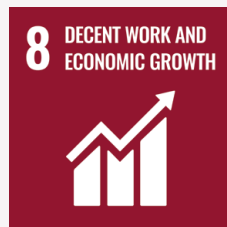


# SUSTAINABLE DEVELOPMENT GOALS AT THE UNIVERSITY OF ESSEX



# INTRODUCTION

**In 2015, all member states of the United Nations adopted the 2030 Agenda for Sustainable Development incorporating 17 goals.**

The purpose of the Sustainable Development Goals is to promote partnership working among the 193 United Nations member states to address, with urgency, some of the world's most pressing issues such as reducing inequality, eradicating poverty, promoting peace, tackling climate change and improving health and education. I am delighted to present this first dedicated report setting out the actions of the University of Essex to deliver progress in meeting each of the 17 Sustainable Development Goals.

The University of Essex is one the world's highest ranked universities for international outlook<sup>1</sup> and as such we recognise not only the past achievements, global reach and positive impact our education and research has had but also our future potential. Since we opened our doors in 1964, over 100,000 students from over 140 countries around the world have graduated with a University of Essex degree. Our education is inclusive and transformational as many of our students come from developing countries, from low participation backgrounds, or are first in family to study for a degree.

Research at the University of Essex has also made a very significant contribution to the delivery of the Sustainable Development Goals, for example through the world leading work of some of our institutes and centres. Examples include the newly formed Institute for Public Health and Wellbeing, Human Rights Centre, Institute for Social and Economic Research, Institute for Analytics and Data Science, Centre for Environment and Society, Essex Plant Innovation Centre, Centre for Migration Studies, Centre for Accountability and Global Development and the Centre for Trauma, Asylum and Refugees.

It is not just what we do through excellence in education and excellence in research that makes a difference to the Goals, but also how we operate as an organisation with a better, more sustainable future at the forefront of our thinking. Every decision made by our committees includes a mandatory analysis of the impact it will have on the environment, equality and diversity. From the changes we have made in reducing and recycling the waste from our campuses, to the direct action we have taken to address the gender pay gap, we are constantly improving the way we do things and the choices we make in becoming a more sustainable organisation.

<sup>1</sup> Time Higher Education World University Rankings 2022, 25th for International Outlook: [www.timeshighereducation.com/world-university-rankings](http://www.timeshighereducation.com/world-university-rankings)



In 2020, the University of Essex declared a climate and ecological emergency accompanied by a detailed action plan, setting out the practical steps we will be taking towards becoming carbon net zero by 2035<sup>2</sup>. Our commitment to change and to the United Nations' Sustainable Development Goals is therefore grounded in action.

Although we recognise that so much has yet to be done, we are determined to play our full part in reversing the harm caused by recent human history, in ways not just limited to how we operate as an organisation, but crucially through the positive impact of our research and in shaping future generations of graduates with sustainability knowledge through our education.

A handwritten signature in black ink, appearing to read 'A. Forster'.

Professor Anthony Forster  
Vice-Chancellor

<sup>2</sup> See our web pages at: [www.essex.ac.uk/sustainability/the-climate-and-ecological-emergency](http://www.essex.ac.uk/sustainability/the-climate-and-ecological-emergency)



# MEASURING SUSTAINABLE DEVELOPMENT

**The mission of the University of Essex is: “Excellence in Education and Excellence in Research for the benefit of people and communities”.<sup>1</sup>**

This report provides an insight into the contributions made through our education and research activities towards each of the United Nations’ Sustainable Development Goals. It also offers some examples of how operational practices and cultural norms of the University of Essex have changed and continue to develop in ways that positively impact our progress with the goals.

There are separate sections for each of the 17 Sustainable Development Goals (SDGs), each providing information, data and examples of our work. Measuring the relevance of our research and education is made complicated by the fact that we are a diverse, fairly large and productive university, characteristics that we are, of course, very proud of. Here, we explain the methods we have used in this, our inaugural report, to measure sustainable development at the University of Essex.

## Background

The University of Essex produces almost 1,900 academic research publications per year and has over 3,000 degree programmes. At this scale, manually mapping each of the SDGs against all of our publications and all of our degrees is impractical. To do so is also made more complicated because sustainable development is not necessarily directly mentioned in our publications and courses even though their contents are relevant. For example, many of the publications of our world-renowned Human Rights Centre, although having a positive impact on peace and justice, will not all make explicit reference to SDG 16 Peace, Justice and Strong Institutions.

Many of our degree course materials, although relevant to the SDGs, similarly will not necessarily directly cross-reference them. The methods we have used have attempted to address the challenge of scale as well as the complications of matching each of the SDGs with the subjects we research and teach.

## Using keywords

In the interests of consistency and objectivity we have measured our progress with the goals by using independently established keyword sets to search our research publications and education materials for relevant content.



There are two commonly used keyword sets for each of the SDGs. The first set was developed by the Australia, New Zealand & Pacific Network of the Sustainable Development Solutions Network (SDSN)<sup>2</sup> and the other is the Elsevier keyword set<sup>3</sup> which is used by the *Times Higher Education* and is more stringent.

We have provided the search outcomes for both keyword sets because, while it is quite likely the SDSN set returns some articles and courses that are only very vaguely linked with the goals (false positives), the Elsevier set is likely to miss relevant publications and courses (false negatives). Elsevier also do not provide keywords for SDG 17 Partnerships for the Goals.

## SDGs in research

For research we have conducted the searches using the Scopus indexing service and have reported: the number of publications returned since 2010 (all papers and open access); the number of times those papers have been cited; and the H-index, a metric of combined output and impact.

The higher H-index the better. For example, the figure for SDG 1, No Poverty, is 101 meaning that Essex has published 101 papers in areas relevant to the goal that have each been cited at least 101 times. For SDG 6, Clean Water and Sanitation, our H-index performance at 67 is not as strong meaning that we have produced 67 publications in this area that have each been cited at least 67 times.

## SDGs in education

For our education we have applied the keyword searches to all our current module titles and module content descriptions in order to measure how the content of our degrees reflect the themes underpinning each of the SDG’s.

Using this approach, we have been able to count the number of degrees that have relevant content to specific SDGs, and also the number of students that have engaged with the associated modules. While it is possible for a student to be counted in more than one SDG, it is not possible for them to be counted more than once within each SDG.

<sup>1</sup> University of Essex Strategic Plan 2019–2025: [www.essex.ac.uk/governance-and-strategy/university-strategy](http://www.essex.ac.uk/governance-and-strategy/university-strategy)

<sup>2</sup> Australia, New Zealand & Pacific Network of the Sustainable Development Solutions Network (SDSN) website – Universities and the SDGs: [ap-unsdsn.org/regional-initiatives/universities-sdgs/](http://ap-unsdsn.org/regional-initiatives/universities-sdgs/)

<sup>3</sup> Scopus website – Sustainable Development Goals FAQs: [service.elsevier.com/app/answers/detail/a\\_id/31662/supporthub/scopuscontent/](http://service.elsevier.com/app/answers/detail/a_id/31662/supporthub/scopuscontent/)



# END POVERTY IN ALL ITS FORMS EVERYWHERE



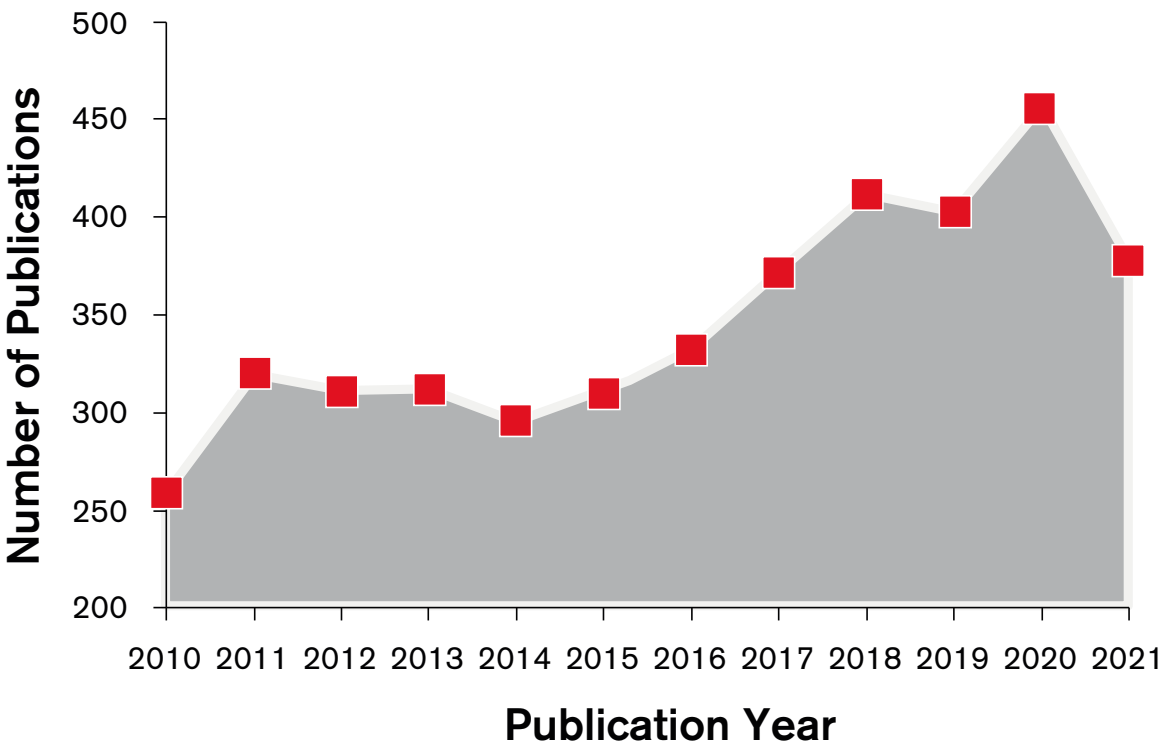
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	4,163	47
Open Access	2,195	21
Citations	97,079	899
H-Index	101	11

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	554	10,099	87	570
Taught Postgraduate	231	1,664	27	142
Research Degrees	36	77	1	1
<b>Total</b>	<b>821</b>	<b>11,840</b>	<b>115</b>	<b>713</b>

## SDG 1 No Poverty



## Case Study: Action

Researchers at Essex are showing how human rights approaches are helping policy makers improve services and tackle key issues such as homelessness and housing.

A new report, *Human Rights and Local Government – lessons from Human Rights Cities*, produced by the Human Rights Centre, looks at nine European cities, three of which are in the UK, to see how they use human rights to have a positive impact on the local community.

Seven of the cities studied have declared themselves as Human Rights Cities, which means that businesses and organisations – including councils – refer to the Universal Declaration of Human Rights in everyday activities and policies. These cities are Barcelona, Graz, Lund, Nuremberg, Utrecht, Vienna, and York.

The report also draws on the experience of two cities – Brighton & Hove and Newcastle – who have adopted certain human rights principles in specific areas, for example, in housing and homelessness.

Although Newcastle City Council doesn't refer directly to human rights, it refers to the concepts of fairness, inclusion, and social justice. In partnership with homelessness charity Crisis, through adopting human rights practices, the council managed to reach out to households who were at early risk of homelessness and not only those already in crisis.

In Brighton & Hove, homelessness was also on the agenda. The Council voted to adopt the Homeless Bill of Rights in response to campaigning by activists concerned by the way homeless people, and in particular rough sleepers, were being treated and how their rights were neglected.

