



**Northumbria  
University**  
NEWCASTLE

# Environment and Sustainability Report 2020 – 2021

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## EXECUTIVE SUMMARY

I am very pleased to introduce this year's Sustainability Annual Report which showcases some fantastic achievements made throughout the year. Being ranked 50<sup>th</sup> in the world within the global THE Impact League demonstrates our truly international outreach, our sustainability commitments, and the positive impact that our research and teaching is having on communities around the world. It has also been pleasing to far exceed the carbon reduction targets set in 2010 – reducing our carbon emissions by 50% in the past 5 years.

This year has also seen continued global awareness of the urgency with which climate change must be addressed. Our Carbon Management Strategy pledging major reductions in carbon emissions by 2030 and achieving Net Zero by 2040 was finalised (and subsequently signed off by the Board). The University was the recipient of a Public Sector Decarbonisation Scheme grant for £1.7 M to install an air source heat pump, and LED lighting in CCE1. This success signals a huge first step as we plan to decarbonise heat across campus.

This short report provides just a snapshot some of the work we do to support some of the United Nations' Sustainable Development Goals (SDGs) through our research, teaching, campus, and operations. I encourage you to visit our website ([www.northumbria.ac.uk/sustainability](http://www.northumbria.ac.uk/sustainability)) should you want to explore further our contribution the SDGs or to get in touch. Despite the challenges to come, I am confident that Northumbria will continue to make a real and valuable contribution to the SDGs and look forward to the coming year.



**Professor George Marston**

Pro Vice-Chancellor Research & Innovation, Chair, University Sustainability Management Group



## Progress Against our Objectives 2020-21

### Environmental and Sustainability Performance

Environmental performance has seen some excellent progress over the last year. Carbon emissions are, of course a key element of our performance. Scope 1 and 2 emissions<sup>1</sup> increased slightly against the previous year baseline — which was strongly impacted by Covid — but dropped by some 17 % from the figure two years ago, which is a considerable achievement. Covid also affected our plans for reducing Scope 3 and business travel emissions, albeit in the opposite sense. Reductions in both dramatically exceeded targets but it is difficult at this point to understand what they mean in the longer term. What we do know is that working remotely has shown that there are different ways of attending meetings, and the University's *Virtual First* approach will be instrumental in reducing emissions from business travel in the future. The University is still on target to meet its 2030 target reduction, with an overall reduction in scope 1, 2 and 3 emissions by 10%.

Sticking with carbon emissions, we have made good progress in understanding the carbon footprint of our IT estate. We have on the order of 12,500 devices generating a total of 1500 tCO<sub>2</sub>e through electricity consumption, making up more than 15 % of our total Scope 1 and 2 emissions. Simply moving to more energy efficient devices will drop this figure by more than 50 %.

As with carbon emissions, Covid has inevitably had an impact on how our water usage and waste management have changed. Water usage increased last year while waste reduced and recycling improved. It will take a little time to understand these changes in the context of long-term behaviours.

We now have an established baseline for the number of programmes that embed learning about at least one of the SDGs. However, there has been a drop in the number of modules that achieve this goal; the methodology of approach is currently being examined. The launch of Sustainability Goalkeepers, achieving Hedgehog Friendly Silver Status and maintaining the United Nations academic impact membership signal a strong sustainability ethos across the university which can be built upon for the coming year.

We have also made excellent progress in maintaining our reputation for sustainability, as demonstrated in our excellent results from the People and Planet University League, which ranked Northumbria University the top university in the Northeast of England, and in the Times Higher Education Impact League where we were ranked in the top 50 universities in the World.

A summary of our performance can be found in appendix 1.

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<sup>1</sup> Scope 1 and 2 emissions cover the main emissions from our buildings, including managed student accommodation, and fleet vehicles. Scope 1 (direct): gas, fleet fuel, refrigerants. Scope 2 (indirect energy): electricity, and heat purchased from the Trinity Square heat network. Scope 3 (indirect): business travel, waste, water, and electricity transmissions losses.

## Progress Against Our Sustainable Development Goals

We achieved great progress across all SDGs, some examples of our excellent achievements are detailed below.

