The University Of Sheffield.

University Sustainability Strategy

2020-2025

Contents

Executive summary of commitments

We aim to become one of the most sustainable research-intensive universities in the country and will align our research, teaching and campus to ensure sustainable practice across everything we do.

Our commitments acknowledge the balance that to be truly sustainable we must be environmentally, economically and socially sustainable. This strategy has been co-produced by students and staff - a key value underpinning our whole approach to sustainability.

0. Carbon neutrality

- Develop a meaningful, achievable and scientifically-robust roadmap to progress towards our aim of being a net-zero carbon University by 2038, and net-zero for Scope 1 and 2 emissions by 2030.
- Make significant cuts to absolute carbon emissions: reduce Scope 1 and 2 emissions by 60 percent by 2025 and Scope 3 emissions by 30 percent by 2025 and 75 percent by 2030 (based on a 2018/19 baseline).
- Investigate and implement effective and scientifically robust carbon offsetting schemes that balance environmental, economic and social factors.

1. Research and Innovation

- Tackle the key sustainability issues facing humanity through our fundamental research, our knowledge exchange and our innovation.
- Contribute to all of the UN's Sustainable Development Goals.
- Provide research evidence to policy makers and governments.
- Further the public's understanding of sustainability.
- Embed our research in our campus and city region through a 'living labs' approach.
- Focus our knowledge and research assets to make a significant contribution to the sustainability of the Sheffield City Region.

2. Education

- Embed Education for Sustainable Development into all of our courses
- Give students a voice in sustainability decision making
- Teach in ways that are consistent with our sustainability commitments
- Take a balanced approach to careers advice which promotes sustainable career options
- Provide our staff with the skills and knowledge to make decisions which balance environmental, social and economic aspects of sustainability

3. Campus

3.1. Biodiversity

- Replace any trees removed on a two-to-one basis and increase canopy cover by at least 2 percent across our estate
- Connect our green spaces to create wildlife corridors
- Ensure a net biodiversity gain across our capital projects
- Create balanced habitats that benefit a wide range of plants and animals
- Support wellbeing through our green spaces

3.2. Buildings

- Embed sustainability in all decision making related to campus developments
- Develop a new Sustainable Buildings Standard which exceeds national standards
- Retrofit inefficient buildings
- Ensure buildings are used efficiently, taking account of sufficiency
- Ensure effective monitoring and reporting of energy use in buildings

3.3. Divestment

- Maintain our divestment from all fossil fuel companies
- Publish an annual statement that provides information on the active investment approach undertaken by the University's Investment Managers

3.4. Energy

- Contract a 100 percent renewable purchased electricity supply
- Build on our 35 percent carbon reduction (2005-2019)
- Consider on-site renewable electricity generation wherever possible
- Explore low-carbon heating options as technology allows

3.5. Food

- Reduce sale of high impact foods
- Investigate local and on-campus food growing
- Reduce single-use packaging and waste

3.6. Procurement

- Improve understanding of Scope 3 emissions relating to our supply chain
- Introduce staff training to eliminate unsustainable purchasing practices
- Drive social value through our supply chain

3.7. Travel

- Invest in infrastructure to support active travel to campus
- Electrify our fleet
- Discourage flying and encourage remote working and surface travel where possible
- Pride in our international campus and acceptance of related Scope 3 emissions

3.8. Waste

- Commitment to the waste hierarchy: avoid, reduce, reuse, recycle.
- Embed circular economy thinking.
- Improve upon our overall recycling rate.
- Help students to reuse and recycle unwanted items, particularly at the end of term.
- Engage with local organisations to reduce food waste.

4. Our place in the city region

- Apply our knowledge and research to sustainability challenges within the region, to provide a unique contribution to a post Covid-19 green recovery.
- Strengthen relationships between the University, public bodies, businesses and voluntary sector organisations to build collaborative capacity to address sustainability challenges.
- Enhance understanding of our activity by engaging with staff and students through our public engagement programme of events.
- Engage with local communities to find compromise and overcome shared local challenges.

We aim to become one of the most sustainable research-intensive universities in the country by aligning our research, teaching and campus to ensure sustainable practice across everything we do.

We will become net carbon neutral on campus by 2030 and across all activities by 2038.

Our vision

The world is facing a climate emergency and universities are uniquely placed to respond to the global challenges that we face.

The education we provide ensures that the next generation, those who will be most affected by the climate crisis, have the skills needed to find solutions. We train scientists, engineers, social scientists and the next generation of leaders in how to tackle climate change, but also ensure that our wider student body understands how to apply their subject knowledge to make society more sustainable.

Our research breaks down barriers between disciplines because we recognise the all-consuming impact of human behaviour and the challenges this creates in every aspect of our lives. From soil to plastics and energy to air, the University of Sheffield is developing solutions to the global climate emergency.

Our staff and students expect us to lead the way in tackling the climate emergency and related sustainability challenges. At Sheffield, we are not only committed to responding to global problems, but also to translating our research into real-world solutions that make our campus, operations and city more sustainable.

As the country recovers from Covid-19, we have the chance to reshape our activities and press forward with innovative solutions to long-term sustainability challenges. We must grasp the opportunity for a green recovery and take full advantage of the changes to behaviours and practices that have become embedded in these unprecedented times. We recognise the urgency to do more than we have done before, and faster.

The University has made great strides in reducing its emissions over many years. This sustainability strategy is the next step on our journey to reduce emissions with the ultimate aim of becoming net carbon neutral. We want to do this by 2030 for Scope 1 and 2 emissions and 2038 for Scope 3.

We don't take this commitment on lightly and we don't currently have all the answers. The challenges we face are multifaceted and any action we take to overcome them requires a careful balance between environmental, economic and social factors to understand their full impact.

But we will never lose sight of the urgent need to cut emissions, restore habitats and secure our planet for the future.

Professor Koen Lamberts
President and Vice-Chancellor

Our approach

Governance and delivery structure

At Sheffield, we believe that sustainability must be something that runs through all of our operations and plays a role in all business, research and teaching decisions. It unites our staff and students in a one-university approach to develop creative and innovative solutions to the challenges we face.

As a University, we reflect this in our governance structure by bringing departments together and empowering them to take sustainable actions. Sustainability is a central pillar of our overarching University vision and values, underpinning everything we do. This embedded model helps us to convey to staff and students that sustainability is something that we must all consider; it is not an add-on that can be addressed in isolation.