The report forms part of the Human Rights Local, led by Dr Koldo Casla, which aims to make human rights locally relevant and shows how closely they are linked to everyday life.

The project was funded by the Economic and Social Research Council (ESRC), part of UK Research and Innovation (UKRI), through its Impact Acceleration Account (IAA).



# END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE



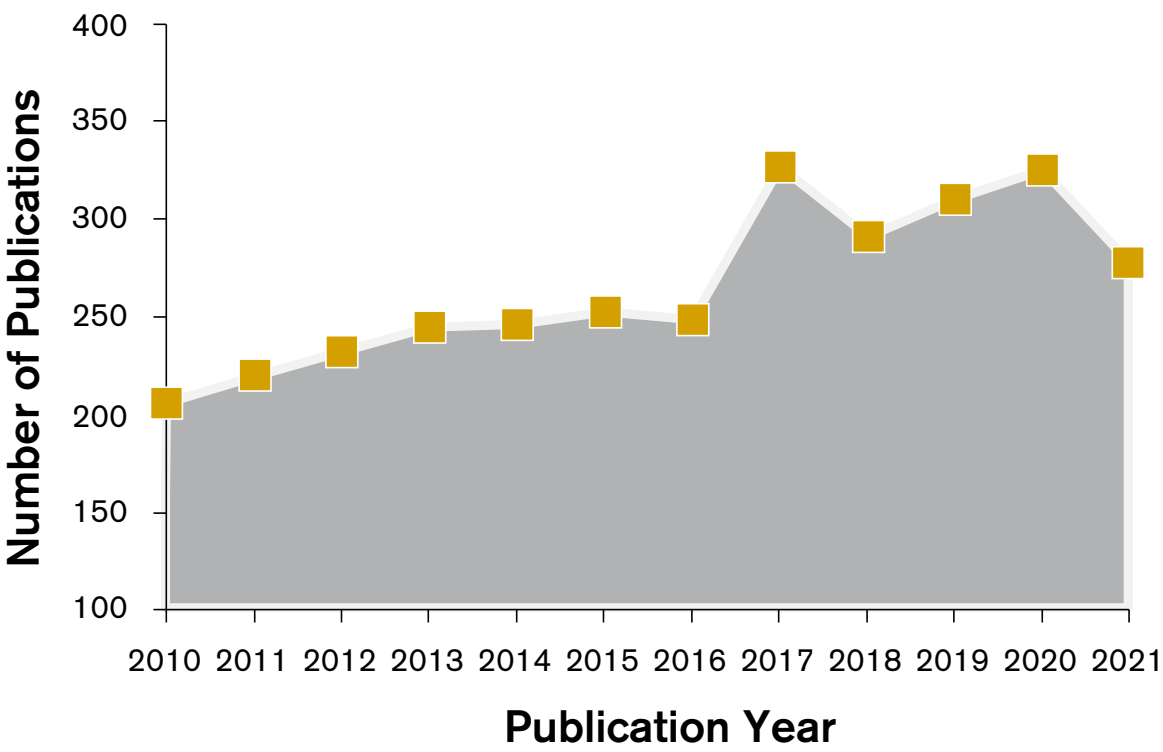
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	3,183	77
Open Access	1,798	43
Citations	83,073	9,019
H-Index	109	21

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	432	6,369	1	1
Taught Postgraduate	196	1,284	1	26
Research Degrees	11	22		
<b>Total</b>	<b>639</b>	<b>7,675</b>	<b>2</b>	<b>27</b>

## SDG 2 Zero hunger



## Case Study: Research

With the world's population predicted to hit nine billion by 2050, feeding the planet is a major challenge. Essex is part of a \$45 million project to increase crop yields.

Essex has had an international reputation for innovation and excellence in photosynthetic research for more than 30 years.

This expertise is now playing a key role in a major research project awarded to the University of Illinois, funded by the Bill & Melinda Gates Foundation. To meet future food demand, food production needs to increase by 40% in the next 20 years and 70% by 2050.

The aim of the \$45 million Realising Increased Photosynthetic Efficiency (RIPE) project is to increase crop yields for farmers worldwide by improving plant photosynthesis – the process that enables plants to harvest energy from the sun and convert it to products for food and fuel.

RIPE brings together an international team of scientists to exploit our understanding of the fundamentals of photosynthesis to increase crop yields of the major “C3 crops” such as rice,

cassava and beans. The project has already demonstrated yield increases of 20%.

Essex’s part in the project, led by Professor Christine Raines, involves improving photosynthetic carbon fixation – the process where plants convert carbon into sugar using sunlight – to overcome some of the fundamental limitations of photosynthesis.

“This project underlines the international reputation of Essex in the area of photosynthetic research,” said Professor Raines.

“With more research focusing on improving this complex problem we can meet the challenge of developing crops to feed the world.”

The eventual goal of RIPE is to ensure their high-yielding food crops are globally available and affordable for smallholder farmers to help feed the world’s hungriest and reduce poverty, particularly in Sub-Saharan Africa and Southeast Asia.



# TO ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES



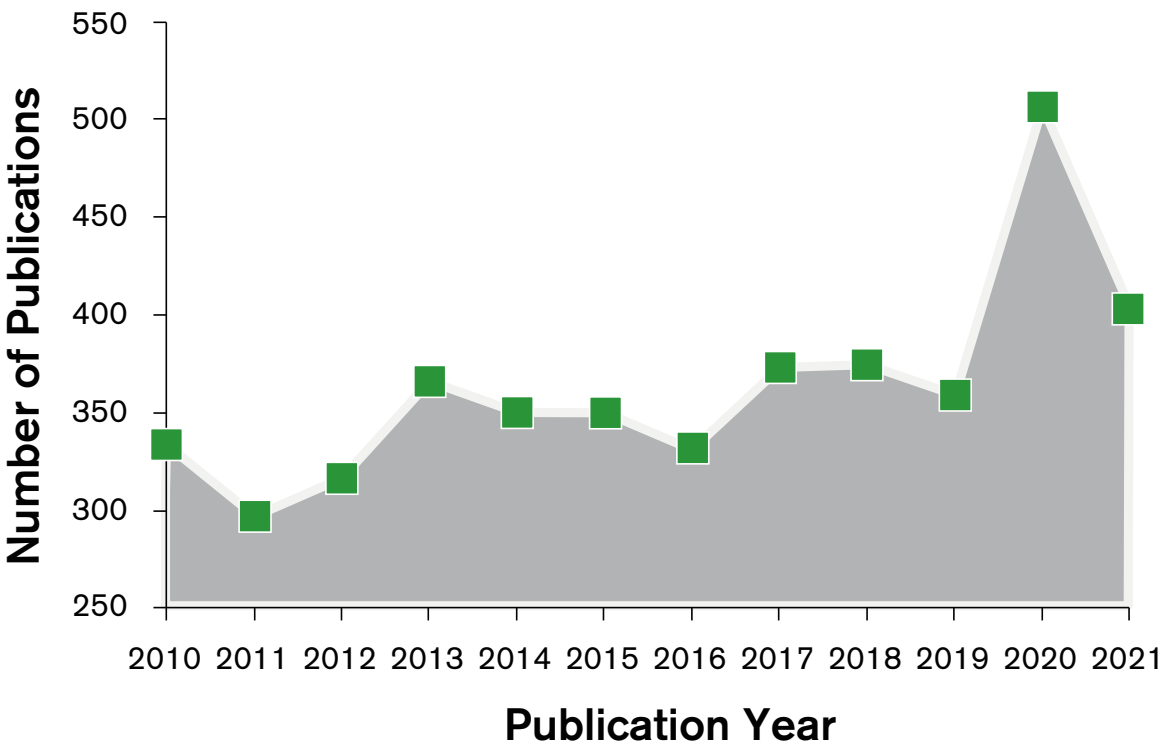
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	4,357	1,404
Open Access	2,391	960
Citations	99,418	28,104
H-Index	115	74

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	307	4,084	163	2,088
Taught Postgraduate	98	942	53	531
Research Degrees	26	85	19	45
<b>Total</b>	<b>431</b>	<b>5,111</b>	<b>235</b>	<b>2,664</b>

## SDG 3 Good health and well-being



## Case Study: Research

*The green exercise revolution was born at the University of Essex and our pioneering green exercise research continues to influence research and inspire people around the world.*

The benefits of exercise for both physical and mental health were well-known, as was contact with the natural environment having positive effects on mental wellbeing.

But in 2003, researchers at the University of Essex formally proposed linking the benefits of adopting physical activity whilst at the same time being directly exposed to nature. This concept was coined “green exercise” and initiated a rigorous scientific research programme which is continuing today.

It is a concept which has also generated interest from people around the globe as a solution to improve mental wellbeing for all ages.

Our Green Exercise Research Team includes specialists in physiology, health and wellbeing, environmental sustainability, community engagement and behaviour change. They have worked on a wide range of research projects

from international-level reviews through to individual project analysis.

Researchers have worked with many organisations including Mind, the RSPB and Wildlife Trusts through to Care Farming UK and the Wilderness Foundation.

Our research has a real impact. For example, our work was key to a successful Big Lottery bid by Mind which led to Ecominds, a £7.5 million, five-year programme supporting 130 environmental projects which have improved the mental health of participants.

These projects have introduced people with, and at risk of developing, mental health problems to green exercise initiatives such as gardening, food growing or environmental conservation work.

This has helped more than 12,000 people living with mental ill-health to get involved in green activities to improve confidence, self-esteem and their physical and mental health so they can then return to work and reduce feelings of social isolation.



# ENSURE INCLUSIVE AND EQUITABLE EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL



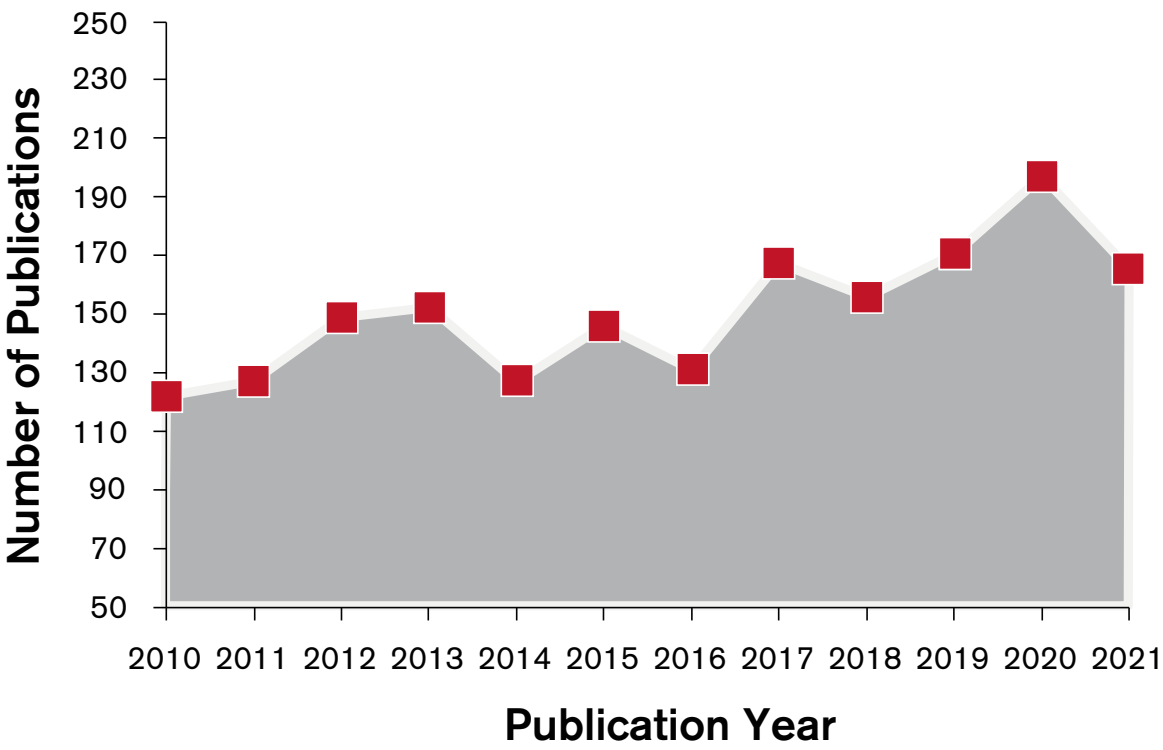
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	1,810	24
Open Access	901	12
Citations	26,140	475
H-Index	65	12