### SDG 7 – Affordable and clean energy

A new solar PV 77 kWp solar PV (photo voltaic) array was installed on the roof of Northumberland Building at a cost of approx. £86,000 by accessing a SALIX revolving loan and University capital. It is hoped the array will generate revenue savings of approx. £10,000 p.a. This installation brings the total solar PV capacity on Campus to over 300kWp.



We are now working towards our target of being Net Zero by no later than 2040. We have secured £1.7m funding through the Government's Public Sector Scheme for City Campus East to replace the gas boilers with Air Source Heat Pumps and to install LED lighting, which is due for completion by April 2022. We are also developing a strategy for decarbonising heat across the Campus and working with Newcastle City Council on plans for a City wide heat network.

More information on these projects can be found at this [link](#)

### SDG 8 – Decent Work and Economic Growth and SDG 10 – Reduced Inequalities

#### Business Clinic goes from strength to strength and helps with diversity and inclusion

Newcastle Business School established the Business Clinic (BC) in 2013. Since then, the total value of the students' free consultancy advice and reports – given to more than 500 clients – has been estimated to exceed £2.75m.

Nigel Coates, the BC Director adds “The BC is a programme that both enhances the learning experience of our students and delivers considerable benefits for clients. The BC has been specifically designed to be all-inclusive. The experiential learning approach adopted drives change, both in the students' learning and their understanding of how to overcome EDI barriers. The BC community is culturally diverse, with staff, students, and clients from a range of backgrounds.

Often, international students perform academically less well compared to home students. The BC is one exception to this; with international students performing on average one degree classification higher than alternative modules.

The BC is highlighted in the report ‘Addressing regional inequalities in innovation opportunities for BAME and disabled entrepreneurs’ (Professor Lawton-Smith, University of London, 2021).

Nigel goes on to say “Our work with Asian Business Connexions (ABC), (who connect, support and promote the Asian community), includes joint networking events and supporting Asian Entrepreneurs



Ammar Mirza CBE – Founder of Asian Business

through consultancy projects. An example of this is the promotion of inclusivity to Northeast employers through the hashtag #InclusivityByDefault. We also co-hosted ABC events in the Business Clinic, sharing a curry-club evening with some of the ABC award winners from the Asian business community, who were able to show-case their successes, which in turn enabled them to be good role models to future generations.”

## SDG 13 – Climate Action and 14 – Life Below Water

Northumbria University Ice sheet modellers lead the way in understanding glaciers and their real impact on climate with evidence of Antarctic glacier’s tipping point confirmed for first time

Professor Hilmar Gudmundsson, and Associate Professors, Sebastian Rosier, Jan De Rydt have been able to confirm, for the first time, that Pine Island Glacier, a region of fast flowing ice draining an area of West Antarctica, could cross tipping points. Working on TiPACCs, (Tipping Point in Antarctica Climate Components) a collaborative project with Northumbria leading the research. A tipping point is a threshold where small change leads a system into long lasting change. Like a set of dominoes, the change could cause a chain reaction with rapid and irreversible retreat and instability of the ice sheet, which would have significant consequences for global sea level.



Dr Sebastian Rosier at Pine Island Glacier

The region of West Antarctica has been raised as a potential tipping point before Professor Gudmundsson adds, “The possibility of Pine Island Glacier entering an unstable retreat has been raised before but this is the first time that this possibility is rigorously established and quantified.” Professor Gudmundsson goes on to say “But the findings of this study also concern me. Should the glacier enter unstable irreversible retreat, the impact on sea level could be measured in metres, and as this study shows, once the retreat starts it might be impossible to halt it.”

More information can be found on our website, at this [link](#), TiPACCs website [here](#), and in their published paper in *The Cryosphere* at this [link](#).

Professor Gudmundsson also highlighted further research in this area that began in September 2021 through the [PROPHET](#) project, which will study processes and drivers to model the history and predict the evolution of Thwaites Glacier.

## SDS 15 – Life on Land

### Hedgehog Friendly Campus

Dr Matthew Pound, an academic in EE, has been instrumental in supporting the work that has led to the university achieving silver level of the Hedgehog Friendly Campus award in January 2021. Working

with Northumbria's Grounds team they created several log piles to better support wildlife on campus and help towards Hedgehog Friendly Campus Silver Award.