The Sustainability Steering Group at the University oversees the strategic direction of sustainability at Sheffield. It also monitors our sustainability performance and policies. It is chaired by a senior member of the University Executive Board (UEB), the University's highest decision-making body, who also represents sustainability at UEB meetings. Membership of the Steering Group is made up of the academic, professional services and student leads for sustainability at Sheffield and members of UEB representing education, research and finance.

The Sustainability Delivery Group is responsible for delivering sustainable outcomes across the University. The group demonstrates the embedded model that we have created by bringing together staff from a variety of backgrounds as well as student representatives. The Delivery Group governs day-to-day decision-making relating to sustainability.

Achieving the Sustainable Development Goals

Academics at Sheffield have previously contributed to the groundbreaking United Nations Paris Agreement that recognised the need to limit temperature rises to 1.5C above pre-industrial levels. We are committed to aligning our efforts to the international scientific consensus.

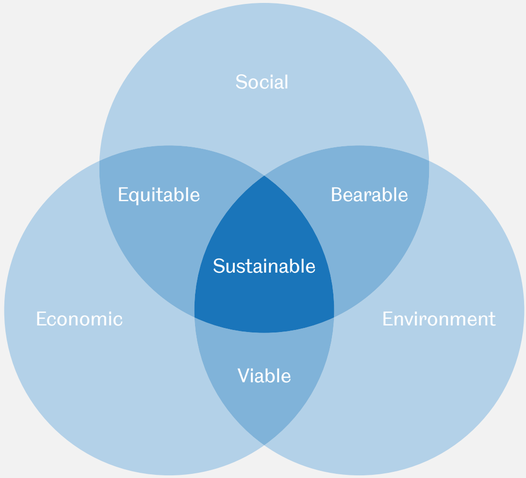
Our strategy and action plan has also been developed to help achieve the UN's Sustainable Development Goals (SDGs). The SDGs were developed to provide a holistic approach to tackling some of the world's biggest problems. They encourage organisations to look at challenges from different perspectives in order to understand the connections between environmental, social and economic sustainability. A process, product or practice is only truly sustainable if it is environmentally, socially and economically sustainable and the "best" solution will be a balance of all three. Our decision making, provision of information to staff and students, and governance routes will always seek to achieve this balance and empower others to do the same.

'Sustainability' is notoriously difficult to define and, as an organisation committed to the public good, our research and education spans all 17 SDGs. This strategy coordinates our campus activities towards five of the SDGs, detailed below.

These goals cover areas where we can bring together and strengthen existing work on our campus to create one coordinated, strategic approach.

- Affordable and Clean Energy
- Climate Action
- Quality Education
- Responsible Consumption and Production
- Sustainable Cities and Communities

As intended by the goals, we will view sustainability holistically and will link this strategy to other activity when relevant and necessary. We will continually review our use of the SDGs to ensure that they represent the most impactful approach for the University.



Student engagement

This strategy reflects Sheffield's unique approach to sustainability; a genuine co-produced partnership between academics, professional services staff and students. We know that students have a real understanding of sustainability issues and a passion for bold and decisive action. Sheffield is harnessing that passion to create a united, institution-wide approach.

In the development of our approach to sustainability, a group of our PhD students at the Grantham Centre for Sustainable Futures conducted a broad and thorough audit of the University's sustainability practices. The document that they authored has informed this sustainability strategy at every stage of its development. We are very grateful for the time and expertise they offered and are proud that our students' contributions are at the heart of our approach to sustainability.

Students are represented on our Sustainability Steering and Delivery Groups, responsible for overall creation and delivery of this strategy. Furthermore, students have been embedded in all groups that have drafted and refined this strategy, from our overarching vision to specific actions and targets. Our institutional sustainability leads have an open and collaborative approach with student campaigning groups. Many actions that we have taken forward were first raised by student campaigners, including fossil fuel divestment and the need to move away from biomass as part of our electricity supply.

Staff engagement

Academic and professional services staff have played a key role in developing this strategy. Through developing our new University vision and strategy, we know that our University community is passionate about sustainability. We want to harness this energy to help us continue our sustainability journey.

Sheffield has been part of Green Impact, the SOS-UK national sustainability framework, for over a decade. Over this period, our staff have delivered hundreds of projects to help make their workplace more sustainable. We will continue to support and develop Green Impact at Sheffield in order to help embed sustainable change throughout the institution and in order to learn from the creativity and expertise of our staff.

Through this strategy we will unlock the ideas, skills and passion of our whole University community to help us to affect change throughout our organisation. Our embedded model gives all staff the opportunity to help deliver our strategy.

One-University

We are taking a one-university approach to sustainability; this strategy applies to all of our operations and we will engage all of our staff and students in helping us find solutions. We know that many of our staff and students are already passionate about sustainability and are deeply engaged and knowledgeable about the challenges we face.

However, there are others with less knowledge about these issues who nevertheless want to do the right thing. Our approach is to find ways to raise awareness of sustainability and put in place the structures that enable all staff and students to make informed decisions and help achieve our shared goals.

This requires actions across a broad range of topics, some of which may seem to have a less significant impact when compared to, for example, reducing flying or switching electricity supply. However, we must recognise that symbolism and the visibility of action and solutions are an important part of increasing engagement in the sustainability agenda. It can be hard to engage staff and student support for the actions which may inconvenience them, but which have the most impact, if they do not see us taking action on comparatively smaller, but more visible, issues such as waste paper or disposable coffee cups.

This is not a top-down process. The enthusiasm and expertise of our sustainability agenda is derived from all parts of our University community. We will always seek to be responsive to the passions of our staff and students and ensure that our policies reflect their priorities and values, thereby facilitating informed decision making and spreading best practice.

In this way, we want to empower staff to make decisions that support our shared vision for sustainability.

About this strategy

This strategy brings together sustainability work that the University is undertaking. Sustainability at Sheffield is part of numerous processes, policies and strategies, managed by a number of different departments across the University.

This allows our professional service experts to design and implement sustainability actions which are embedded in our everyday operations. This strategy does not seek to reproduce these documents. Instead, it ensures the governance of these policies and strategies, and the timescales for their renewal, are clear, transparent and linked to our wider sustainability work.

The main purpose of this strategy is to detail our values and thinking in a number of key sustainability areas. In reading this document, you should be able to understand our approach to sustainability and how this is manifested in our activity, as well as the priority areas that will be targeted over the next five years on our carbon neutrality journey.

