people in Bangladesh. Together they produced interactive theatre performances, documentary films, educational programmes and public events, which have been viewed by over 240,000 people. Performances of *The Lived Experience of Climate Change: A Story of One Piece of Land in Dhaka* have been seen online and in-person by over 7,000 people, and were filmed to produce a documentary that has brought these stories from Dhaka to an even bigger audience.

Policy engagement on climate change

Our Tyndall Centre for Climate Change research and policy engagement has directly informed the landmark commitments by Manchester City Council and the Greater Manchester Combined Authority to create an ambitious zero carbon plan for our city-region by 2038. We're also undertaking influential policy engagement on areas including natural gas extraction, global shipping, aviation and carbon capture and storage.



Image: Jashim Salam. © The Lived Experience of Climate



LEARNING AND STUDENTS

Study programmes

As tomorrow's thinkers and doers, our students are taking on the challenge of climate change across hundreds of undergraduate and postgraduate modules in the humanities, social sciences, natural sciences and engineering. In addition, every undergraduate student has the opportunity to take Climate Change and Society, a unit offered by our University College for Interdisciplinary Learning. This explores the politics of climate change action and analyses the challenge from the perspective of multiple stakeholders and different nations.

The next wave of thinkers and doers are key to unlocking the solutions to climate change, which is why we give every

undergraduate student the opportunity to take this unit. It challenges students to explore the politics of climate change action and analyse climate change from the perspective of multiple stakeholders and different nations.

Applied Sustainability Projects programme

The Applied Sustainability Projects programme allows students wishing to address real world challenges to work on a research project set up by organisations ranging from NGOs to SMEs and large businesses. In 2018 there were more than 50 projects set by ten organisations. Topics include energy, pollution, biodiversity and travel.

OPERATIONS



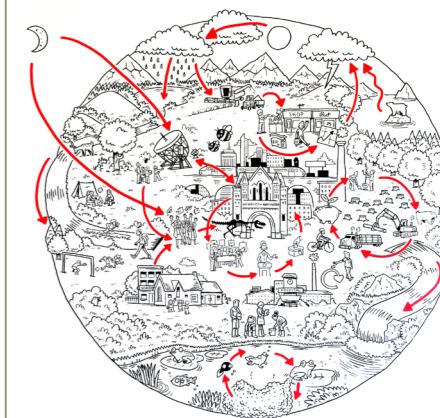
33% reduction in carbon emissions since 2007.

We've committed to playing our full part in Manchester's ambitious **2038 zero carbon target**.

Our University's Manchester Museum is the **world's first carbon-literate museum**, holding a Gold Award with the Carbon Literacy Trust.

We've carried out an **assessment of climate risks** across campus, identifying increased flooding through wetter winters and extreme downpours as the key concern.

We launched **10,000 Actions**, the biggest environmental sustainability initiative in the UK higher education sector, in 2016. This helps every member of staff take positive action on environmental sustainability and led to us becoming the **first 'carbon-literate' university in the world**. 50% of our 10,000+ staff have accessed the 10,000 Actions programme.



Go Green Week

For Go Green Week our Students' Union organises multiple events, workshops on repairing and upcycling, clothes swaps, topical film screenings and a climate march.



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

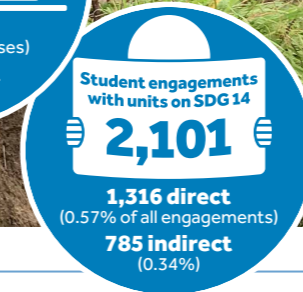
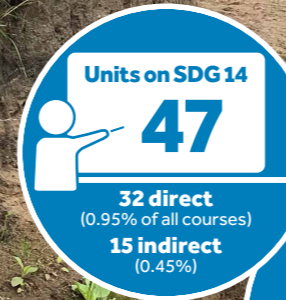
RESEARCH

Microplastics in UK rivers

In the first study of its kind, our geographers found that UK rivers are heavily contaminated with microplastics and that microplastics from urban river channels are a major contributor to the pollution problem in oceans. Microplastics enter river systems from a variety of industrial and domestic sources. These particles pollute the environment and pose a threat to ecosystems. Our researchers surveyed river sediments from 40 sites across Greater Manchester and found that the River Tame at Denton had the highest levels of microplastics recorded anywhere in the world. This research is leading to calls for much tighter regulations on waste flowing into urban waterways.

Determining oceanic fish survival

More than 400 'dead zones' exist in oceans and seas worldwide. These are areas where aquatic life is limited or completely absent, largely because there isn't enough oxygen to support it. In recent years, these zones have been increasing, often due to human input of nutrients into the water, which encourages plant growth. Our biologists are examining fish in harsh environments in order to understand why fish stocks dwindle in polluted marine environments with low oxygen levels.



Research in numbers: SDG 14

<p>1,847 publications 2009-18</p> <p>2.36% of all UK publications 2009-18 <small>(based on SDSN keywords)</small></p>	<p>146 Citation impact based on international benchmark of 100</p> <p>71 Research outputs 1.90% National contribution <small>(based on Elsevier methodology)</small></p>
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PUBLIC ENGAGEMENT

What is in your river?