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	419	5,558	24	105
Taught Postgraduate	148	973	3	13
Research Degrees	40	136	1	1
<b>Total</b>	<b>607</b>	<b>6,667</b>	<b>28</b>	<b>119</b>

## SDG 4 Quality education



## Case Study: Action

*Student success is at the heart of Essex’s mission, supporting every student from every background to achieve outstanding outcomes. We believe everyone should be able to unlock the potential of a transformational education.*

We’re proud that the award-winning Make Happen is based at the University of Essex. Make Happen is one of 29 Office for Students UniConnect national partnerships that bring together teachers from schools and colleges, with universities and other local educational partners, to offer activities, advice and information on the benefits and realities of going to university or college, to study a degree or take a degree apprenticeship.

This is with a particular focus on areas where participation in higher education is lower than might be expected, given the GCSE results of the young people who live there. By 2020 the initiative had reached more than 75,000 students across the county of Essex through activities ranging from university taster days to mentoring programmes, and study skills workshops to aspirational careers programmes.

In 2021, Make Happen won a national award for boosting opportunities for young people. The Levelling Up Universities Awards recognise higher education institutions and their staff for their commitment to boosting opportunities for young people.

Make Happen was recognised for the way it has helped students through UCAS, the UK’s university admissions service, despite all the challenges posted by COVID-19.

Stephen Pomfret, Head of Make Happen, said: “We’re dedicated to unlocking opportunities for young people across Essex by helping them make informed choices about their education and future.

“As part of this we demystify all aspects of going to university – from the application process through to what it costs to study for a degree. Despite the challenges of the pandemic, this past year we’ve continued to help students find out more about applying through UCAS and reach their aspirations, through a varied programme of online webinars and support.”



# ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS



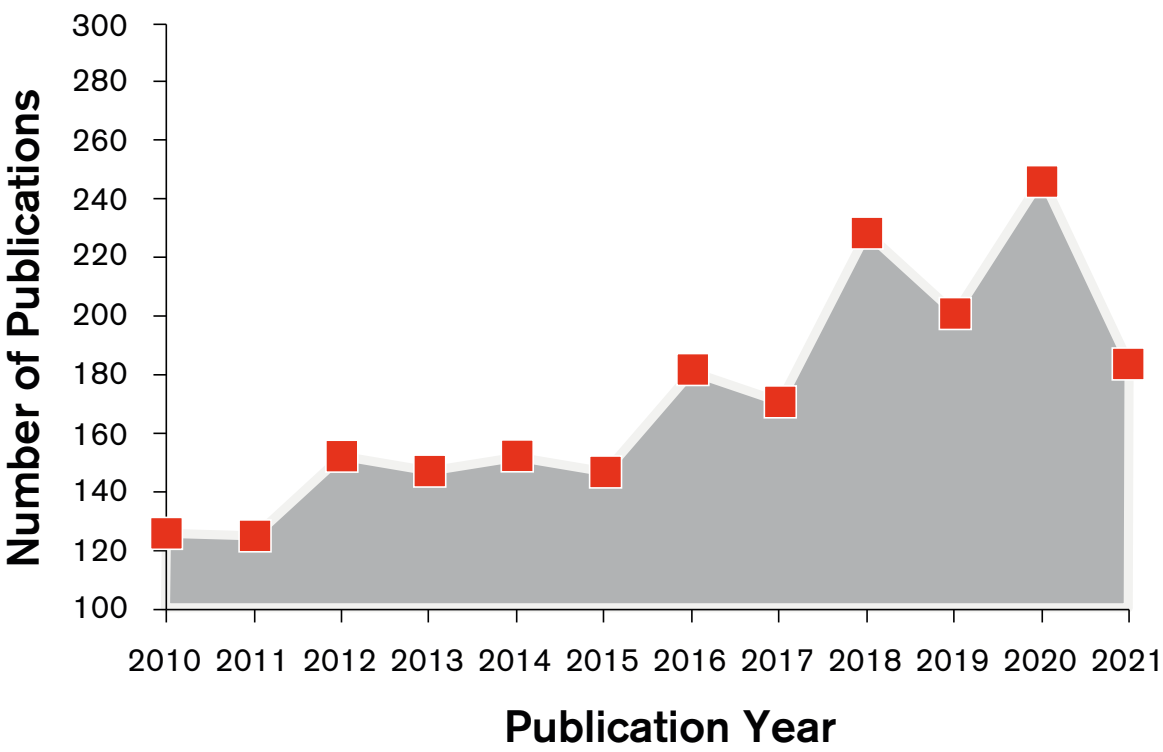
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	2,061	117
Open Access	1,088	71
Citations	33,253	1,516
H-Index	68	18

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	381	5,618	138	865
Taught Postgraduate	143	915	11	60
Research Degrees	17	51	1	1
<b>Total</b>	<b>541</b>	<b>6,584</b>	<b>150</b>	<b>926</b>

## SDG 5 Gender equality



## Case Study: Action

At Essex, reducing our gender pay gap is an institutional priority.

We have been taking long-term action to improve pay equality and support women’s development in the workplace. The Government’s requirement for UK employers to publish their data in this area gives us a chance to assess how we are performing.

We are making progress, but we know we need to do more. Over the last seven years, the pay gap has fallen by 8.7% from 24.8% in 2013 to 16.1% in 2020. However, we have also seen a 2.4% increase in the median gender pay gap to 18.6% in 2020, which is equivalent to its 2017 level. This showed us that after three consecutive years of a shrinking pay gap, we need to be bold in our actions.

Our analysis revealed that the main driver of the gender pay gap is influenced by the numbers of male staff in highly paid academic roles.

In January 2020, we began working with all departments to achieve a 60/40 gender distribution of men to women in every grade – although not an ideal target, it is a good first step. It would lead to the mean gender gap being reduced to 9.3% and the median to around 11.1%. We will continue to work with departments to achieve this goal by 2025.

We place great importance on supporting women’s development in the workplace and identifying visible role models at all levels. And we are committed to building a more agile and flexible working culture – this is likely to have a positive effect on the gender pay gap over time.

It’s important not to consider gender as a binary concept. We know that many members of our community identify outside the gender binary and/or as trans, and we remain committed to creating a welcoming environment for all members of our community.

### Did you know...?

The University of Essex is committed to the Athena Swan Charter, which recognises advancement of gender equality: representation, progression and success for all. As part of the Athena Swan awards process, departments and schools commit to an ambitious five-year action plan, which sets out how their policies, processes, and practices will create an even more inclusive environment. In 2021, ten departments at Essex had achieved bronze awards, three had achieved silver awards and the University as a whole was preparing to submit an application for silver status to build on its existing bronze accreditation.



# ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



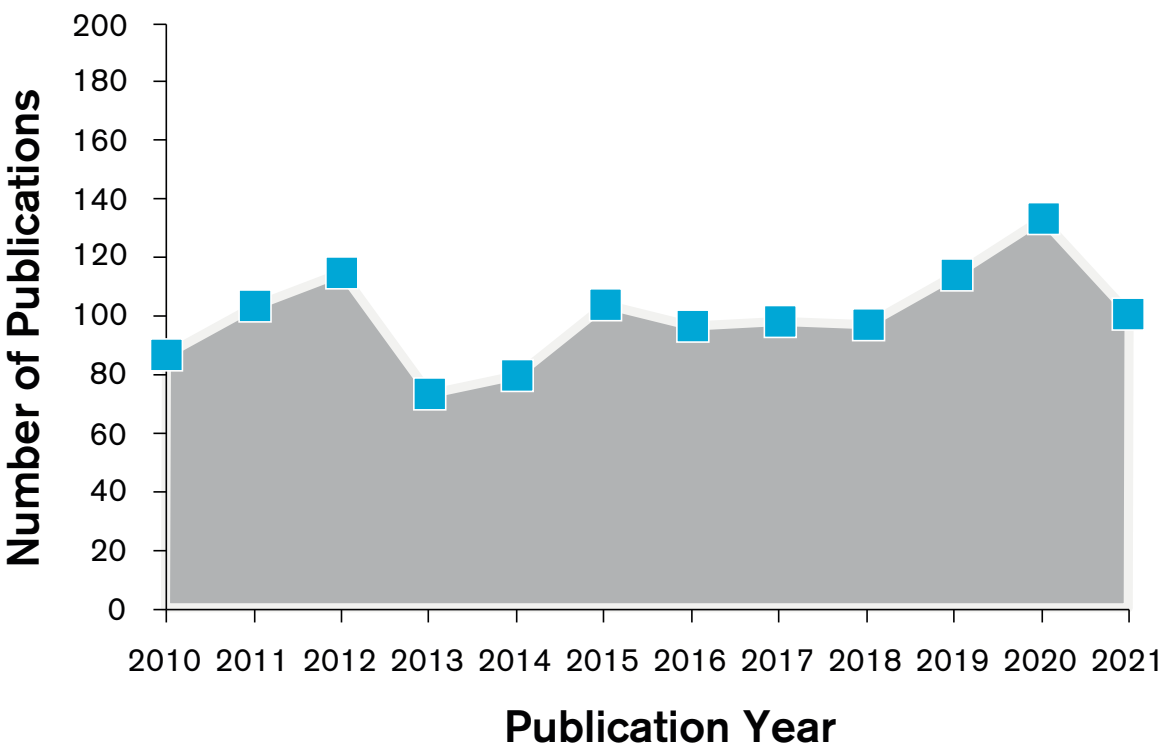
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	1,204	21
Open Access	595	13
Citations	29,286	304
H-Index	67	9

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	187	1,277	1	1
Taught Postgraduate	56	323	2	27
Research Degrees	3	3	0	0
<b>Total</b>	<b>246</b>	<b>1,603</b>	<b>3</b>	<b>28</b>

## SDG 6 Clean water and sanitation



## Case Study: Action

*Essex is one of the driest counties in the UK, which highlights our need to ensure that we are using water resources as efficiently as possible.*

As a University, we are taking action to reduce water consumption across our three sites, focusing on waste avoidance and increasing rain/grey water use.

We have over 70 water fountains/coolers across our campuses, with more planned for the coming year. This provides free filtered and chilled water for everyone.

We provide tap water where possible, which also reduces the use of plastic bottles. We've also decided to use tap water at all of our conferences.