This strategy will help to instigate a number of actions and projects, making the University more sustainable. The detail of our actions and progress will be reported on through our sustainability action plan. The action plan is a live document which will be regularly updated with our progress. Where possible, it contains quantitative objectives.

Related documents

Further details of the University's sustainability metrics, plans and specific data can be found in the following documents:

Title	Details	Review/ publication date
University Vision	Outlines the University's broad vision for the future, underpinning everything we do.	2025
Energy Strategy	Contains details of the University's energy reduction targets and measures to reduce consumption.	2021
Integrated Travel Policy and Travel Plan	Seeks to reduce the use of private cars and encourage active travel alternatives.	2020
Procurement Strategy	Sets out principles for the way in which our centrally-led procurement can drive social value and consider environmental sustainability indicators in purchasing decisions.	2021
Biodiversity Action Plan	Targets the increase in biological value of University green space and the University's contribution to local biodiversity goals.	2022
Sustainable Buildings Standard	Details University energy efficiency and construction resource use standards for new build and retrofit projects, which are reviewed bi-annually.	2020
Embodied Carbon Strategy for Construction Materials	Includes tools and a graduated embodied carbon benchmarking strategy for the University.	2021
Campus Masterplan	Maps how the University will improve its outdoor environment and provide connectivity with the wider city.	2025
Waste Management and Recycling Strategy	Embeds the principles of the circular economy into waste processes and seeks to reduce waste as a proportion of the University's income.	2020
Endowment Investments Policy	Details the values that shape the University's endowment investments.	2025
Tree Management Strategy	Building upon the Biodiversity Action Plan, this strategy details the long-term management of University trees.	2025

Carbon neutrality

Carbon neutrality means achieving a state in which our activities result in no net greenhouse gas emissions.

Our commitments:

- Develop a meaningful, achievable and scientifically-robust roadmap to progress towards our aim of being a net-zero carbon University by 2038, and net-zero for Scope 1 and 2 emissions by 2030.
- Make significant cuts to absolute carbon emissions: reduce Scope 1 and 2 emissions by 60 percent by 2025 and Scope 3 emissions by 30 percent by 2025 and 75 percent by 2030 (based on a 2018/19 baseline).
- Investigate and implement effective and scientifically robust carbon offsetting schemes that balance environmental, economic and social factors.

Carbon neutrality means achieving a state in which our activities result in no net greenhouse gas emissions.

To tackle the climate emergency, we must work to reduce absolute carbon emissions as much as possible, with the ultimate goal of carbon neutrality. The UK Government has a legally-binding target of net-zero by 2050. The Intergovernmental Panel on Climate Change (IPCC) has said that the world's carbon emissions have to fall by 45 percent by 2030 to keep the average temperature from rising more than 1.5C above pre-industrial levels. Analysis by the Tyndall Centre for Climate Change shows that in order to meet its obligations under the Paris Agreement, the city of Sheffield needs to reach zero or near-zero Scope 1 and 2 by 2038 at the latest.

As one of the largest institutions in Sheffield and as a University carrying out leading research to tackle the climate emergency, we believe that we have a responsibility to help meet and exceed these targets.

Mainstream scientific opinion is clear that the next 10 years are crucial for any efforts to slow the trend of global heating. As such, we believe we have a responsibility to aim to be net carbon neutral in our Scope 1 and 2 emissions by 2030. Scope 3 emissions will be more challenging; we will aim to be net carbon neutral in this area by the Tyndall Centre target for Sheffield of 2038.

This is an ambitious goal and will take an immense effort. We have already begun work to map out how this might be possible and to develop scientifically-robust measures to achieve it. This strategy is our next step towards carbon neutrality and sets out our approach to the challenge of reducing our emissions. Its accompanying live action plan tracks the ongoing projects that will help us achieve this in more detail.

Our absolute emission reduction targets take into account the scale of our campus operations - we must reduce energy use and emissions per person and per metre squared.

The challenge

For the University to become net carbon neutral overall, a series of challenges must be overcome.

As a large research-intensive university, Sheffield has large associated Scope 1 and 2 emissions due to the energy we consume, with many labs and research facilities that require specific operational conditions and energy-intensive equipment. We also have a number of old and listed buildings that are not energy efficient and, as a city centre campus, large-scale on-site low-carbon energy generation is not practical.

Despite growing our estate and research activity in recent years, our absolute and relative emissions have continued to fall. Between 2005 and 2019, the University cut its Scope 1 and 2 carbon emissions by 35 percent, even while our estate grew by 23 percent. While this has been partly due to wider grid decarbonisation, improvements have also been achieved by investing heavily in energy saving technologies including LED lighting, new boilers, heating and cooling controls and energy efficient equipment.

Further reductions will become increasingly difficult to achieve as most of the relatively low-cost, high-yield initiatives and investments have already been completed. However, a green recovery from Covid-19 may present opportunities to accelerate our transition to greener infrastructure and practices.

Scope 3 emissions add a further level of complexity; they are very difficult for institutions to control and yet are much larger than the Scope 1 and 2 emissions. The University has much less ability to directly influence its Scope 3 emissions which are embedded in complex global supply chains, often many times removed from the University itself. This makes them difficult to track and reduce. Despite the difficulty, it is vitally important that we begin to understand and reduce our Scope 3 emissions. We aim to be net zero for Scope 3 emissions by 2038.

Carbon offsetting

The University will inevitably produce some emissions; this is unavoidable due to the nature of our operations and technological limitations, particularly around energy for heat and the energy embedded in the construction and operation of electricity generation infrastructure.

When we judge we have done all we reasonably can to reduce our absolute emissions, we will need to offset the remaining carbon to achieve net-zero.

In the short-term our priority is to reduce our absolute emissions as much as possible and this is where any investment should focus. Additionally, before committing resources to any offsetting scheme, we must establish what the most effective way of offsetting is.

Many existing offsetting measures are problematic. Often the activity used to offset carbon would have happened anyway – meaning no additional carbon is actually saved – or they emit more carbon than they save. Offsetting could also discourage policy and behaviour change which directly reduce our overall emissions.

Our academics are working with other universities to look into effective ways of carbon offsetting. There will not be a single solution to this challenge. We want to ensure that any schemes we implement are scientifically robust and deliver measurable environmental, economic and social benefits to our communities and planet. We want to pursue offsetting that not only offsets our own emissions, but reduces global carbon and provides net societal value.