Our Department of Earth and Environmental Sciences has delivered public engagement activities to increase awareness of life below water and promote cleaner rivers. Community volunteers have been trained to act as River Guardians, who are able to identify living organisms in local streams. The project helped to promote awareness of ecology and inclusiveness through citizen science engagements.

LEARNING AND STUDENTS

Study programmes

More than 3 billion people depend on marine and coastal biodiversity for their livelihoods and we want to prepare our students for the realities of working within this sector, and arm them with the knowledge and skills to develop solutions that will help us manage this vital resource.

The Geography course unit Environmental Pollution covers water, soil and air pollution, the associated impacts and issues and the strategies used to prevent and control them.

Zoology and other Bioscience students can study Biodiversity and Ecology, and have the option to take several units on conservation biology and marine biology. This includes a field course in Marine

Biology, which examines organisms living on shores and the seabed.

At a master's level, our Pollution and Environmental Control degree prepares students for a career in environmental management or resource conservation. Students explore the social, economic and engineering elements of environmental protection for both water and land-based ecosystems.

Marine and Conservation Programme

Our students can volunteer on a Marine and Conservation Programme run by one of the volunteer hubs' international partners, Travelteer. The programme aims to rehabilitate and conserve the environment and marine life in Sri Lanka.

OPERATIONS

We're committed to eliminating avoidable single-use plastic by 2022.

All our fish appear on the **Marine Conservation Society** approved list, meaning that any fish deemed at most risk of extinction are not caught to avoid overfishing.

We offer discounts for staff and students who use **reusable** cups for hot drinks and soups in campus outlets and halls of residence.

We sell only **recyclable** PET plastic bottles.



In 2018, **2038 reusable mugs** were used **20,074** times saving the equivalent of **388.43kg** of wasted disposable cups.

Our Chancellor's Hotel avoids the waste of around **15,000** plastic bottles and **48,000** bathroom amenity bottles each year through using reusable alternatives.



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

RESEARCH

Improving management of UK wildfire risk

UK Fire and Rescue Services deal with around 70,000 vegetation fires a year. They're dangerous and costly to fight, with approximately £55 million spent on them each year in the UK. Despite this, little work had been done to map, forecast or assess their impact. Our geographers worked closely with the Peak District National Park and the Chief Fire Officers Association Wildfire Group to develop risk assessment tools such as a wildfire risk map for the Peak District moorlands. This tool is thought to have averted five say large-scale fires, which would have cost millions to fight and in damage restoration.

Improving soil quality in China

A third of the world's soils are degraded and this problem is particularly bad in developing countries where soil erosion can cause a decline in food production and ultimately, extreme poverty. One such hotspot of soil degradation is the Qinghai-Tibetan plateau in China, where half of the eight million people live in poverty, largely due to widespread degradation of the grasslands. Researchers at our Soil and Ecosystem Ecology Laboratory aim to restore fertility to these soils and enhance their ability to safeguard against climate change by increasing plant diversity, which has been shown to improve soil health in the UK.

Research in numbers: SDG 15

10,550
publications
2009-18

3.38% of all UK
publications
2009-18
(based on SDSN keywords)

213
Citation impact
based on international
benchmark of 100

71
Research outputs
2.16%
National contribution
(based on Elsevier methodology)



PUBLIC ENGAGEMENT

Species conservation

Our Manchester Museum Vivarium is dedicated to the conservation of reptiles and amphibians. The museum has been responsible for establishing important captive breeding programmes for some of the world's most critically endangered species, such as the Costa Rican Lemur leaf frog. It communicates to hundreds of thousands of the public and school children on issues of climate change, sustainability and natural ecosystems through our Vivarium, world-famous FrogBlog and 'Learning with Lucy' programme.

Soil Patrol

Soil Patrol is a public engagement programme that invites the general public to learn more about the creatures living in our soil. It increases public awareness of the incredible diversity of organisms living in soil and their importance for the provision of essential ecosystem services such as climate change mitigation, nutrient recycling and food production.

Cultural Park Keeper

Our Whitworth art gallery has appointed the world's first-ever cultural park keeper. This has led to the development of an outdoor engagement programme in the surrounding park that aims to increase public awareness of the connections between art and nature and enhance awareness of trees and wildlife.

LEARNING AND STUDENTS

Study programmes

Through our varied offer of courses, programmes and initiatives, we're committed to giving our students a thorough insight into the causes and impacts of natural habitat and biodiversity loss.

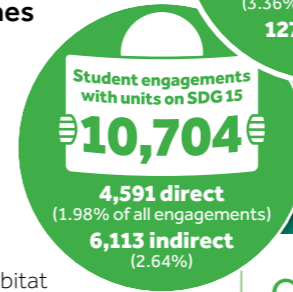
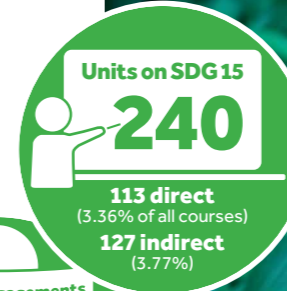
All undergraduates can take our University College for Interdisciplinary Learning unit Crisis of Nature: Issues in Environmental History, which explores the ideal relationship between the human species and the rest of the world, and what we can learn from other cultures and our own past about this environmental crisis.