On our Colchester Campus, Wivenhoe House Hotel, home to the University's Edge School Hotel, which provides industry-led hospitality and events management degrees, refills glass bottles for water in bedrooms.

The hotel operates at 70% occupancy throughout the year, which is 10,000 room nights. This means there is a saving of 10,000 330ml plastic water bottles.

Our grounds maintenance team also monitors water quality in the lakes on campus and use organic fertilisers to avoid the risk of water and oil pollution.

We know that there is no alternative to water. Reducing and making efficient use of it is vital; fresh water is a precious resource and it takes energy to use and distribute it.

## Did you know...?

Since 2016, the Human Rights Centre at Essex has been partnered with Wivenhoe-based Aguaconsult to contribute to improved access to clean water and sanitation for developing countries around the world. Aguaconsult provides support to organisations to improve the delivery of sustainable basic services for marginalised people in less developed countries. The partnership allows for collaboration on research projects and shared expert advice. It also provides Essex students with work placements where possible. The company previously collaborated with the Human Rights Centre on one of its postgraduate degrees in which real-life projects relating to water and sanitation were analysed from a rights perspective.



# ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



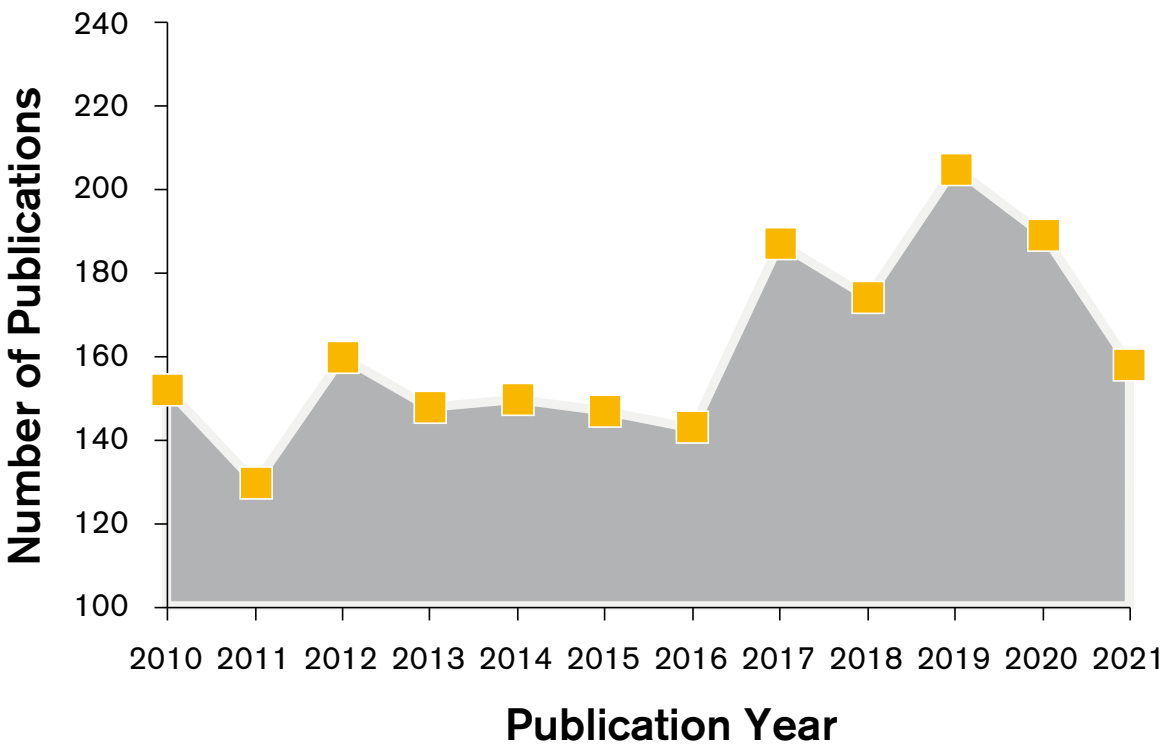
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	1,943	260
Open Access	1,024	120
Citations	47,457	3,866
H-Index	81	29

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	157	1,171	13	70
Taught Postgraduate	37	173	1	6
Research Degrees	1	1	0	0
<b>Total</b>	<b>195</b>	<b>1,345</b>	<b>14</b>	<b>76</b>

## SDG 7 Affordable and clean energy



## Case Study: Research

*To meet the UK’s low-carbon energy goals we must be smarter about how we use and source energy. One project involving Essex is using innovative technology to do just that.*

The UK’s transition to low-carbon energy requires a step change in the way we source our energy.

In the consumer-centric energy world of the future, consumers will no longer just be at the end of a power line. A new class of “prosumers” will be created, trading a range of clean energy services locally and to the grid operators.

Computer scientists at Essex are involved in the Liverpool Multi-vector Energy Exchange (LMEX) project which will produce a detailed design of a city-wide energy marketplace for the trade of energy services across power, transport and heating/cooling.

Funded by the Department of Business, Energy and Industrial Strategy, the project will open the door to a host of innovative technologies including EV charging, heat networks with ground/water/air source heat pumps, solar-

powered hydrogen production to replace gas supply and power fuel cells.

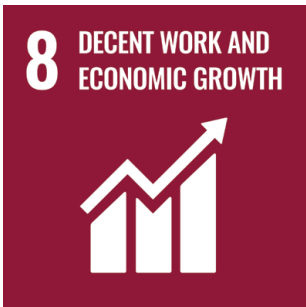
LMEX comprises two innovative, critical layers. Firstly, there will be a “Smart Network Controller” to communicate with, control and optimise in real-time local energy assets. The second is a software-based “Flexibility Exchange Platform” (FXP), through which prosumers will trade peer-to-peer with full transparency, automatic matching and without third-party intervention.

The platform will be created with input from communities. Through a series of knowledge-gathering events, the project will identify the key needs and preferences of the future userbase. This will feed into the initial design stages of the LMEX platform.

Ultimately the project will create a user-friendly FXP that will help improve public knowledge and awareness of the low carbon energy market and empower them to easily make sustainable, affordable choices for their energy needs.



# PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL



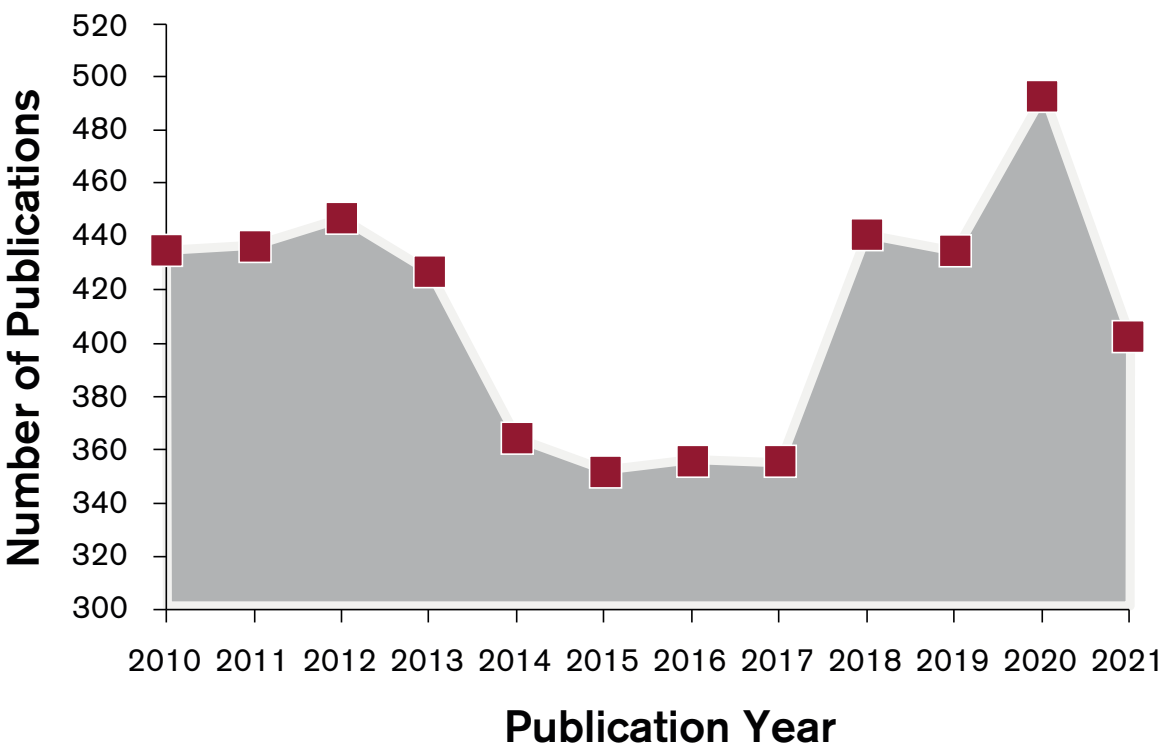
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	4,937	216
Open Access	2,375	108
Citations	94,773	3,210
H-Index	106	26

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	578	12,610	128	1,385
Taught Postgraduate	259	2,384	37	179
Research Degrees	60	198	3	8
<b>Total</b>	<b>897</b>	<b>15,192</b>	<b>168</b>	<b>1,572</b>

## SDG 8 Decent work and economic growth



## Case Study: Research

Essex economists are developing an unemployment calculator to identify the best job retention and retraining schemes in a bid to reduce the potential for mass unemployment caused by COVID-19.

Whole industries have been devastated by the pandemic with many fearing they will never recover – potentially leaving millions without work and the country facing deep recession.

In the UK, the Government had introduced the furlough scheme, aimed at keeping companies going and people in work during the peak of the pandemic, and have promised retraining programmes for those who lose their job.

Professor Carlos Carrillo-Tudela who is leading the project said: “Changing careers comes with lots of risks, including potentially less job stability and lower earnings.

“So it is a trade off, and in uncertain times, when salaries are generally down and firms are not hiring, many people choose to stick with what they know, rather than trying something new, creating a large pool of unemployed people all waiting and looking for jobs.”

Professor Carrillo-Tudela and his team from Essex and the University of Edinburgh, are using computer modelling to predict how unemployment and inequality will be affected by COVID-19.

From this they’ll develop the unemployment and inequality calculator which will help government officials and others to test the impact of proposed policies, aimed at combating the negative economic and social consequences of COVID-19, before they are introduced.

The data for the modelling will come from Understanding Society – the household survey, which captures information about life in the UK by regularly questioning 40,000 people about their lives.

Run by the Institute for Social and Economic Research (ISER), based at Essex, the survey has years’ worth of data, including information specifically about the impact of COVID-19.

The study, which has been funded by the Economic and Social Research Council (ESRC), as part of UK Research and Innovation’s rapid response to Covid-19, is due to run until June 2022.

# BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION



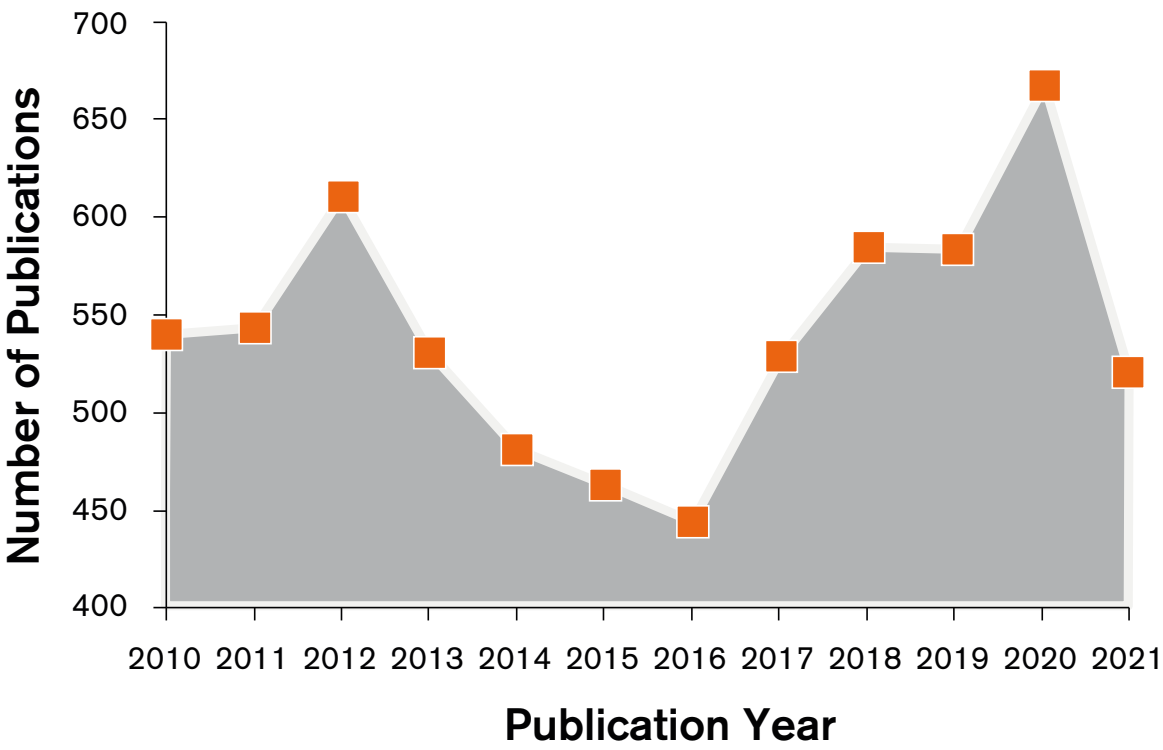
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	6,495	69
Open Access	3,147	33
Citations	145,886	1,801
H-Index	128	18

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	557	11,095	8	82
Taught Postgraduate	254	2,152	23	67
Research Degrees	279	1.03		
<b>Total</b>	<b>1,090</b>	<b>14,277</b>	<b>31</b>	<b>149</b>

## SDG 9 Industry, innovation and infrastructure



## Case Study: Action

*The University of Essex is one of the leading universities for active Knowledge Transfer Partnerships (KTPs) in the UK.*

KTPs empower businesses to innovate and grow through collaboration with leading university academics and newly hired talented researchers.

In October 2021, the University topped the national table for active KTPs for the first time. This shows how Essex has become a partner of choice for businesses looking to innovate across the East of England, London and the UK, with 40 KTPs and £10.2m secured to support their delivery.

KTPs help businesses to develop new products, processes and services through the use of the knowledge, technology and skills generated by the University. Importantly, they also offer access to funding grants from Innovate UK – the UK’s innovation agency that’s part of UK Research and Innovation. Recent KTPs include projects to better monitor electric vehicle performance, improve solar farm maintenance and cut waste in the supply chain.

At Essex, all KTPs receive dedicated support from the University’s Business Engagement team. In addition to the 40 active KTPs, to date the team has successfully completed 55 KTPs to the value of around £9m. Innovative approaches are key to our KTPs including artificial intelligence, virtual reality, data analytics and augmented reality.

Holly Leonard, KTP Manager at Essex, said: “We help guide businesses through the entire KTP process from start to finish and have a sector-leading track record at winning funding. All of our projects are commercially driven and underpinned by academic expertise – the ethos at the very core of our team is to make engagement and partnership with Essex seamless and easy.”

Professor Chris Greer, Pro-Vice Chancellor Research, said: “Recently we’ve seen more KTPs than ever focusing on health and enablement through technology and our new Institute for Public Health and Wellbeing, launching in February 2022, will play a huge role in helping take on the health challenges we face.”



# REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES



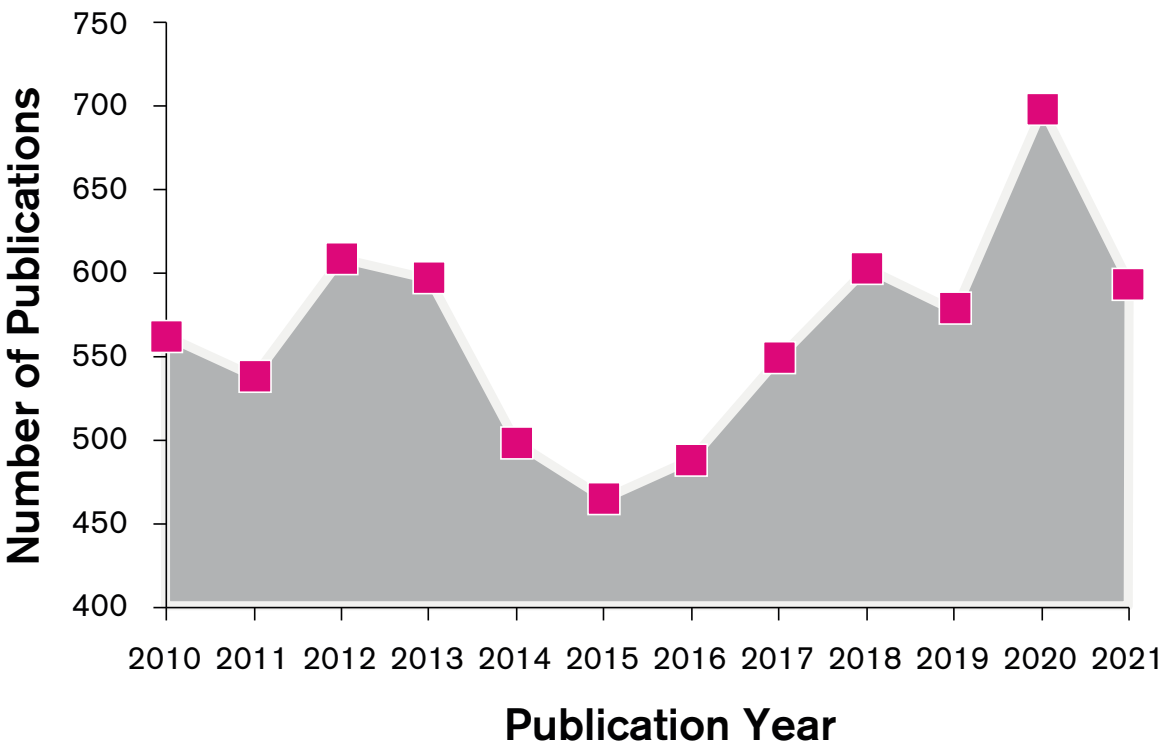
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	6,776	242
Open Access	3,402	140
Citations	133,120	4,116
H-Index	120	33

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	583	12,831	142	870
Taught Postgraduate	270	2,798	46	239
Research Degrees	133	379	2	3
<b>Total</b>	<b>986</b>	<b>16,008</b>	<b>190</b>	<b>1,112</b>

## SDG 10 Reduced inequalities



## Case Study: Action

*In December 2020, we were proud to be awarded the official status of University of Sanctuary.*

As a University of Sanctuary, we are part of the UK City of Sanctuary initiative. The status recognises our commitment to promoting a culture of welcome, safety and inclusion to refugees and asylum seekers across our campuses and in our wider communities.

The University of Sanctuary panel considered a wide range of activities as evidence for how we put our beliefs into practice. This included the work of our Centre for Trauma, Asylum and Refugees, our Human Rights Centre, and our Centre for Migration Studies.

Our staff and students are dedicated to advancing the rights of refugees and asylum seekers, and to working with partner organisations. Earlier this year, we launched a new Global Academic Interdisciplinary Network, co-led by Professor of Law Geoff Gilbert, in partnership with the Office of the UN High Commissioner for Refugees.

Our students’ voices have been at the heart of this journey. Through their work within the

curriculum and through volunteering, they have demonstrated their passion in advocating and campaigning for the rights of people who are the most vulnerable and marginalised members of our community.

As part of our bid to become a University of Sanctuary, we launched two new scholarships to support refugee and asylum seeker students in furthering their education. These scholarships offer a full fee waiver for a Postgraduate Taught Masters programme and £10,000 to support living and study costs.

### Did you know...?

Our Centre for Trauma, Asylum and Refugees examines the reality of being a refugee, assessing conditions and suggesting improvements at refugee camps across the world. Its director, Professor Renos Papadopoulos, has helped governments and aid organisations across the world improve the plight of refugees by revolutionising the way support services are provided. A crucial part of his work is providing training and support to those working on the frontline of disaster areas and war-torn countries.



# MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE



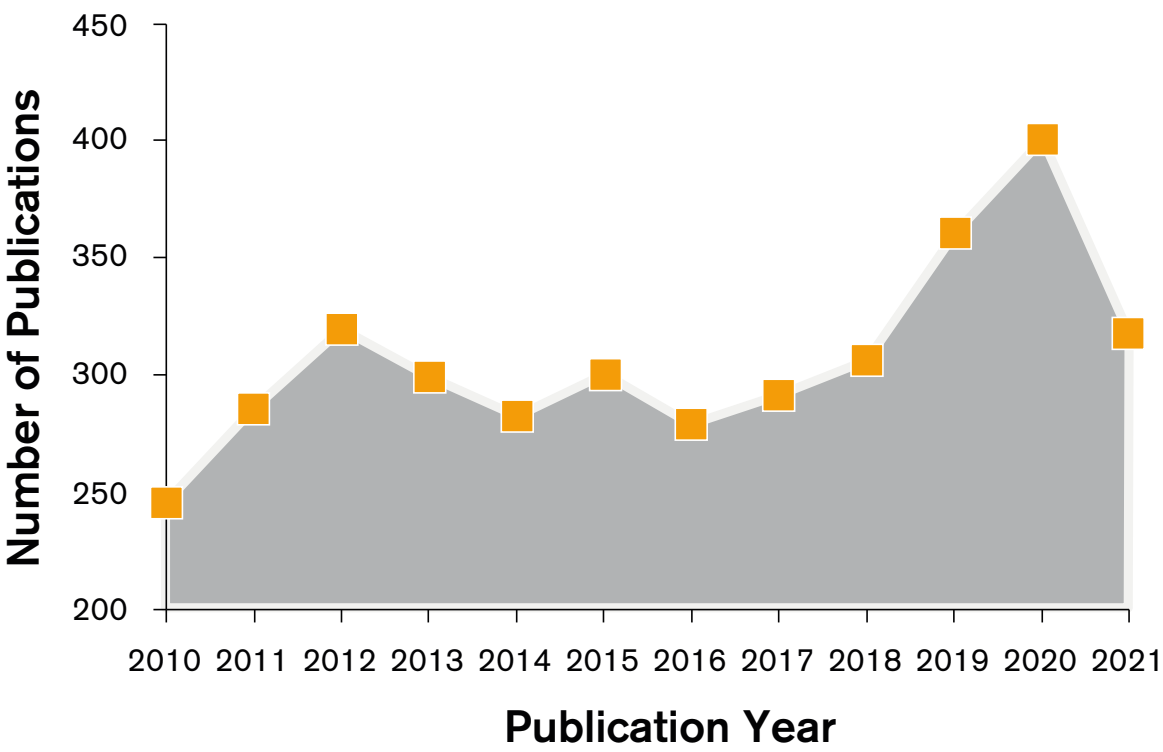
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	3,684	105
Open Access	1,943	62
Citations	95,543	1,378
H-Index	113	19

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	413	6,242	9	48
Taught Postgraduate	159	840	4	18
Research Degrees	13	51	0	0
<b>Total</b>	<b>585</b>	<b>7,133</b>	<b>13</b>	<b>66</b>

## SDG 11 Sustainable cities and communities



## Case Study: Research

Thanks to research at the University of Essex on financial inclusion, low-income families across Africa and Asia are better protected against the devastating economic impact of natural disasters.