We will also look to our own research to find novel solutions for sequestering carbon and offsetting our environmental impact. For example, the Leverhulme Centre for Climate Change Mitigation, based at the University of Sheffield, is investigating how soil and rock dust could be used to safely remove carbon dioxide (CO2) from the atmosphere to cool the planet. Our Energy Institute, meanwhile, is pioneering cutting-edge technology, sustainability and decarbonisation solutions across sectors.

Scope 1 emissions are direct emissions: those that can be directly attributed to the University's activities, such as the fuel used in its fleet and any gas used on site.

Scope 2 emissions are indirect emissions: those produced by our procured energy supply. Scope 1 and 2 emissions are often grouped together.

Scope 3 emissions are all other indirect emissions arising from the University's activity. Examples include staff and student commuting, business flights and emissions embedded in supply chains.

Research and Innovation

Our world-leading research tackles the key issues facing humanity, helping to achieve the UN's Sustainable Development Goals.

Our commitments:

- Tackle the key sustainability issues facing humanity through our fundamental research, our knowledge exchange and our innovation.
- Contribute to all of the UN's Sustainable Development Goals.
- Provide research evidence to policy makers and governments.
- Further the public's understanding of sustainability.
- Embed our research in our campus and city region through a living labs approach.
- Focus our knowledge and research assets to make a significant contribution to the sustainability of the Sheffield City Region.

Our world-leading research tackles the key issues facing humanity, helping to achieve the UN's Sustainable Development Goals.

Sustainability challenges span traditional subject areas. The UN's Sustainable Development Goals encourage organisations to look at challenges holistically, and help us to assess the impact of our work on a balance of factors that seeks to minimise unforeseen negative impacts. Our research and innovation activities play a key role in how the University of Sheffield is helping to achieve the Sustainable Development Goals.

Research

Our research is breaking down barriers between disciplines to develop solutions to real world problems which affect every aspect of our lives.

Our Energy Institute and Institute for Sustainable Food combine leading researchers from all disciplines to improve our understanding of these vital subjects. The University also hosts the Grantham Centre for Sustainable Futures, which examines all areas of sustainability with contributions from across our faculties. Our Healthy Lifespan Institute and Neuroscience Institute help the University have an impact on the health and social Sustainable Development Goals. This institutional framework demonstrates that Sheffield is already leading the way in sustainability research and is in a position to drive this research agenda forward in years to come.

Sustainability is embedded in our research strategy; our researchers are already engaged in finding solutions to the challenge of realising a sustainable future. But it is vital that we connect our research to the wider world effectively and influence policy as a result, and that our research practices are sustainable.

We are committed to being a beacon and advocate for sustainability research. This means ensuring that our research reaches as wide an audience as possible in novel and engaging ways, involving academics and students from across our departments to help aid public understanding of sustainability issues. It also means ensuring that the expertise of our academics is promoted through our media relations and communications.

We will always be at the forefront of public policy and debate on sustainability challenges, ensuring local and national government, and therefore wider society, benefits from our research and knowledge. This has never been more important as government and society plans for a green recovery from Covid-19 and a ‘levelling up’ of the UK regions.

We believe strongly in practising what we preach. The most direct way of demonstrating the real-world implications of our research is by embedding our research on campus and in the Sheffield City Region, using our facilities and region as living labs to test our research. We are committed to helping our city region respond to the climate emergency and will work closely with our regional partners to maximise the impact of our research on the sustainability of the region.

Innovation

Knowledge exchange and impact is a core mission for the University, ensuring our transformative research and the enterprise activity we undertake helps to address the world's most pressing challenges.

Through our Advanced Manufacturing Group, which includes the Advanced Manufacturing Research Centre (AMRC) and the Nuclear AMRC, we support the UK's economic and social development, with a focus on helping industry become more sustainable. Our work with industry and local and national government is supporting sustainable manufacturing, levelling up the North, and helping to develop new net-zero carbon energy systems. We will continue this work, particularly within the Sheffield City Region, to help ensure a green recovery from Covid-19.

Sustainability of our research

We carry out research that contributes to achieving all of the UN's Sustainable Development Goals. But finding solutions to the challenges we face often uses large amounts of energy and resources.

This is more often than not a good use of resources, as ultimately our research will pay back its carbon cost many times over.

However, we must ensure that our research is carried out in a sustainable manner, for example by ensuring our facilities are as energy efficient as possible, minimising waste and travel and using high-energy equipment efficiently.

We are aware of the social impact of our research and we are working to create an open research culture that values a range of contributions and delivers the highest standards and best practice in research integrity and ethics. We will adhere to the FAIR principles to the benefit of society (finable, accessible, interoperable, reusable).

Impact in Sheffield City Region

We have launched a regional sustainability programme that connects the world-class research capability in sustainability at the University with the priorities of local and regional authorities, businesses and voluntary organisations throughout the region.

Through this programme, our research is contributing to an evidence base that informs regional policy decisions and is building regional partnerships that will catalyse new innovation in sustainability. Our aim is to conduct pioneering, applied and embedded research in sustainability that can be communicated globally, achieving both local and global impact.

Research funding

Our research is funded from a diverse range of sources. We work with many companies to help decarbonise their industries and processes, thereby supporting clean economic growth and reducing global emissions.

We believe it is important that industry is able to access the unique research, innovation and knowledge transfer skills offered by universities like Sheffield. We will continue to look at our research funding on a case-by-case basis and to diversify our sources of funding.

Education

Students are more engaged than ever before with sustainability issues and want this interest reflected in their degree programme.

Our commitments:

- Embed Education for Sustainable Development into all of our courses
- Give students a voice in sustainability decision making
- Teach in ways that are consistent with our sustainability commitments
- Take a balanced approach to careers advice which promotes sustainable career options
- Provide our staff with the skills and knowledge to make decisions which balance environmental, social and economic aspects of sustainability

Students are more engaged than ever before with sustainability issues and want this interest reflected in their degree programme.

At Sheffield, we are proud of our students' knowledge, dedication and passion for sustainability. We want to provide opportunities to develop this interest throughout our courses, equipping students with skills and experience to help bring about solutions to the urgent environmental, economic and social challenges we face.

Education for Sustainable Development

Our commitment to Education for Sustainable Development (ESD) at Sheffield is a response to the demand from our students to learn more about how they can have a positive impact in the world. As a University, our greatest contribution to promoting sustainability comes from the students we nurture to become the researchers, business leaders and change makers of the future.