Biosciences students can take part in the Manchester-based Urban Biodiversity field course, which introduces them to environmental consultancy, conservation and natural site management.

Undergraduates on our Environmental Management programme gain skills needed for ecological surveys, conservation management and environmental auditing, and cover subjects such as environmental economics, rural planning and the vulnerability of ecosystems.

Tree Musketeers

The Tree Musketeers is a student-run group of conservation volunteers that helps maintain nature reserves and green spaces. In partnership with the Royal Society for the Protection of Birds, students volunteer in local primary schools and explore nature with the school children.



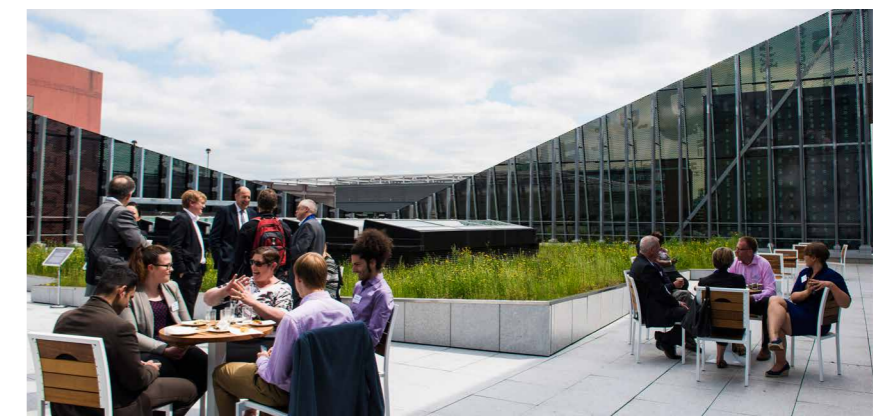
OPERATIONS

Living Campus Champions are a growing network of staff who are enhancing nature on campus. They have transformed the quad at the centre of the Michael Smith Building into a biodiversity garden, with the inclusion of a hay meadow and extensive planting of bluebells and various orchid species.

There are eight **Green Roofs** on campus and several walls with climbing plants. Our Green Roof and Green Wall Policy encourages installations across our new capital programmes and on buildings undergoing redevelopment or refurbishment, where the structure permits.

There are more than **9,000 trees** on campus that produce **22 tonnes** of oxygen, reduce UV radiation by **28.5%**, store **216 tonnes** of carbon while also avoiding water runoff and air pollution.

For each tree lost through campus development, two more are planted. Our Tree Policy aims to increase tree cover across campus. This supports our partner charity City of Trees, who aim to plant a tree for every man, woman and child that lives in our city region within a generation.



16 PEACE, JUSTICE AND STRONG INSTITUTIONS

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



RESEARCH

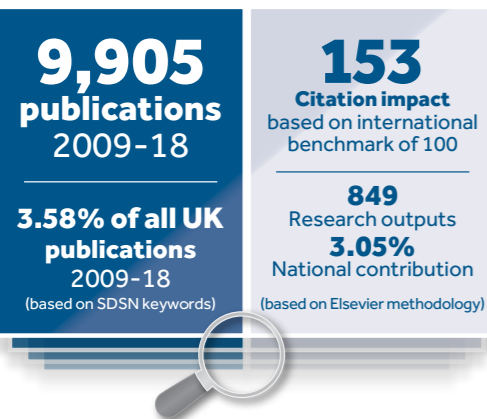
Finding a better way to clear landmines

There are an estimated 100 million active landmines globally as a result of civil war and over 60 million people still live with the daily fear of unexploded munitions. Detection is difficult as there is often no simple way to know where landmines have been placed and soil erosion can move or cover them. It's estimated that it would cost tens of billions of pounds and over 1,000 years to clear existing active mines using current technologies. Our Scanning Electromagnetic Mine Inspection System research, funded by the Find a Better Way charity, is helping to develop smarter landmine detectors that can help save lives and improve social and economic conditions in areas blighted by war.

Humanitarian and Conflict Response Institute

Our Humanitarian and Conflict Response Institute (HCRI) brings together a large team specialising in peace building, conflict, security and justice. Initiatives include the Making Peacekeeping Data Work for the International Community project, which examined how the UN can better use data collected during peacekeeping missions and how wider geopolitical or justice-based interventions might prevent further challenges. For the Everyday Peace Indicators project, HCRI researchers collaborated with communities affected by war and violence to produce 'everyday indicators' of difficult-to-measure concepts, such as peace, reconciliation, and violent extremism.

Research in numbers: SDG 16



PUBLIC ENGAGEMENT

In Place of War

Research in our School of Arts, Languages and Cultures has been used to create a spin-out charity, In Place of War, which supports artists and communities living in sites of conflict globally. For over ten years it has connected and cultivated international networks of creative artists making theatre, street art, music, spoken word and more in response to war. The project is delivered for free to local young people in some of the most under-resourced parts of the world. The project is also working to develop four cultural spaces in areas with little access to the creative arts: Makokoba in Zimbabwe; Kisangani and Bukavu in DR Congo; and Rocinha, the largest favela in Rio de Janeiro.