The research has led to better access to financial services for those most in need and policy changes to help improve the economic resilience of families at risk.

Professor of Global Development and Accountability at Essex Business School, Thankom Arun, has helped governments understand the action needed to protect the most financially vulnerable.

His leadership of a flagship financial inclusion project International Cooperatives and Mutual Insurance Federation (ICMIF) means an additional two million households have accessed insurance protection.

These are vulnerable families who would face the risk of slipping further into the face of unexpected interruptions to income, caused by natural disasters or other calamities such as industrial accidents, as they are the least likely to be financially protected through insurance.

These households are known as financially excluded as they have no bank accounts which bars access to affordable credit.

Many governments understand that financial inclusion must become a key policy priority, but it is vital to understand how to educate communities and identify the reasons why financial services are not taken up.

Professor Arun’s research finds a convincing need for the micro financial sector to be more responsive to the needs of the poor and identifies the need for more inclusive and composite packages of microinsurance products.

Promoting access to microinsurance, according to Professor Arun, can play a significant role in helping vulnerable low-income populations deal with the risks they face.

“Even though the poor have high incentives to secure against future shocks, their ability and willingness to take part in micro-financial services increases with rising self-awareness of risk,” he said.

Between 2016 and January 2019 this programme reached over two million low-income households, impacting roughly 10,000,000 lives, by providing access to microinsurance for the first time.



# TO ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS



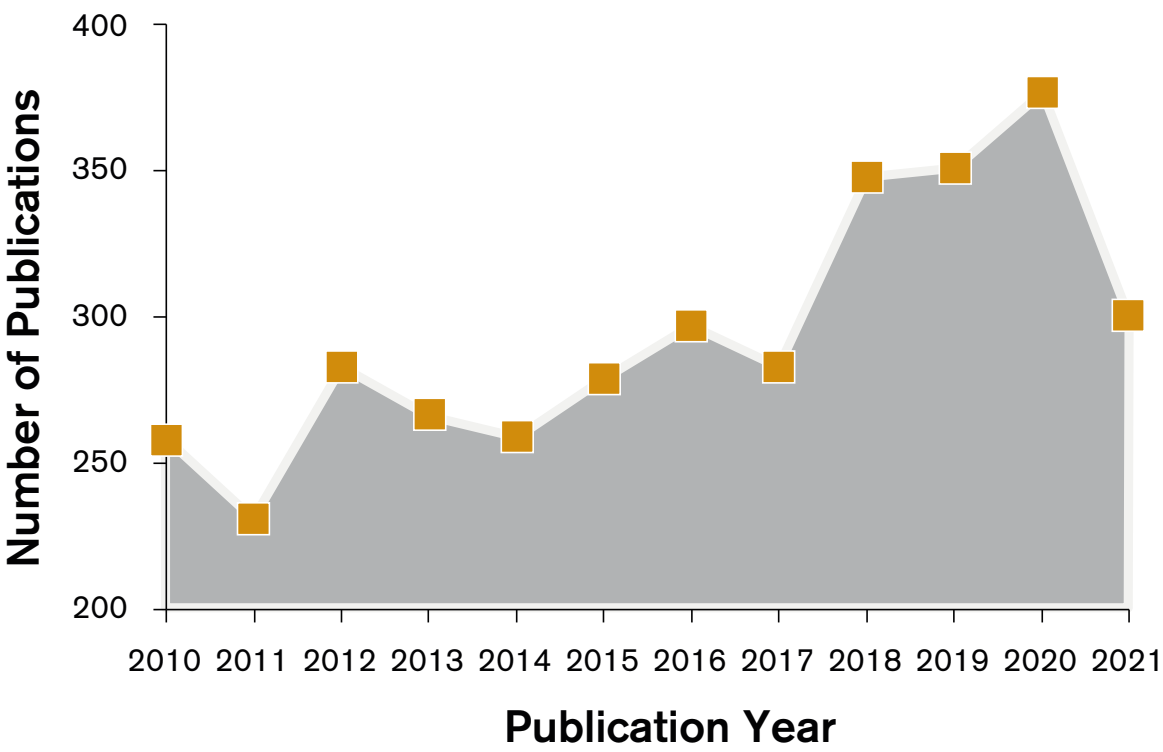
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	3,533	85
Open Access	1,862	54
Citations	82,983	1,566
H-Index	102	23

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	362	4,678	50	645
Taught Postgraduate	145	996	31	156
Research Degrees	4	12	3	4
<b>Total</b>	<b>511</b>	<b>5,686</b>	<b>84</b>	<b>805</b>

## SDG 12 Responsible consumption and production



## Case Study: Research

Research by Professor Jules Pretty has shown that sustainable intensification not only increases farm productivity but can also support our valuable ecosystems and has shaped ground-breaking UN agricultural policy.

We need to increase food production to cope with the world’s future population growth. This usually means intensifying agriculture by using more fertilisers and pesticides which have a negative impact on the environment – damaging wildlife and polluting our rivers and oceans.

Agricultural systems worldwide have become a major source of harm to biodiversity and ecosystems and are a leading contributor to climate change, biodiversity loss and localised air pollution.

Professor Pretty has looked at new intensive ways of farming at the same time as protecting the environment and his research has shown that sustainable intensification not only increases farm productivity but can also support our valuable ecosystems.

This work has benefited policy makers, farmers, ecosystems and businesses across 130 countries worldwide, by shaping

the development of a ground-breaking UN agriculture food systems framework and influencing the recommendations of the UN Food and Agriculture Organization and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on agricultural development policy.

Sustainable intensification harnesses agroecological interactions – such as pollination, predation, parasitism and nitrogen fixation – to develop components that deliver beneficial services for agriculture and ecosystems.

World agriculture uses 3.5 billion kg of pesticide active ingredients annually, with a huge knock-on environmental cost worldwide, yet Essex research showed that the harnessing of agroecological processes on farms and across landscapes had increased crop productivity by 41% whilst reducing pesticide use by 69%.

Since 2000, Professor Pretty’s extensive research in this area has made him a leading authority on agroecological approaches through sustainable intensification, leading to his engagement with UN organisations where he has guided the development of key programmes.



# TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS



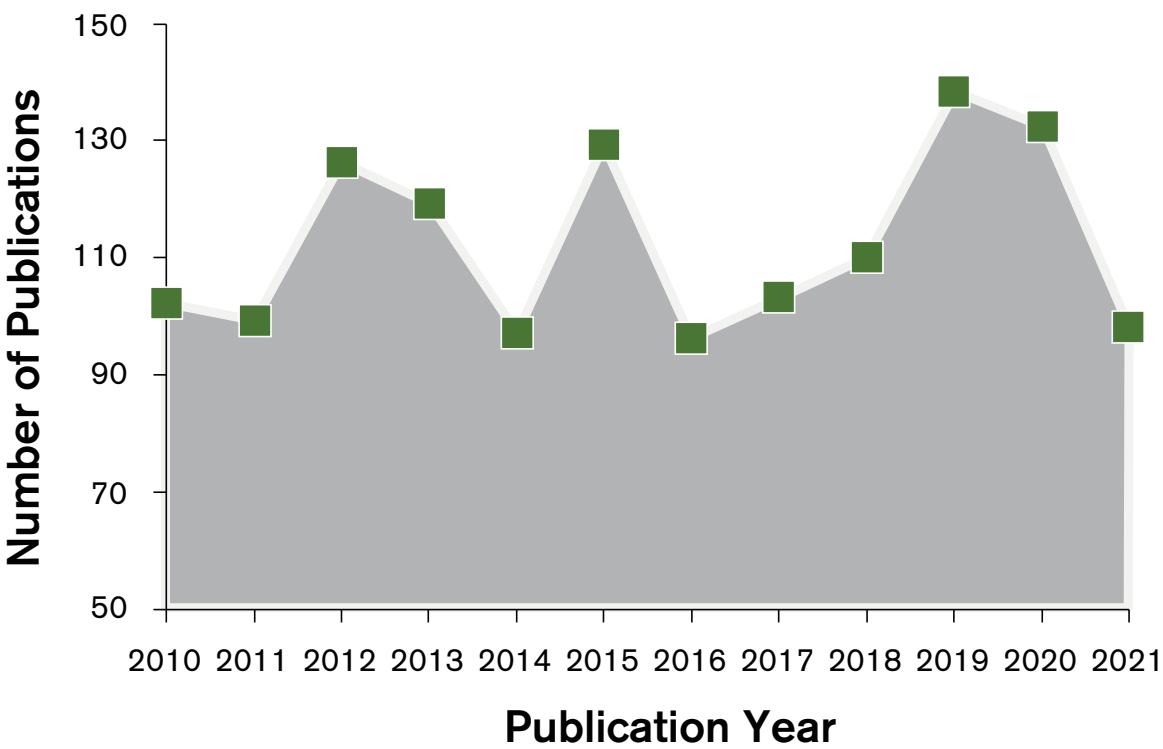
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	1,349	203
Open Access	716	120
Citations	42,989	11,612
H-Index	78	36

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	112	865	68	464
Taught Postgraduate	32	131	22	77
Research Degrees	2	2	1	1
<b>Total</b>	<b>146</b>	<b>998</b>	<b>91</b>	<b>472</b>

## SDG 13 Climate action



## Case Study: Action

*At Essex, we are serious about the climate and biodiversity crisis. We are committed to reaching net zero carbon emissions by 2035.*

In December 2020, we declared a Climate and Ecological Emergency and we have already cut our emissions by 28% (from a 2005 baseline).

Two years ago, we switched our electricity contract to a provider which produces 100% certified carbon neutral energy. This covers all three of our campuses – in Colchester, Southend and Loughton – and supports our efforts to continually reduce our carbon emissions.

We currently generate approximately 2.5% of our electricity from our solar panels, with projects under way to install more to take us to 5.5%. We have solar panels located across 11 of our buildings on our Colchester Campus.

The Essex Business School building in Colchester is the UK’s first zero-carbon business school building and houses our accounting, finance and management and marketing groups as well as over 2,000 students and staff.

We are currently committing close to £1 million per year into sustainability staffing, initiatives and projects, from annual operational budgets to long-term investments.

Sustainability is a fundamental part of our future planning and is directly referenced as an objective in our strategy for 2019–25. We consider finding solutions for environmental issues to be a key factor in the educational experience of each student.

### Did you know...?

We need to have a better understanding of how different societies use the planet’s resources in order to help combat climate change. Professor Mark Harvey, from the Department of Sociology at Essex, analyses the socio-economic and political forces driving the climate emergency in his book *Climate Emergency: How Societies Create the Crisis*. Professor Harvey said: “It is not enough to understand the totality of greenhouse gases. The who, the how, the where and the when of the impact is key to explaining and then dealing with climate change. Societies vary enormously across the globe in how they fuel and feed climate change.”



# CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT



## Research

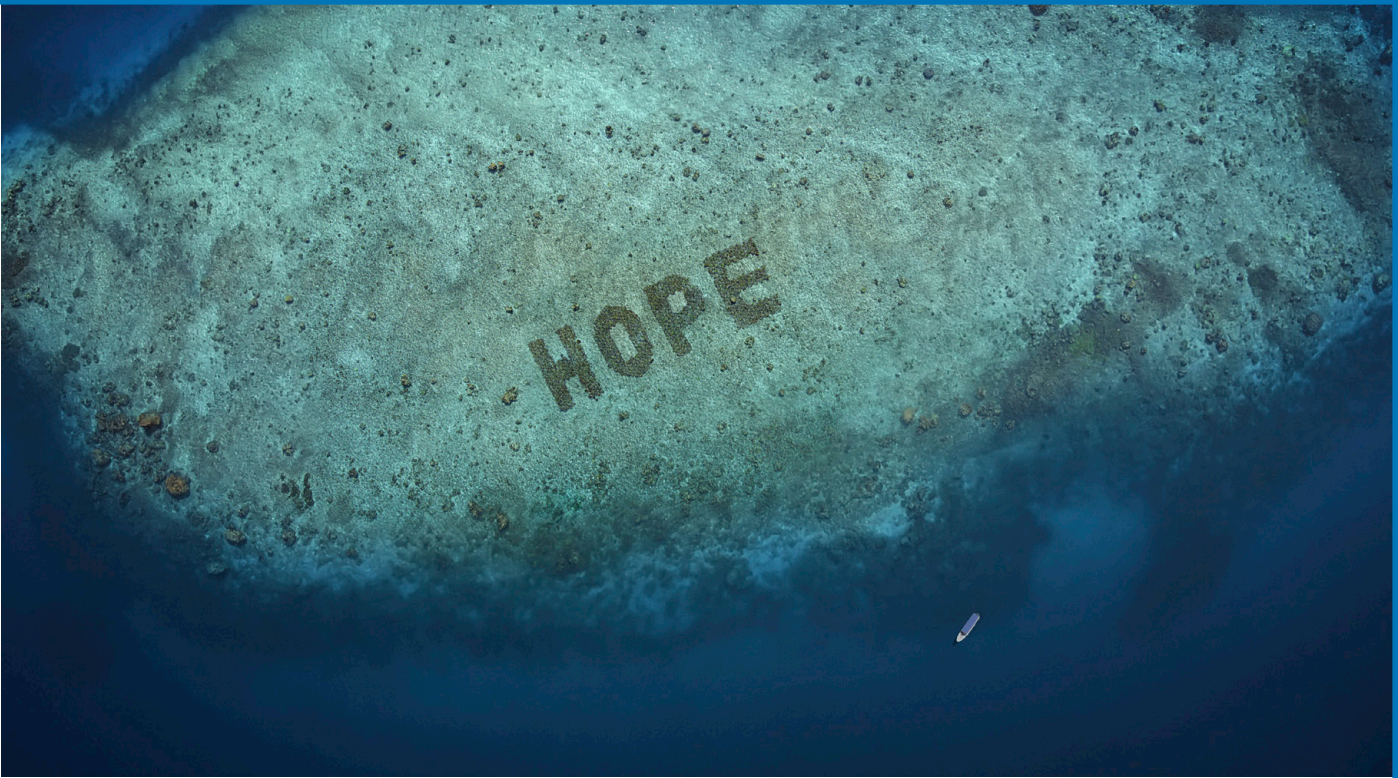
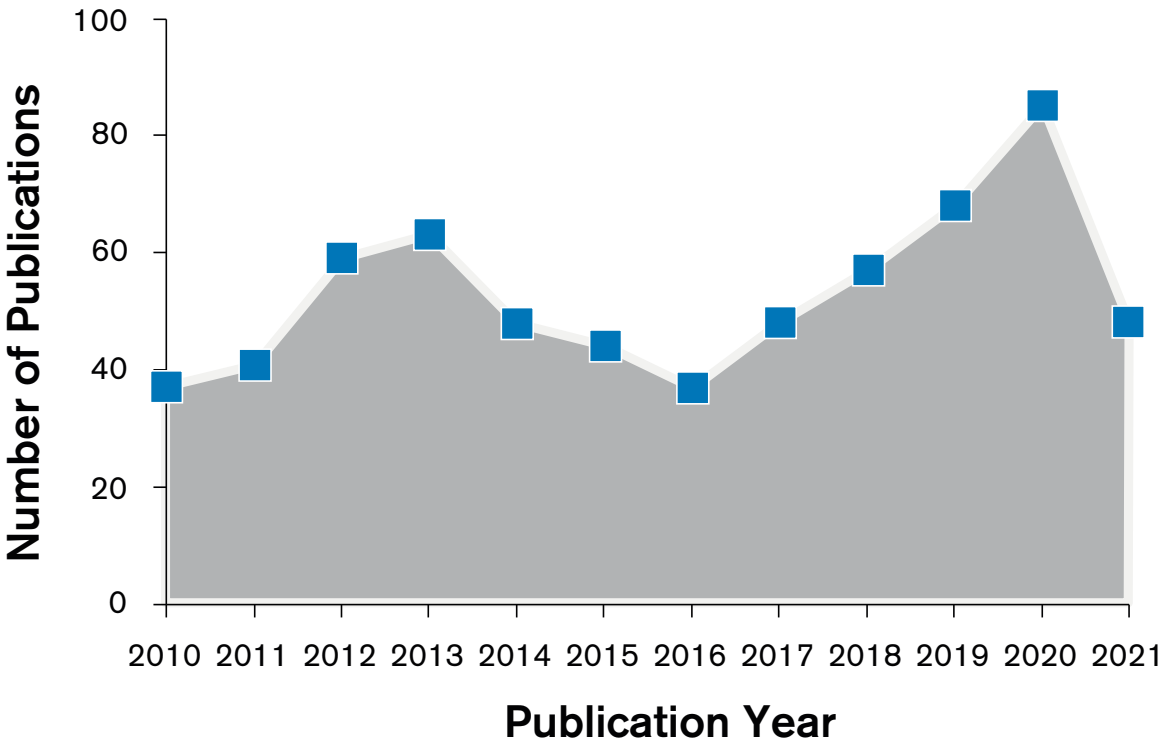
Publication Record	Method SDSN	Method Elsevier
All Articles	635	161
Open Access	383	109
Citations	21,392	3,864
H-Index	59	32

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	117	1,312	25	189
Taught Postgraduate	23	173	8	61
Research Degrees			0	0
<b>Total</b>	<b>140</b>	<b>1,485</b>	<b>33</b>	<b>250</b>

## SDG 14

Life below water



## Case Study: Research

*Essex's Coral Reef Research Unit is the most extensive of its kind in the UK and is involved in the world's largest coral reef restoration programme.*

Scientists estimate that if the world does nothing, 90% of the world's tropical reefs will be gone by 2043, impacting nearly 500 million people who depend on them for food, income and coastal protection.

As well as undertaking research within its bespoke tropical marine aquarium facility based at Essex, the Coral Reef Research Unit is engaged with research across numerous field sites within the Pacific, Indian and Atlantic Oceans.

The varied cross-disciplinary research generally focuses on the management options for reefs threatened by environmental change, so it encompasses the natural and social science disciplines, and utilises molecular, microbial, physiological, ecological and environmental approaches.

One project it is involved with is Hope Reef, the world's largest coral reef restoration programme off the coast of Sulawesi, Indonesia. The reef, which can be seen on Google Earth, has been built to spell the word H-O-P-E and is a symbol to show the world how positive change can happen within our lifetime.

Led by SHEBA, the programme aims to restore more than 185,000 square meters of coral reefs around the world by 2029 – roughly the size of 148 Olympic swimming pools.

Since the start of Hope Reef's restoration two years ago, coral cover has increased from 5 to 55%, fish abundance has increased and there has been the return of species such as sharks and turtles.

Providing a simple but effective solution, Hope Reef uses innovative 90cm wide, star-shaped, steel structures that are handmade by the local community in Indonesia. Each star is joined underwater to create a strong web that covers the seabed and provides a stable base for coral fragments to regrow.



# PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECO-SYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS



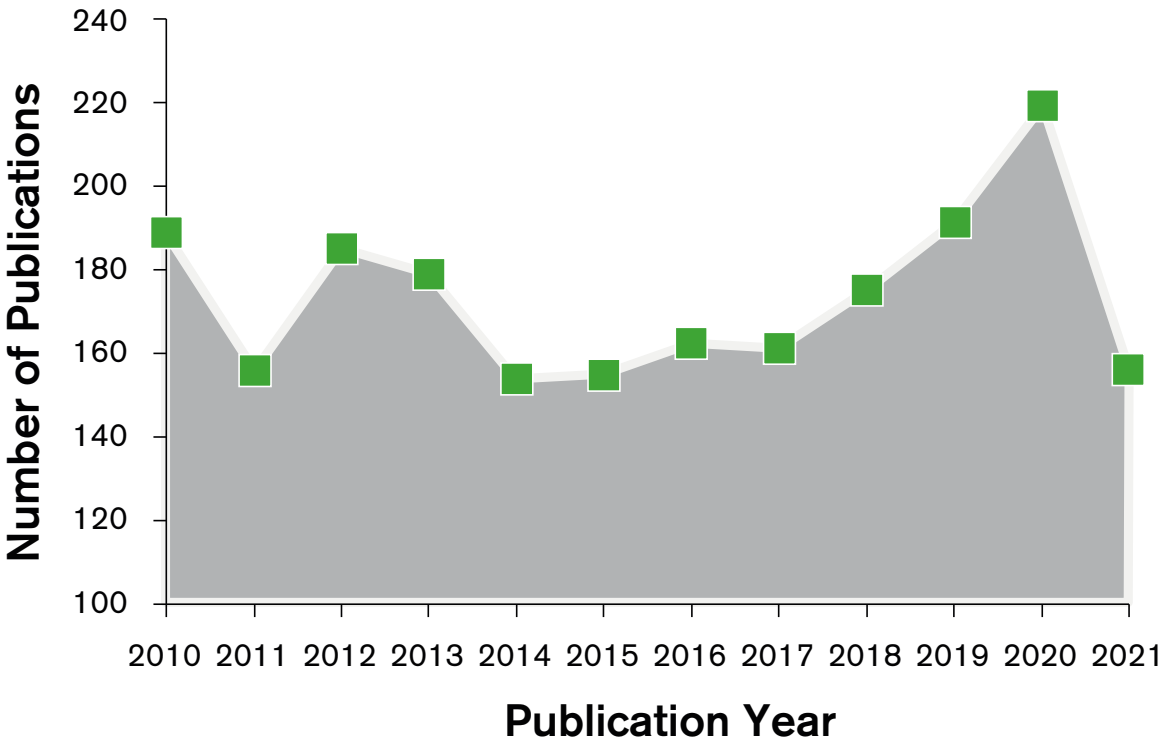
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	2,083	73
Open Access	1,174	48
Citations	65,407	2,923
H-Index	96	27

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	216	1,721	16	106
Taught Postgraduate	54	212	2	2
Research Degrees	1	1	0	0
<b>Total</b>	<b>271</b>	<b>1,934</b>	<b>18</b>	<b>108</b>

## SDG 15 Life on land



## Case Study: Action

*Our grounds, green spaces and their biodiversity are a fundamental part of who we are and how we work and live.*

We have over 200 acres of Grade II listed parkland at our Colchester Campus, five acres at our Loughton Campus, and an urban courtyard at Southend.