ESD takes a holistic definition of sustainability, as set out by the UN's Sustainable Development Goals (SDGs). It aims to make sustainability relevant to all students, no matter what subject they study, and thereby help to produce conscious and informed global graduates.

While it can include measures to directly combat the climate emergency, depending on degree subject, it might also include climate justice, disaster risk reduction, biodiversity, poverty reduction, sustainable consumption, human rights, social equality and responsible citizenship. ESD connects and expands skills and content from each course to key sustainability challenges.

We have pledged that every University of Sheffield student will receive Education for Sustainable Development as part of their degree programme and in the wider student experience. ESD will be embedded over a period of five years and we have already begun our work on this journey.

Using the 'Five-Step Framework for ESD', a change management model developed at the University of Sheffield, we will work with academic departments on embedding ESD in a way which will equip students with the knowledge, skills, values and attributes needed to work and live in a way that will bring about solutions to the environmental, economic and social challenges that we face.

Our academic departments are discussing with staff and students where examples of sustainability education in the curriculum already exist and how further teaching could be introduced.

Over the coming years, as an integral part of our learning and teaching strategy, we will continue to work with departments to integrate ESD into their degree programmes.

Crucially, this will be completed in partnership with academics and departments as part of our Programme Level Approach and will not be enforced as a top-down approach. As part of this process we have already rewritten our Sheffield Graduate Attributes, a list of skills, characteristics and attitudes which all students should have had the opportunity to develop during their time at Sheffield, to explicitly reference our commitment to helping create globally-aware graduates. We will also be writing a commitment to ESD into departmental plans and exploring extra-curricular teaching and engagement opportunities.

ESD can be a challenge for subjects that are not traditionally seen as sustainability related. We will not force all students to become climate scientists. Sustainability, as set out by the UN's SDGs, is defined broadly. There are skills and approaches that all subjects can link to sustainability challenges. ESD must, therefore, find those skills and attributes already present in these programmes, investigate where further connections can be made, and support departments to develop learning opportunities for students. Our approach will draw on existing expertise including our extensive curricular and extra-curricular experience in Engaged Learning in which students work with communities and external partners to address real-world challenges and issues of public concern.

Student voice

Students have taken an active approach to mobilisation around specific sustainability issues. We recognise the passion students have for sustainability and that the University has been behind the curve on some issues.

We are committed to having a positive dialogue with campaigns and want our students to be involved in major decisions relating to sustainability on campus. This includes being part of our governance structure for sustainability and ensuring that students have access to key professional staff in the University to discuss ideas and challenges.

We are also committed to the SOS-UK Green Impact scheme which helps students become involved in the sustainability of their departments.

Careers

We provide our students with information about an increasingly wide range of organisations offering placements and graduate jobs, including opportunities at the University.

Over the coming years we will continue to expand our relationships with organisations that offer sustainability-related job opportunities and ensure that our students have good awareness of environmentally- and socially-focused career paths.

This means ensuring that companies in sustainable industries are well represented on campus. It also means asking more questions of the organisations that visit campus and offer work-related learning opportunities about their commitment to sustainability, so that our students are able to make informed decisions about their future careers.

We firmly believe that our students deserve to be presented with the broadest possible range of options for their future careers, and will continue to enable them to positively impact on wider society as graduates.

Teaching practices

It is important that our own teaching practices are consistent with the sustainability principles we teach.

Covid-19 presents us with an opportunity to reassess how we use our spaces and incentivise a greater degree of sharing and flexibility between different departments and uses. This will ensure that we are getting maximum use out of our spaces and that the associated carbon costs of heating and lighting are as low as possible.

A number of our courses currently entail international travel. These trips are a vital part of many courses and provide students with exciting and enriching opportunities to further their studies and personal development. But these opportunities must be balanced with their carbon cost. We will ensure that emissions are considered as part of the decision making process when trips are planned and lower-carbon alternatives are considered, while ensuring that learning outcomes and our student experience are not compromised. Where high emissions trips are justified and continue, they can be used as an opportunity for reflection, discussion and undertaking positive climate action projects.

Staff training

We are committed to providing our professional and academic staff with the information and knowledge to be more sustainable in their work and personal lives.

We will develop a staff training programme to help guide staff to make evidence-based choices as part of their roles, in order to balance environmental, social and economical factors. This will include aspects such as departmental procurement decisions, office energy use and recycling. We will align this to our Green Impact programme to ensure an approach which engages staff at their appropriate knowledge level. This will be rolled out to existing staff and embedded into our induction process for new-starters. In addition, we will ensure that senior leaders are trained to understand the sustainability impacts of their departments' operations and how these can be improved.

Through our 'Elevate' learning and teaching enhancement offer, we will continue to support staff to embed ESD in all subject areas. Elevate will be responsive to the needs of academic departments and, through a rich programme of seminars, one-to-one support and web-based resources, will help our academic staff to recognise opportunities for incorporating Education for Sustainable Development into the curriculum.

Through Elevate we will also share good practice in ESD, within and beyond the University, to celebrate those who are making good progress in this area, and inspire those who find it more challenging. Specific events, peer support relationships and communities of practice will enable practice to be shared within and across disciplines.

Campus

Biodiversity

We are committed to maximising the ecological value of our green space for the benefit of a wide range of plants and animals and for the mental wellbeing of staff, students and local communities.

Our commitments:

- Replace any trees removed on a two-to-one basis and increase canopy cover by at least 2 percent across our estate
- Connect our green spaces to create wildlife corridors
- Ensure a net biodiversity gain across our capital projects
- Create balanced habitats that benefit a wide range of plants and animals
- Support wellbeing through our green spaces

The UK is facing a crisis of biodiversity loss. Some of the key drivers include climate change, urbanisation and pollution. These pressures on wildlife can be mitigated by strong sustainability action and the creation and protection of green space. Our long term vision is to increase the amount of green space the University has and improve the biodiversity value of the existing estate. We hope to “connect” our estate with other green spaces, green corridors and the wider countryside, including the Peak District.

Our Biodiversity Action Plan aligns with our commitment to maintaining high quality greenspaces and our Tree Management Strategy sets out how we will manage our trees.

We will aim for gold standard accreditation in the Hedgehog Friendly Campus scheme. While this is just one example of wildlife on campus, we know that actions taken to benefit hedgehogs as an ‘indicator species’ will also benefit many other species. We will continue to explore other wildlife accreditations.