Have You Heard?

Have You Heard? is an initiative set up by a group of our scientists with the aim of demystifying scientific news stories in the era of 'fake news'. They provide tools and visit an array of community groups across Greater Manchester to engage with the public on the journey from an experiment to a news story, using real examples and discuss what can go wrong along the way. This has created an invaluable space where people can ask questions and learn how to separate fact from exaggeration. A podcast and website enhances engagement with the public beyond face-to-face audiences.

LEARNING AND STUDENTS

Study programmes

We're committed to promoting peaceful and just societies through a wide range of study programmes. For example, undergraduate Law students take units in human rights and counter-terrorism legislation, whilst master's students can go on to become international lawyers through our advanced course in Public International Law.

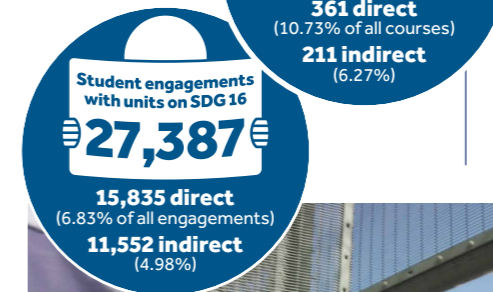
Learning Criminology Inside

Access to higher education in prisons is scarce and current educational provision tends to be limited to skills and education for basic employment. Through the Learning Together network, our Learning Criminology Inside project allows third-year Criminology students to study a prison-based unit, From Imprisonment to Rehabilitation, alongside ten men from HMP Risley inside the prison's education setting, bringing benefits to students and prisoners.

Legal Advice Centre

More than 230 Law students volunteer at our on-campus Legal Advice Centre each year, providing pro-bono support under the supervision of qualified lawyers to more than 170 members of the local community who cannot otherwise get legal help.

One of the centre's largest practice areas is the Dementia Law clinic, which provides free advice to people with dementia and their families such as determining whether to stay at home with care or move in to residential care, and whether they are eligible for free NHS care.



OPERATIONS

Our **Anti-Corruption and Bribery Policy** takes a zero-tolerance approach to bribery and corruption in all of our University operations.

Our **Academic Freedom Policy** commits our University to the principles of academic freedom.

Our **Code of Practice on Freedom of Speech** ensures academics can put forward new ideas and controversial or unpopular opinions without placing themselves at risk of losing their jobs or any privileges.

Our Policy for Socially Responsible Investment pursues an ethical investment approach, considering social, economic and environmental factors in investment decisions. For example, we seek to avoid involvement in human rights violations, environmental degradation, arms sales and the tobacco industry. We've also signed up to the **UN-supported Principles for Responsible Investment**.



Strengthen the means of implementation and revitalise the global partnership for sustainable development



RESEARCH

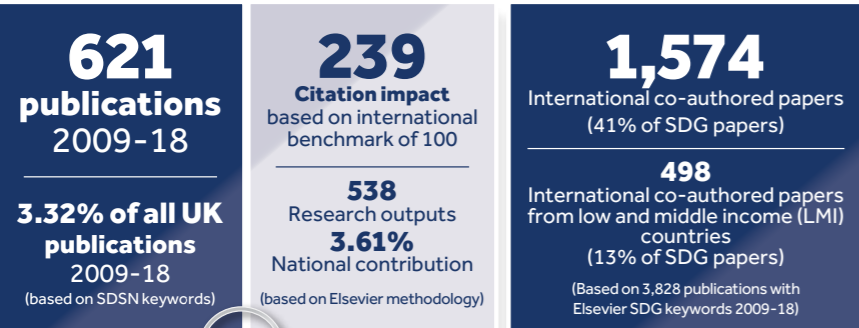
Medical Aid Register

Humanitarian responses to international disasters can have unforeseen negative consequences. It's thought that they led to needless amputations during the 2010 Haiti earthquake aid response due to low medical standards. To address this, our Humanitarian and Conflict Response Institute created the UK Emergency Medical Team, which acts as the UK's interface between the NHS and other professional volunteers and local aid providers. It lists health and other specialists, trains them for work in difficult working environments, and then makes them available to NGOs or state responses, most recently responding to the diphtheria outbreak in Bangladesh.

Triangulum: demonstrating smart green growth in urban areas

Triangulum is a five-year, €30 million project funded by the European Union under Horizon 2020 to demonstrate cutting-edge smart city technologies and roll them out across the globe. The aim is to encourage stakeholders to be actively engaged in the co-creation of smarter and more sustainable cities. We're working with 22 partners from urban towns, research institutions and industry to demonstrate 'smart green growth' – reducing carbon emissions while boosting the economy. Our work is focusing on developing solutions for smart ICT, sustainable mobility, and energy consumption reduction.

Research in numbers: SDG 17



PUBLIC ENGAGEMENT

Global higher education networks for social responsibility

We're an Engaged Member of the Talloires Network, an international association of institutions committed to strengthening the civic roles and social responsibilities of higher education. We're a founding member of the University Social Responsibility Network, which aims to share best practice and celebrate the contributions universities make to societies through their research, teaching and engagement activities.