Our green spaces contribute to the health and wellbeing of our community, and offer us a unique opportunity to nurture, care for and improve biodiversity and habitats.

This year, Wivenhoe Park, which is home to our Colchester Campus, won the Green Flag Award for the fifth year running. The award scheme recognises and rewards well-managed parks and green spaces, setting the benchmark standard for the management of green spaces across the UK and around the world.

The maintenance of Wivenhoe Park supports biodiversity and the benefits of green spaces for people, as well as habitats for wildlife and insects.

We are even changing our mowing routines to create more wildlife managed areas, which will

not only encourage biodiversity but also help with carbon capture.

Another of our priorities is to minimise the carbon and environmental impact of our travel and transport activities. We encourage a greater use of sustainable forms of transport where travel is necessary, and champion sustainable travel and transport to and from our campuses, contributing to the reduction of our indirect emissions.

Our aim is that by 2026, journeys made by sustainable means – bus, train, bike, walking – will increase by 5% for students and 11% for staff. Also, our plan is that 75% of our fleet vehicles will be electric.

### Did you know...?

We are working towards being a Hedgehog Friendly Campus. Hedgehog numbers in the UK have halved in the last 20 years – it is estimated there are fewer than one million left. We are working with the British Hedgehog Preservation Society to gain hedgehog friendly campus accreditation, which means we will become a safe space for hedgehogs to thrive.



# PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS



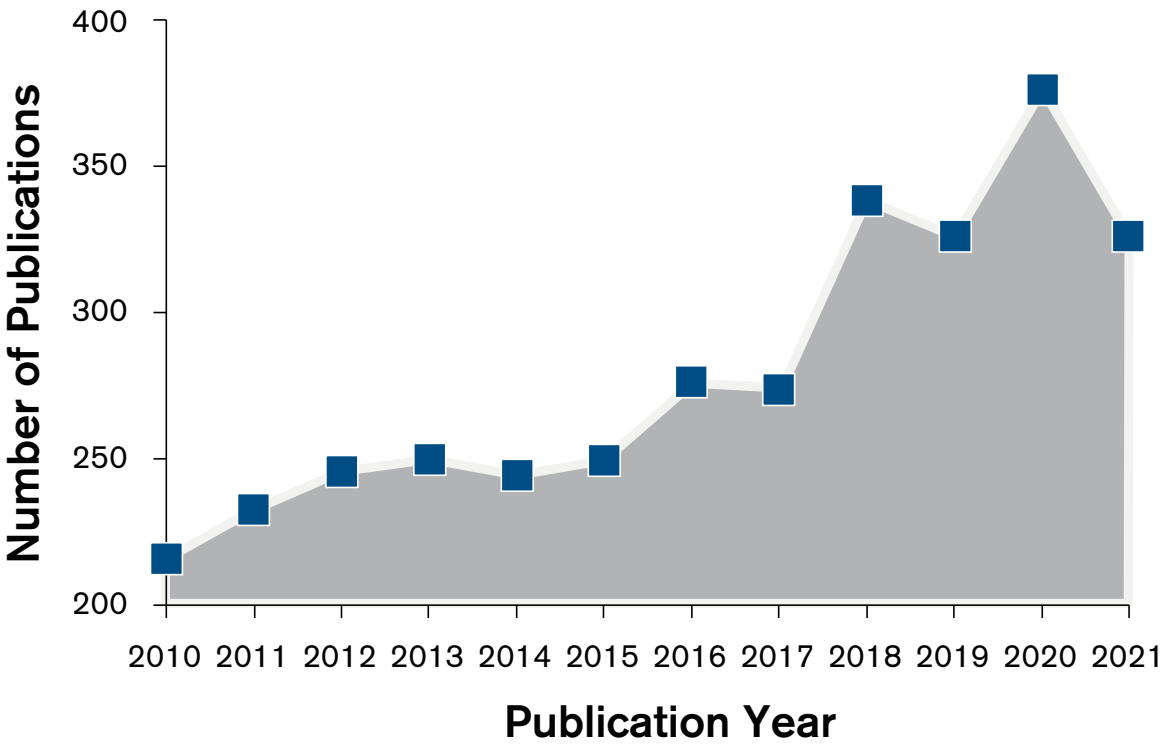
## Research

Publication Record	Method SDSN	Method Elsevier
All Articles	3,356	668
Open Access	1,633	312
Citations	48,731	7,452
H-Index	82	41

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	408	6,367	224	3,005
Taught Postgraduate	161	1,100	69	341
Research Degrees	15	35	5	12
<b>Total</b>	<b>584</b>	<b>7,502</b>	<b>298</b>	<b>3,358</b>

## SDG 16 Peace, justice and strong institutions



## Case Study: Research

*The University of Essex is home to internationally-renowned figures in the field of human rights, transitional justice and conflict resolution.*

The Human Rights Centre at Essex boasts a global reputation for excellence in the promotion of world-leading interdisciplinary human rights education, research and practice.

We influence and set human rights agendas. We make concrete differences around the globe, and we are a powerful voice for change. Through our research, impact and educational activities, not only do we lead the way in identifying and responding to human rights challenges, it's the way we apply this which defines us.

As one of the world's largest single academic human rights communities, it is vibrant, diverse and multicultural, delivering human rights education since 1983, and proud to produce the next generation of human rights defenders around the world.

Our Essex Transitional Justice Network aims to address hard questions in theory and practice

related to the challenges faced by societies undergoing fundamental socio-political change, notably the transition from a repressive to a democratic regime, or from conflict to peace, and trying to reckon with the legacies of mass atrocities.

The Institute for Social and Economic Research at Essex received the Queen's Anniversary Prize in 2017 for its "authoritative social and economic research to inform government policies and improve people's lives".

Coupled with this, since 2013 we have been home to the Regius Professorship of Political Science – currently held by conflict resolution, democratisation and political change expert Professor Kristian Skrede Gleditsch from the Department of Government.

When it comes to conflict resolution, Professor Gleditsch is a world-leading scholar and award-winning author of two books and over 70 journal articles and has featured in the Thomson Reuters' Highly Cited Researchers list as one of 3,000 researchers with the greatest number of highly cited papers.



# STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALISE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT



## Research

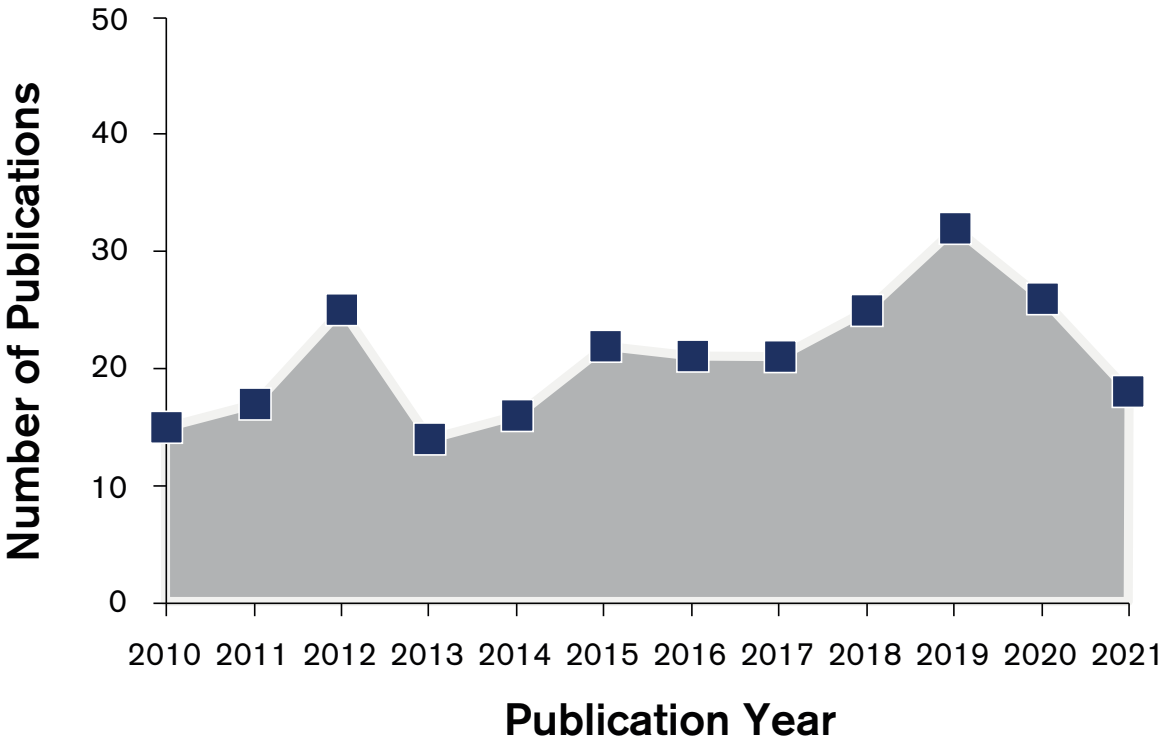
Publication Record	Method SDSN	Method Elsevier
All Articles	252	N/A
Open Access	117	N/A
Citations	5,807	N/A
H-Index	35	N/A

## Education

Programme Type	SDSN Relevant Degrees	SDSN Student Engagements	Elsevier Relevant Degrees	Elsevier Student Engagements
Undergraduate	113	626	N/A	N/A
Taught Postgraduate	25	128	N/A	N/A
Research Degrees	1	1	N/A	N/A
<b>Total</b>	<b>139</b>	<b>755</b>	<b>N/A</b>	<b>N/A</b>

## SDG 17

Partnerships for the goals



## Case Study: Action

Global partnerships are a priority at Essex. We are home to many world-leading centres with links across the world and play a leading role in developing networks focused on key challenges. Here are just a few examples of our work.

Essex is now host to the new Global Academic Interdisciplinary Network (GAIN) Secretariat. This new partnership further confirms our global reputation for teaching, research and scholarship in the fields of human rights and humanitarian law.

The Secretariat is co-ordinating the work of GAIN, promoting research and education across the world on protection of forcibly displaced persons.

Professor Geoff Gilbert, Chair of GAIN, said: "This new body will help connect those working in this field, help to secure funding for research, facilitate knowledge transfer and, as it develops over the next few years, become a resource for scholars around the world."

The UNESCO Chair in Analytics and Data Science is based at Essex.

In this role, Professor Maria Fasli is addressing the challenge of helping developing and transitioning countries to gain the data science and analytics skills they need for the 21st century.

She is also forming strong partnerships with collaborators and experts from around the world, engaging in research in analytics and data science, hosting a range of activities and developing training programmes to help address skills gaps by strengthening the knowledge base.

The Centre for Environment and Science (CES) brings together world-leading, impact-focused research on all aspects of sustainability science including expertise on the social dimensions of sustainability challenges and solutions.

The centre works closely with a range of local, regional, national and international groups, and is committed to informing the global transition to a green economy which supports environmental well-being and social and economic justice.





University of Essex



**Find out more about our work on sustainability and our response to the climate and ecological emergency on our website at: [www.essex.ac.uk/sustainability](http://www.essex.ac.uk/sustainability)**