Leading research from the Improved Wellbeing through Urban Nature (IWUN) project at the University of Sheffield has shown that people can experience significant wellbeing benefits by accessing green spaces. This is an example of where research can be used directly on our campus in a living lab to improve the livelihoods of staff, students and local people. We will investigate how we can more effectively promote mental wellbeing through our use of green space.

It is worth considering that some locations in and around campus that are often used by students and staff are not University grounds. For example, Weston Park, Crookes Valley Park and the Ponderosa, are green spaces close to our main campus maintained by Sheffield City Council. While we do not have control over these spaces, the University will continue to work with partners to improve and look after local green spaces.

Biodiversity: Trees

Trees play a vital role in the environmental, social and economic sustainability of Sheffield. They improve our air, soil and water quality, aid mental health and well-being and provide a sense of place.

They are also a cost-effective means of mitigating urban heat islands, controlling stormwater runoff, reducing building energy costs and increasing pavement longevity.

Urban trees also play an important role in supporting biodiversity – they provide wildlife with a habitat, food and protection. We will take an urban forestry approach to tree management which views trees as essential infrastructure and places importance on overall canopy cover and the larger specimens that provide this.

We will continue with our two-to-one replacement policy for all trees on campus to achieve our objective of increasing canopy cover by at least 2 percent by 2030 (from a 2020 baseline). We will increase the genetic diversity of our tree stock to promote resilience to climate change and ensure that our most valuable trees are identified and protected for future generations.

Buildings

We need to critically examine building fabrics, construction and practices to cut building-related emissions.

Our commitments:

- Embed sustainability in all decision making related to campus developments
- Develop a new Sustainable Buildings Standard which exceeds national standards
- Retrofit inefficient buildings
- Ensure buildings are used efficiently, taking account of sufficiency
- Ensure effective monitoring and reporting of energy use in buildings

The way in which we use our buildings, how efficiently they are designed, the activities that occur within them and the layout of campus have a significant impact on our Scope 1 and 2 emissions. Many University spaces are energy-intensive, but there is a lot of progress that can be made in reducing emissions by improving our current building stock and ensuring new buildings are designed to the most rigorous environmental standards.

While Covid-19 has made the immediate future uncertain, it is likely our University will need to construct new buildings in the coming years as the staff and student bodies grow and to ensure start-of-the-art research and teaching facilities.

In addition, there will always be a need for ongoing maintenance and retrofitting activities in an estate that has developed over 100 years. It is essential that any new developments and major refurbishment projects reflect our ambition to achieve net carbon neutrality by 2030. Given the overwhelming impact of our existing building stock on operational carbon emissions, there will be a presumption of prioritising refurbishment and retrofitting over new build, unless an exceptional case is made. We will therefore ensure that all Project Executive Groups (PEGs) dealing with new buildings and major refurbishment projects embed sustainability into their decision making. They will consider the impacts that all such developments will have on the University's sustainability performance and will record how decisions were made, including referral through the sustainability governance process if appropriate. We will also use the 'Soft Landings' process in our projects to ensure quality and provide feedback on building performance to feed into the next project.

We will revise the University's Sustainable Buildings Standard to make sure that the operational and embodied energy and carbon emissions of our buildings are fully considered and minimised throughout the design and build process. This will provide a more rigorous standard than current national building standards.

While some high yield results will be possible by improving the efficiency of our buildings, how we use our buildings can also affect energy consumption. Part of our retrofitting efforts will be directed at putting in place strategies and associated infrastructure, such as diagnostic metering to provide feedback enabling users to reduce energy usage.

We will also continuously review how our spaces operate to ensure they are providing carbon efficiency and that we are not using more space than necessary and sufficient for our needs.

Building materials and construction activities have a major impact on our scope 3 emissions. We are developing tools and a graduated strategy to identify scope 3 emissions which can be cut from our building, retrofitting, construction and demolition work by utilising our academic expertise in this area.

Covid-19 and the resulting lockdown has provided further possibilities for changing our practices. University staff have generally adapted well to home working and we recognise that flexible working practices can be beneficial to both staff and the University. There might also be significant environmental benefits, including a reduction in Scope 3 emissions and air pollution associated with commuting. In addition, more flexible working may make it possible to reduce emissions relating to office space and, in the long term, allow for a reduction in overall office space.

However, at colder times of the year this might result in more carbon emissions, as staff individually heat their homes. There is also a social impact, as the University would be outsourcing its energy bills to individuals, and different personal circumstances will mean not all staff want to work from home. We will carefully consider any move to flexible working to ensure it provides mutual benefit for individuals, the University and the environment.

Divestment

We understand the damage the fossil fuel industry continues to do to our planet.

Our commitments:

- Maintain our divestment from all fossil fuel companies
- Publish an annual statement that provides information on the active investment approach undertaken by the University's investment managers

In 2019 we completed our divestment from fossil fuel companies. This means that the University holds no shares in any companies involved in the extraction or processing of fossil fuels. Our endowment investment policy also seeks to eliminate exposure to other areas, such as the manufacture or sale of armaments.

We will continue to explore how our endowment investments can be used to support companies that have a positive environmental impact. This does not mean these investments will always be possible. Our endowment investments support a wide range of scholarships and bursaries at the University and we must ensure that they continue to generate sufficient revenue to meet the specific purposes for which the funding was given to the University and perform in a financially sustainable way.

The University is committed to investing its funds on a socially responsible basis. The University believes that to accord with its values when investing its funds, regard must be made to social, environmental, sustainability and governance issues. We will publish an annual statement that provides information on the active investment approach undertaken by the University's investment managers.

We also recognise that, for now, the world still relies on fossil fuels. This includes aspects of our operations, which cannot be solely powered by renewable sources of energy at present. We are committed to moving away from fossil fuels wherever possible.

Energy

We need to reduce emissions across the board if we are to reduce global heating.

Our commitments:

- Contract a 100 percent renewable purchased electricity supply
- Build on our 35 percent carbon reduction (2005-2019)
- Consider on-site renewable electricity generation wherever possible
- Explore low-carbon heating options as technology allows

The climate emergency demands that we target our largest producers of greenhouse gases to make the necessary progress on reducing our absolute emissions and reaching net-zero as quickly as possible.

Between 2005 and 2019, the University cut its absolute Scope 1 and 2 carbon emissions by 35 percent, at a time when the estate expanded by 23 percent - this equates to a relative reduction of 47 percent per metre squared of floor space. Our separate Energy Strategy sets out further specific interim emissions reduction targets. However, we are continually guided by our overarching target of reaching net-zero emissions by 2030 and reducing Scope 1 and 2 emissions by 60 percent by 2025.