Collaboration with NGOs and IGOs

We prioritise a wide-range of research partnerships in support of the SDGs across areas such as global development, conflict response, dams, and affordable energy. These include strategic collaborations with the United Nations, Oxfam, Médecins Sans Frontières, Save the Children and the Mines Advisory Group. We also have a pioneering partnership with the NGO Shack/Slum Dwellers International to strengthen the voice of those living in urban poverty. This is an international network of 34 national federations of landless and homeless communities with women-led savings groups at its core.

LEARNING AND STUDENTS

We understand that the key to developing the best solutions to our global problems is not through an individual person or organisation, but through a network of knowledge, resources and experiences, which is why we encourage our students to make use of our vast learning partnerships and programmes.

Our University has always been a champion of shared learning and exchanges and has teaching exchange partnerships with 163 universities across the world.

WHO, among others. The institute offers master's courses in Disaster Management and Humanitarianism and Conflict Response, as well as continuing professional development courses in Emergency Humanitarian Assistance, undertaken by professionals from NGOs, IGOs and governments.

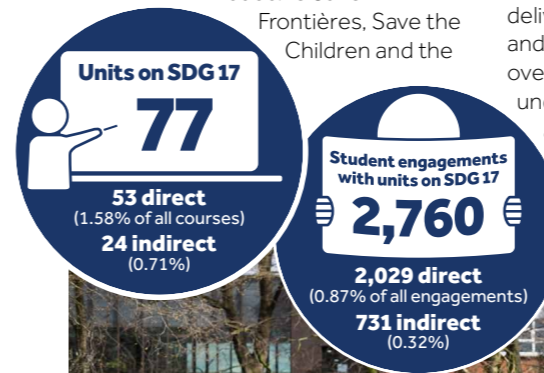
The Institute's Intercultural Communication master's degree equips students with intercultural awareness and communication skills to work in multinational environments and communities.

Humanitarian and Conflict Response Institute (HCRI)

The HCRI has partnerships with influential organisations such as Médecins Sans Frontières, Save the Children and the

Pro-bono consultancy project

Every year, MBA students at our Alliance Manchester Business School undertake a pro-bono consultancy project with over 20 UK-based charities. Students deliver 2,400 hours of consultancy work and conduct additional group research over three months. The project underpins the importance of ethics and 'giving back' to our students and local community.



OPERATIONS

Civic and international partnerships are key to the University meeting the SDGs. Examples of our partnerships include working with:

- **Manchester City Council** on education, planning and the environment;
- **Greater Manchester Combined Authority** to address skills development, the environment, clean and sustainable growth, and catering for an ageing population;
- **Greater Manchester Health and Social Care Partnership** to drive pioneering research into new tests and treatments in the areas of musculoskeletal disease, hearing health, respiratory disease, dermatology and cancer;
- **Greater Manchester Local Enterprise Partnership** to deliver growth, jobs and prosperity for the area.

In 2018, we signed the international **SDG Accord** as part of our ongoing commitment to social responsibility and environmental sustainability. The Accord calls upon universities and colleges to embed the SDGs into everything they do – their education, research, leadership, operations, administration and activities. This includes collaborating with other institutions and sharing our learning with local and global communities. Part of our commitment to the Accord is this report on our contribution to the SDGs.

METHODOLOGY

This report communicates the range of activities The University of Manchester engages in that contribute to the United Nations' Sustainable Development Goals (SDGs).

Drawing on the Sustainable Development Solutions Network's *Getting Started With The SDGs*¹ guidance, the first stage of this report was a comprehensive data collection process to identify initiatives across the University on four main dimensions – research; learning and students; public engagement; and responsible internal processes – that mapped onto the SDGs. The report presents two kinds of data: metrics and case studies.

Research metrics

Currently there are few replicable or standardised ways to measure research impact against the SDGs. We worked with our University's bibliometric specialist to trial three different methodologies for research metrics and compared their performance in capturing the essence of the SDGs. We searched the titles, keywords and abstracts of publications in the Scopus² database using three different lists of keywords for the SDGs:

- **The SDSN keyword list** compiled by Monash University and SDSN Australia/Pacific³. This was the most comprehensive list and benefited from the transparency and accessibility of the published keywords. However, it yielded a high number of publications that arguably may not have such direct relevance to those specific SDGs⁴.

- **An 'Elsevier methodology'**, used for the report *Sustainability science in a global landscape*⁵ produced by Elsevier in collaboration with SciDev.Net. The Elsevier/SciDev.Net report aggregated the 17 SDGs into six key themes: Dignity, People, Prosperity, Planet, Justice and Partnership⁶. We disaggregated the theme-based lists of keywords into SDG-based lists where necessary, assigning keywords to SDGs using the SDSN list as a guide. This had a much narrower scope and yielded fewer and arguably very focused results. However, we noted it didn't cover all aspects of the SDGs, meaning that a potentially high number of relevant publications were being filtered out.
- **A 'homegrown' keyword list** which started from the SDSN list for each SDG and removed keywords most likely to produce publications without direct relevance to the goal.