Hedgehog numbers have declined by 50% since the year 2000 and are now officially listed as 'Vulnerable to Extinction' in Britain. Hedgehogs face challenges including lack of accessible food and water, litter, road traffic and accidental poisoning. Despite these, it has been proven that urban and suburban environments can provide stable habitats for hedgehogs. This is where Hedgehog Friendly Campus has been able to help. The scheme has been able to raise awareness of hedgehogs and to protect them on campus. Activities carried out to help this, have been litter picking events, which picked an amazing 11kg of waste from around the campus.

Dr Pound also mentions that “Whilst the project has a focus on the European Hedgehog, many of the actions taken contribute to wider biodiversity improvements on campus. For example, the installation of log piles in out-of-site locations promotes habitats for insects to breed as well as day nest sites for hedgehogs. Breeding sites for beneficial insects in an urban area provides refuge for species under pressure in agricultural settings. Increased biodiversity on campus creates a more pleasant working environment for staff and students and has also been linked with increases in personal wellbeing and better mental health. All this from helping hedgehogs!”

It is planned to bring the university a gold award, by planting on campus to support hedgehogs, carry out monitoring of hedgehogs and continue to run campaigns to raise awareness of hedgehogs. More information can be found at this [link](#).

## SDG 16 – Peace Justice and Strong Institutions

### Student Law Office

Northumbria have always had an active law office enabling their students to experience real life legal training to prepare them to become responsible and competent lawyers. This has involved several initiatives, including sponsoring 'Support Through Court' service, working with The Angelou Centre, and being involved with impactful policy,



[Support Through Court](#), is a service Northumbria have supported through donation and providing an opportunity for students to volunteer to provide legal support to individuals and families, who would otherwise be unable to access such service. In volunteering, our students are gaining valuable experience of the how the court system works and how a good lawyer can have a positive impact in potentially difficult circumstances.

In another volunteering opportunity, students supported the work of [The Angelou Centre](#), an external partner who support victims of domestic abuse. Students produced leaflets/guides to assist their support workers/service users to apply for projective injunctions (non-molestation orders and occupation orders)

Finally, through Impactful policy, several pieces of research have been worked on, including a research report on 'Child Friendly Justice' which reviews the language used to convey information to children and how this may be applied to the mental health section 23 of the Mental Health Act 1983, which sets out the process of providing information when a patient is detailed under the Act.

## SDG 17 – Partnerships for the Goals

An innovative new partnership between Northumbria and Newcastle University

The [Collaborative Newcastle Universities Agreement](#) is a new partnership that brings together the world-leading expertise of both Newcastle and Northumbria Universities for the benefit of the communities of Newcastle by supporting the economic and social recovery of our region.



As part of this commitment to Collaborative Newcastle, the two universities will be working closely with a range of partners in the public, private, voluntary, and cultural sector and will focus on three key areas: Prosperity, People and Planet. This will be achieved through several key Collaborative Newcastle projects already underway, including:

- Net Zero Newcastle – working to reduce greenhouse gases to achieve Net Zero and jointly improving the sustainability of our operations and supporting the delivery of the Newcastle Net Zero Action Plan.
- Newcastle Health Innovation Partners – discovering, developing and delivering new solutions in healthcare to improve the health of people living in the North of England.
- IntoUniversity – A new learning centre designed to support more young people to engage with higher education and fulfil their potential.

The initiatives delivered under the Collaborative Newcastle Universities Agreement will be aligned with, and directly support, the work of the City Futures Board and collective efforts to drive a more inclusive and sustainable economy locally and regionally.

Professor Chris Day, Vice-Chancellor and President, Newcastle University said: “We know that by working together we can be greater than the sum of our parts, providing greater benefits to communities not just to support economic and social recovery, but to build a sustainable and more inclusive future.”