Energy: Electricity

Historically, electricity consumed on campus has been the University's biggest contributor to its Scope 1 and 2 emissions.

That is why in May 2020, we signed contracts with Bryt Energy to make our purchased electricity supply 100 percent renewable. Based on grid averages, this means that the University's net carbon emissions will be cut by 17,000 tonnes of CO2 per year.

Bryt Energy's electricity supply is made up exclusively of wind, solar and hydro power. Biomass will not form a part of our electricity mix. By supporting this company, the University is helping to drive investment in the renewable energy sector.

As a mostly city centre University, there is limited scope for large-scale on-site renewable electricity generation. The University does generate electricity at a number of sites, including the Hicks Building and Jonas Court. Decisions over on-site generation are carefully considered to balance whether they are carbon – and economically – viable investments. Many roofs are not suitable for solar panels, however, we have several green roofs which support urban biodiversity across campus and others are used for equipment, saving valuable internal space. We will continue to look at on-site generation opportunities.

Energy: Heating

Providing low-carbon heating to the University is a particular challenge. Many options for decarbonising heating are dependent on infrastructure changes as well as being financially challenging.

For example, hydrogen has been suggested as a means of decarbonising gas supplies but this is dependent on government decisions around injecting hydrogen into the nation's gas supply.

Sheffield is home to a district heating system. The Veolia District Energy Network provides heat to a number of businesses and institutions in the city and also produces electricity which is sold to the grid. Non-recyclable waste that is otherwise destined for landfill is incinerated within the Energy Recovery Facility. Heat from this process is used to produce hot water that is piped across the city below ground. While the network is reported as a low-carbon initiative, it has had many costly faults over recent years.

When the heating has failed in the past, we have relied on diesel boilers which are hugely expensive and have a high environmental impact. Disruption to our energy supply can cost significant amounts of money as well as potentially halting our ability to deliver world-leading research.

Because of this, the University has made an investment in a highly efficient gas-powered combined heat and power unit (CHP) called the Transformer. Our research relies on tightly controlled temperatures. The Transformer will provide security of heating supply to areas of key research interest. The Transformer provides a new distribution network which is essential for the future. As we are able to update the gas-powered technology in the Transformer, we will replace this plant in situ, and benefit from the distribution network. This allows future investment to be undertaken at scale, and low-carbon heat to be distributed efficiently. The CHP produces a small amount of electricity as a byproduct of producing heat. Its high efficiency means it provides heat at a lower carbon cost than alternatives.

Our new Social Sciences building will include a unique geo-exchange system that will significantly reduce the operational carbon footprint of the building. 14 boreholes, drilled 200 metres deep below the main building use the ground as a battery to draw up or store heat in the ground depending on the time of year. The water flowing through these boreholes will be topped up by a small gas CHP, which will be replaced by an electrical motor at the end of its life cycle.

We understand that any investment in fossil fuel infrastructure may seem to run counter to our claims of acting with sustainability in mind. However, there are currently significant challenges to providing low-carbon heating at the scale needed to support our research and other activities, and in this case a pragmatic decision has needed to be made that balances environmental, operational and economic factors. We aim to replace this fossil fuel-based infrastructure as soon as a viable alternative is available that balances environmental, social and economic impact.

We are in constant dialogue with our academics including our Energy Institute and professional services experts about how we can reduce our energy-related emissions. This strategy is a platform on which we will continue to innovate and find workable solutions to these challenges.

Food

Increasing food security and preventing environmental damage must go hand in hand to create a resilient food system.

Our commitments:

- Reduce sale of high impact foods
- Investigate local and on-campus food growing
- Reduce single-use packaging and waste

The problem of feeding a growing population is both a technical and social challenge. To ensure that enough food is produced, and that it is distributed equitably, governments and industry must draw on contributions from individuals, institutions and researchers from many academic disciplines.

Our current global food system will have to adapt to ensure that everyone has access to adequate nutrition in decades to come. The biggest challenges include more inhospitable climates for growing food, soil degradation, the food sector's greenhouse gas emissions and inequitable distribution resulting in malnutrition. There is an urgent need to implement social and technical solutions to these global problems. Our Institute for Sustainable Food is producing leading research across the food system and we will embed its learning on campus.

Working closely with the Students' Union, we will remove carbon-intensive foodstuffs, such as most beef and lamb, from University retail outlets and develop an understanding of the consumer choices in our cafes and retail outlets allowing us to actively promote sales of sustainable foods, including vegan, vegetarian and healthy food options.

We will work closely with our Institute for Sustainable Food to produce a report on campus food production and we will explore the potential for using the 'living labs' model in this area. We understand that the sustainability of different products is complex and that there are few perfect rules for what is sustainable and what is not. We will therefore, with the help of our researchers, tailor our approach to each product on a case-by-case basis.

Our plan to drastically reduce single-use packaging on campus, particularly food packaging such as coffee cups and water bottles, will need to be reassessed in light of the Covid-19 pandemic. It is likely that in the short term we will be unable to use reusable containers at our outlets, which will lead to an increase in waste. However, we will continue to plan in the long term for the elimination of single-use items, including by introducing a levy on single-use cups across campus and the installation of more water fountains to further reduce the consumption of bottled water, following the example of Sheffield Students' Union. Where single use packaging would be difficult to eliminate, we will seek out and use the "least worst" option available from an environmental perspective.

A significant proportion of our non-recycled waste is generated through disposal of laboratory single-use consumables, so we will develop a pilot to understand the viability of transitioning to increased use of reusable laboratory materials. Our commercial approach will be informed by the principles of the circular economy.

Food and its packaging is a central strand of our carbon neutrality work and we anticipate that we will become more active as we continue to work with our academics to embed their expertise into our on-campus processes.

Procurement

Socially and environmentally conscious procurement is vital for any organisation that is serious about sustainability. We will strive for the highest standards.

Our commitments:

- Improve understanding of Scope 3 emissions relating to our supply chain
- Introduce staff training to eliminate unsustainable purchasing practices
- Drive social value through our supply chain

Supply chains embody an organisation's social and environmental impact outside of its immediate surroundings. Sustainable procurement policies can stimulate investment, jobs and support ethical practices, thereby reducing the likelihood of externalised environmental and social harm.

Procurement: Scope 3

The indirect emissions released in producing and transporting the products we consume are vast.