Using SDG1: No Poverty as an example, we saw that results varied widely across the three different methods. In addition, our areas of strength against each SDG differed depending on the methodology used.

Number of SDG1 publications 2009-18
SDSN keyword list: 13,360
'Homegrown' keywords: 455
Elsevier methodology: 105

As a result of the experiments, we discounted the methodology using the homegrown list on the grounds that its results were overly dependent on subjective decisions about the keywords removed. We decided to use

both externally produced lists for our research metrics. This will allow for better comparison with future reports from other universities and potentially make this publication more replicable. As a result, the 'Research in numbers' section for each of the SDGs in this report includes:

- a SDSN-based figure for the past decade of our publications 'publications 2009-18';
- a corresponding Elsevier-based figure for 'Research output';
- a SDSN-based figure for proportion 'of all UK publications 2009-18' and a corresponding Elsevier-based figure for 'National contribution' (both calculated by dividing the number of Manchester publications by the number of publications at all UK institutions for the Goal); and
- an Elsevier-based figure for 'Citation impact', based on comparing the level of citation of Manchester publications with that of all publications globally for the SDG anywhere. (The amount of data required to calculate this figure made it impossible to do so using the larger publication sets that would have resulted from the SDSN keyword list.)

In addition, and in line with the approach used for the *Times Higher Education* University Impact Ranking, we reported under SDG17 Partnerships for the Goals the number and proportion of publications co-authored with researchers internationally, and also added those with researchers from low- and middle-income (LMI) countries⁷ using the Elsevier methodology. Again, all research metrics were based on publications during the period 2009-18.

Teaching metrics

Because of the size of our institution and large number of course units (3,365 at undergraduate and master's level) it was not possible to survey all programme leaders. Instead we undertook our own centralised curriculum audit. Using SDG keywords highlighted in programme descriptions, we analysed all 3,365 course unit descriptions in 2017/18 and linked them to the SDGs in two ways:

- **Direct impact:** if the unit allowed students to understand how to tackle this Goal (eg understanding vaccines, circular economy); and
- **Indirect impact:** if the unit covered a general area relating to the SDG (eg physiology, economics), allowing students to understand the basics and build on this knowledge to contribute to the SDGs.

From this we were able to count the number and proportion of our units relevant to specific SDGs and the number of student engagements with them. 'Student engagements' is not the same thing as 'number of students' because the same student can engage with a specific SDG many times over by electing to do multiple modules.

Case studies

We selected qualitative case studies to understand our contribution to the SDGs through a comprehensive consultation process, including review of the relevant university websites, a staff survey, consultation with social responsibility leads and managers, and input from staff with particular expertise for each of the four dimensions.



- **Research** case studies were developed by consulting individual researchers, research institutes and managers, communications and marketing officers and our research and business engagement support services. The final selection was made by a working group with academic and professional experts from across the University in sustainability.
- **Learning and students** case studies were compiled based on the curriculum audit and wide-ranging internal consultation
- **Public engagement** case studies were developed in consultation with engagement managers and our cultural institutions, as well as researchers engaging with the community.
- **Operations** case studies were compiled with help from a wide range of professional services staff across the University.

Over 140 staff members contributed to the data collection process. Case studies for inclusion in the report were selected based on their clear contribution to the respective SDG, their impact and their distinctiveness, while also striving for diverse range of initiatives from across the University.

This written report only scratches the surface of what the University does and so our plan is to create a more dynamic microsite that can communicate a fuller contribution map.

Report contributors

The report was developed under the chairmanship and steer of Dr Julian Skyrme, Director of Social Responsibility. Particular thanks go to Charlotte Freitag for a wide range of research, analysis and synthesis. Key roles were played by Emma Gardner, Lucy Millard, Rachel Halton, Stephen Pearson, Laura Dawson, Chris Jordan, David Hulme, James Evans, Jen O'Brien, Amanda Bamford and many others.

¹ http://ap-unsdsn.org/wp-content/uploads/University-SDG-Guide_web.pdf

² <https://www.elsevier.com/en-gb/solutions/scopus>

³ <http://ap-unsdsn.org/regional-initiatives/universities-sdgs/>

⁴ For example, the SDSN keywords for SDG 2 (Zero Hunger) include 'Trade diversity', and those for SDG 11 (Sustainable Cities and Communities) include 'Waste management'

⁵ <https://www.elsevier.com/research-intelligence/research-initiatives/sustainability-2015>