Professor Andrew Wathey, Vice-Chancellor and Chief Executive of Northumbria University, added “Given the challenges of the last 18 months, it has never been more important that we work collectively to take on the opportunities and challenges of a post-pandemic future. This agreement combines the strengths of Newcastle’s two research-rich universities, together with the other key institutions in the city, working together to address the needs of Newcastle and the Northeast.



## Appendix 1 - Environmental Performance Review

	Target	Deadline	Result for 2020/21	Notes
Environmental Management System	Maintain ISO14001:2015 certification.	2021	Complete	Awarded with no negative findings.
Energy and Carbon	5% reduction in Scope 1 & 2 emissions from 2019/20	2021	1.5% increase	Due to emissions being so low in 2019/20 due to COVID lockdown
	5% reduction in Scope 3 emissions from 2019/20	2021	76% reduction	Largest Scope 3 reduction was in flights, which were down 90% due to COVID restrictions
	Determine baseline of carbon emissions from IT use	2021	Complete	
Waste and Resource Management	2% reduction in total waste produced (tonnes) from 2019/20	2021	17% reduction (26% non-res, -11% Res)	
	41% of total waste sent for reuse, composting, anaerobic digestion, or recycling	2021	43% (55% non-res, 17% Res)	
	0% of non-hazardous waste sent to landfill (excluding third party contractors)	2021	0%	
	Determine baseline for waste tonnage and recycling rates from contractors.	2021	No data received	Work is ongoing to collect accurate data from contractors
Water Management	2% reduction in total mains water consumption (m3) from 2019/20	2021	9.5% increase	Increase due to low water use in 2019/20 when buildings were closed

	Target	Deadline	Result for 2020/21	Notes
Travel	5% reduction in emissions from Business Travel (CO2e) from 2019/20	2021	91.6%	Very large decrease in flights due to COVID restrictions
	Single Occupancy vehicle rate for commuter travel. City Campus: Staff 24%, Students 7% Coach Lane Campus: Staff 59%, Students 29%	2022		Staff and Student Travel Survey will be carried out in February/March 2022
	3% reduction in emissions from commuter travel (average CO2e per head) from 2019/20	2022		
	Improve methodology to baseline emissions from student start and end of term travel.	2022		
Biodiversity	2% increase in metres of space considered medium or high value for biodiversity (m <sup>2</sup> ) from 2017/18	2021	Audit delayed to summer 2022.	
	Hedgehog Friendly Campus Silver certification	2021	Complete	
Procurement	Level 2 of the Flexible Framework	Dec 2021	To be reviewed	
	Sustainability considerations within category management plans for the	2021	Complete	
	Food for Life certification	2021		Audit not completed due to Covid. Switching to Sustainable Restaurants Association scheme.

	Target	Deadline	Result for 2020/21	Notes
Sustainable Buildings	Average DEC rating of C	2021	C	
	All projects in 2020-21 to achieve a SKA rating	2021	Not completed	Work is ongoing to understand how to integrate SKA rating into projects
Emissions & Discharges	70% reduction in scope 1, 2 and 3 carbon emissions from 2015/16	2030		
	5% reduction in scope 1, 2 and 3 carbon emissions from 2019/20	2021	10.5% reduction	Despite a slight increase in Scope 1 & 2 emissions, large decrease in Scope 3 due to reduction in flights
	0 significant spills	2021	0	
Education for Sustainable Development	Determine baseline for number of programmes embedding learning about one or more SDGs.	2021	Complete: 46% of programmes 26% include Prosperity related SDGs 39% include People related SDGs 6% include Planet related SDGs	
	3% increase in the number of modules embedding learning about one or more SDGs from 2019/20	2021	10% reduction (but programme level is key)	
	Launch the new Sustainability Ambassadors Programme	2021	Complete	
Research & Living Lab	Maintain United Nations Academic Impact membership.	2021	Complete	

	Develop reporting to capture the multiple ways through which our research supports the UN Sustainable Development Goals and to identify any scope for improvement.	2021	Complete	
Climate Change	Production of Climate Resilience Plan and integration with the Estate Masterplan.	Dec 2020	Ongoing	
Reputation for sustainability	Top 10 in the People and Planet University League	2023		
	Top 50 in the THE Impact League.	2023	50 <sup>th</sup> in 2021	