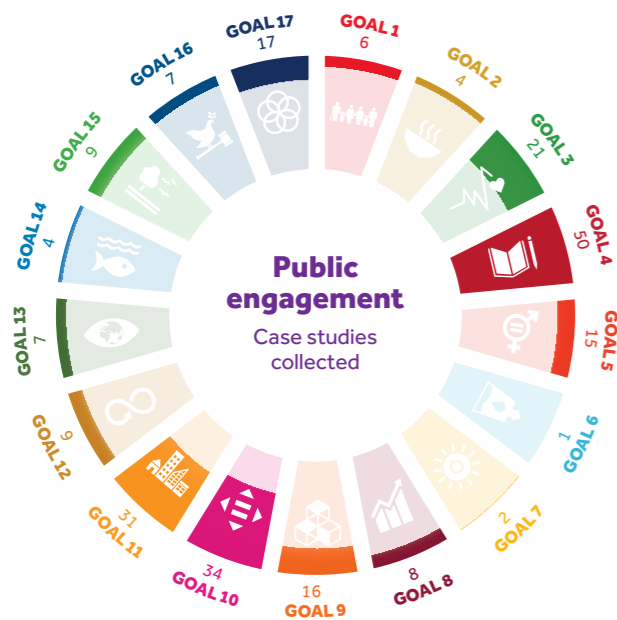
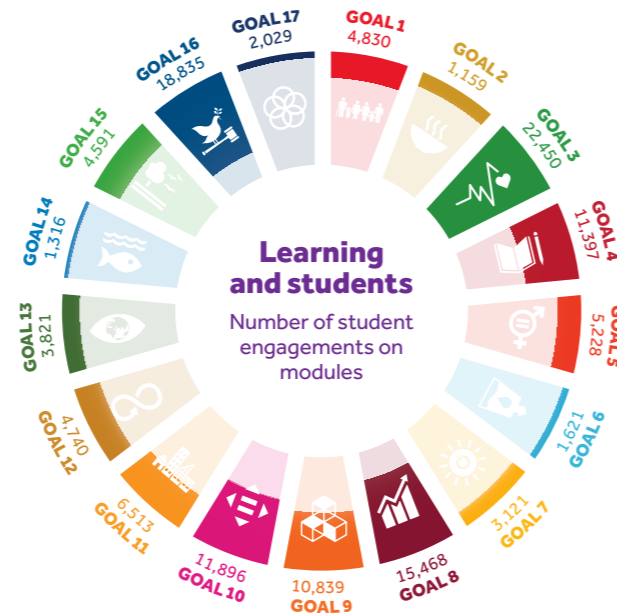
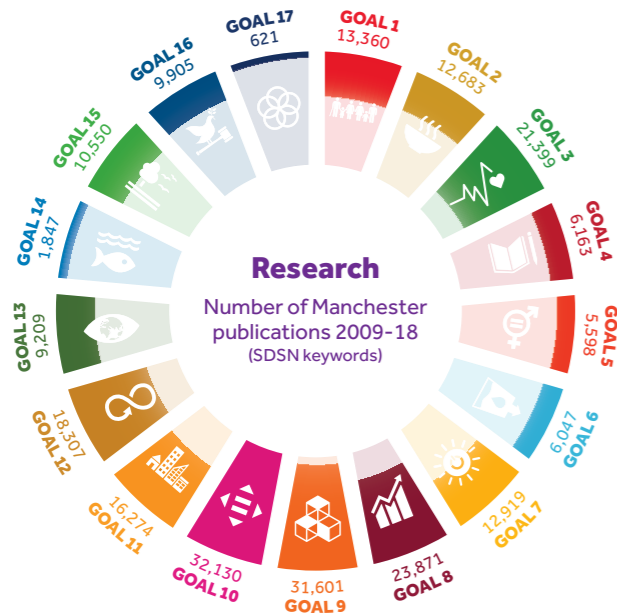
⁶ Theme 1 (Dignity) concerned the need 'to end poverty and fight inequalities' and equated to SDGs 1, 2 and 10; Theme 2 (People) concerned the need 'to ensure healthy lives, knowledge and the inclusion of women and children' and equated to SDGs 3-5; Theme 3 (Prosperity) concerned the need 'to grow a strong, inclusive and transformative economy' and equated to SDGs 6-9 and 11-12; Theme 4 (Planet) concerned the need 'to protect our ecosystems for all societies and our children' and equated to SDGs 13-15; Theme 5 (Justice) concerned the need 'to promote safe and peaceful societies and strong institutions' and equated to SDG 16; Theme 6 (Partnership) concerned the need 'to catalyze global solidarity for sustainable development' and equated to SDG 17.

⁷ <http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/daclist.htm>

CONTRIBUTION MAPPING

As one of Europe's largest research universities, with a unique commitment to social responsibility, we undertake work against all 17 SDGs.

Our contribution is particularly significant in some areas and a key learning point in producing this report was understanding and visualising where these were.



UNIVERSITY IMPACT RANKINGS FOR THE SDGs

The contribution of universities to the UN's Sustainable Development Goals (SDGs) can be assessed in a variety of ways, as evidenced in this report.

A recent attempt to measure and rank these contributions was made by the *Times Higher Education* in its inaugural 2019 University Impact Rankings. Noting the methodological and philosophical challenges and limitations of all rankings, The University of Manchester's performance was still among the highest in the world. We were ranked:



<i>Times Higher Education</i> University Impact Rankings based on the SDGs	UK RANKING	WORLD RANKING
Overall ranking	1	3
SDG 17 – Partnerships for the Goals	1	1
SDG 3 – Good health and well-being	2	6
SDG 11 – Sustainable cities and communities	1	7
SDG 12 – Responsible consumption/production	5	8
SDG 10 – Reduced inequalities	1	11
SDG 9 – Industry, innovation infrastructure	4	31
SDG 5 – Gender equality	6	40
SDG 13 – Climate action	7	40
SDG 16 – Peace, justice and strong institutions	11	51
SDG 8 – Decent work and economic growth	14	84
SDG 4 – Quality education	7	87

WHAT NEXT?

This report is part of a much wider aim to play our full part in meeting the SDGs. Here's what else we're doing.

- **New University vision and strategic plan:** as part of the redevelopment of our vision and strategic plan during 2018/19, we're embedding our work to address the SDGs as a key theme.
- **Leadership and communications:** we will use our role as a pioneer of social responsibility among universities to raise awareness of the role of higher education in addressing the SDGs through publications, videos, conferences, exhibitions and events.
- **Cultural engagement:** our University's Manchester Museum, Whitworth gallery, Jodrell Bank Discovery Centre and John Rylands Library engage with 1.3 million members of the public each year. We will use these civic spaces to engage the public in understanding and addressing the SDGs.

- **University College for Interdisciplinary Learning SDG Module:** we're pioneering the development of a fully online, interdisciplinary credit-bearing unit, Creating a Sustainable World: 21st Century Challenges and the Sustainable Development Goals, that will be open to all our undergraduate students.
- **Research, teaching, engagement and processes:** we're working with our staff and students to foster greater internal awareness of the SDGs and ensure that contributions by our community are visible to all.
- **Alumni engagement:** we have 480,000 alumni in more than 190 countries. We'll engage these valuable members of our community to understand and take action against the SDGs.
- **Global University Rankings:** we will promote awareness of the SDGs in higher education by participating in global measures of performance such as the *Times Higher Education* University Impact Rankings and influence their development.



- **Ethical Grand Challenges:** this programme opens up opportunities for students to address the SDGs through Sustainability, Social Justice and Workplace Ethics Challenges open to all 27,500 undergraduate students. The SDGs are being embedded into this programme.
- **10,000 Actions:** our 10,000 Actions platform gamifies positive environmental and social action and is open to all 12,695 of our staff. We're now linking these actions to the relevant SDGs and plan to expand its scope to include our students.

RESEARCH INSTITUTES AND RESEARCH BEACONS

We're part of the UK's Russell Group of research-intensive universities. Our story is one of world firsts and brilliant discoveries, with 25 Nobel Prize winners having worked or studied here.

We're the birthplace of nuclear physics, where Ernest Rutherford first split the atom. The world's first stored-program computer was developed here. Alan

Turing pioneered artificial intelligence at Manchester. And Andre Geim and Kostya Novoselov won the Nobel Prize for isolating the wonder material graphene.

The *Times Higher Education* University Impact Ranking places us first in Europe and third in the world for our research, teaching, engagement and operations impact against the SDGs. The 2018 Academic Ranking of World Universities places us eighth in Europe and sixth in the UK for our research.

We're able to combine disciplines and capabilities at scale to meet global challenges. Our Research Institutes and networks carry responsibility for our research priorities. And our research beacons are exemplars of our pioneering discoveries, interdisciplinary collaboration and cross-sector partnerships that are tackling some of the biggest questions facing our people and planet. Find out more about our research by following the links below.

Research institute	Sustainable Development Goal																	Website						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
Cancer Research UK Manchester Institute																						www.cruk.manchester.ac.uk		
Cathie Marsh Institute for Social Research																							www.cmist.manchester.ac.uk	
Dalton Nuclear Institute																							www.dalton.manchester.ac.uk	
Data Science Institute																							www.datascience.manchester.ac.uk	
Digital Futures																							www.digitalfutures.manchester.ac.uk	
Global Development Institute																							www.gdi.manchester.ac.uk	
Henry Royce Institute																							www.royce.ac.uk	
Humanitarian and Conflict Response Institute																							www.hcri.manchester.ac.uk	
John Rylands Research Institute																							www.jrri.manchester.ac.uk	
Lydia Becker Institute of Immunology and Inflammation																							www.manchester.ac.uk/lydia-becker-institute	
Manchester China Institute																							www.mci.manchester.ac.uk	
Manchester Environmental Research Institute																							www.meri.manchester.ac.uk	
Manchester Institute for Collaborative Research on Ageing																							www.micra.manchester.ac.uk	
Manchester Institute of Biotechnology																							www.mib.ac.uk	
Manchester Institute of Innovation Research																							www.research.mbs.ac.uk/innovation	
Manchester Urban Institute																							www.mui.manchester.ac.uk	
National Graphene Institute																							www.graphene.manchester.ac.uk	
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Sustainable Consumption Institute																							www.sci.manchester.ac.uk	
Thomas Ashton Institute																							www.ashtoninstitute.ac.uk	
Work and Equalities Institute																							www.wei.manchester.ac.uk	
Research beacons	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Website						
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Cancer																								
Energy																								
Global inequalities																								
Industrial biotechnology																								

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We want this report to stimulate conversations and collaborations. Whether you're in the UK or overseas, the public or private sector, work for an NGO, in policy or in education, we'd welcome feedback and ideas for how we can play our full role in tackling the world's greatest challenges by 2030.

To find our more and access a digital version of this report: www.manchester.ac.uk/SDGs

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