These emissions are often difficult to measure due to the complexity of supply chains in the modern world, however, through estimation from carbon accounting, it is possible to develop a good understanding of our Scope 3 carbon footprint and the best ways of mitigating it.

With the vision set out in this strategy, we aim to drastically reduce our supply chain emissions. This will be a complex process which will involve gathering appropriate data and identifying where our actions will have the greatest impact.

We are embedding a framework of sustainable purchasing principles into all processes. This framework, alongside new training schemes for professional services and lab staff, will help us to make environmentally and ethically sound decisions when purchasing equipment for the University and, perhaps most importantly, help us to buy fewer items in the first place. We will also limit the number of suppliers we use in certain areas to ensure that the most sustainable supply chains are prioritised and cut wastage by reusing, repairing and recycling more items.

Estates development activities are a major source of carbon emissions both nationally and within the University. We will ensure that sustainability is a high priority at all stages of infrastructure development. We will apply principles of the circular economy to our developments.

Procurement: Social value

A key priority which this strategy will develop is the use of our procurement practices and our purchasing power to drive social value.

Our supply chain is not only a source of emissions but who we work with and what we purchase drives a variety of social outcomes. Therefore, we will actively engage with the National Social Value Framework and introduce procurement performance measures in order to measure the social value of our procurement practices.

Procurement and purchasing decisions are an effective means of expanding the University's influence and sharing best practice. Sheffield City Partnership has indicated a desire to improve collective procurement decisions. This has the potential to have wide-reaching implications as the supply chains of organisations and institutions across Sheffield have a significant environmental, social and economic impact. We will continue to explore the feasibility of shared procurement with other institutions in the city.

Travel

University travel is a sector-wide challenge. We will think creatively to ensure our research and educational needs are met while reducing use of polluting transport means.

Our commitments:

- Invest in infrastructure to support active travel to campus
- Electrify our fleet
- Discourage flying and encourage remote working and surface travel where possible
- Pride in our international campus and acceptance of related Scope 3 emissions

Sustainable travel is not just about reducing carbon emissions. It is about ensuring that everyone can access environmentally friendly and economically viable means of transportation that meets each person's needs.

There is no single travel solution that will work in every circumstance and trade-offs between different aims are necessary in many cases. However, by approaching the problem holistically, we are committed to enacting a travel policy that mitigates environmental impacts in a way that ensures necessary travel is available to everyone.

Transport is the UK's biggest emitting sector. Even excluding international aviation and shipping, transport accounts for a third of the UK's carbon emissions. At a University level, we estimate that in 2018/19 over 13,000 tonnes of CO2 equivalent came from associated travel including business travel, staff and student commuting and our fleet of vehicles. Of these emissions, approximately 68 percent are associated with business travel. Moving away from carbon intensive, individual travel patterns is a challenge that requires people to understand the impacts of their travel and to be empowered to reduce travel and to use low-carbon active or public transport options where possible. Individuals and institutions must work in partnership if we are to make transport more sustainable.

Travel: Commuting

Through committed action over more than a decade, we have halved the proportion of commuting trips taken by car, reducing emissions and air pollution.

Now, 36 percent of our staff and 80 percent of students either walk or cycle to campus – well above the national average for commuting to work of under 15 percent. Our campus already has excellent infrastructure to make sure that walking and cycling are attractive options. We are planning two additional bike hubs and high quality pedestrian and cycle routes around the Social Sciences building, while continuing to work in partnership with Sheffield City Council to make our campus a more pleasant place to travel to and to work and study.

We are committed to ensuring that public transport is a practical and affordable option for our staff and students. We continue to work with local operators to improve the University's public transport provision and we will be exploring ways to connect the AMRC with better bus links. We will use the University's buying power to offer staff and students discounted bus, train and tram tickets and support the Students' Union in its efforts to maintain the £1 student bus fare. We will work with student accommodation providers to introduce a regular, efficient local bus service serving key sites around campus and the city.

It is likely that the Covid-19 pandemic will have an impact on the long-term commuting habits of our staff. More flexible working is likely to reduce Scope 3 emissions relating to staff commuting to campus, although this may result in increases to emissions from heating homes. With reduced capacity on public transport, more staff may walk or cycle to work. For those who do need to drive, we will encourage and support a move to less polluting vehicles. We will ensure that any policy in this area considers the differing needs of staff, for example caring commitments or mobility issues.

Travel: University fleet

We use a fleet of vehicles for delivery and maintenance. Where journeys are not viable by active travel or public transport, there are also University pool cars that are accessible to staff.

We are pursuing measures to improve logistical capacity to minimise vehicle numbers and minimise trips and mileage. Currently, 43 percent of this fleet is electric. Electrifying our entire fleet of vehicles is challenging because there are a lack of electric alternatives for larger vehicles used for maintenance and deliveries. Our ambition is for the vehicles in our fleet that can be electrified to be electric by 2025, but it may be that we need to run some petrol or diesel vehicles if appropriate electric or hybrid alternatives have not yet become available. We will always strive for the lowest-emitting option. This will not only reduce the University's carbon footprint; it will contribute to better air quality in the city and help us to comply with the city's Clean Air Zone.

Travel: Flights

Aviation is a large global contributor to the climate crisis and as such we will work to reduce our reliance on the sector.

However, this will form a part of a balanced approach to flying that recognises that some of the University's core work would not be possible without air travel.

While we must recognise the University's responsibility for the Scope 3 carbon emissions from flights, and collect data as part of our drive to be net-carbon neutral, it will not be possible or desirable to avoid all flights. Despite continued efforts to improve aviation efficiency, flights will require substantial carbon off-setting.

Staff flights

The global challenges we are committed to tackling by their nature require international partnerships with a diverse range of organisations to deliver effective solutions. Therefore, it is important that we acknowledge that there is a trade-off between the environmental impacts of flying and the positive contribution that the University's staff make internationally.

We are committed to reducing the number of business and academic flights that we take where alternative forms of travel and academic interaction are practical. The Covid-19 lockdown necessitated a very rapid uptake of virtual communications technology, and adaptations and innovations to undertake research, collaboration and conferencing. We will build on this including through review of our IT infrastructure, to reduce the need for travel, with benefits financially and in terms of staff time and wellbeing. As part of this work, we will look at the sustainability of our IT systems at a broader level. This will include the purchasing of equipment, the efficiency of its use, printing and its contribution to our emissions.

Much travel will remain necessary though, and we will facilitate and incentivise other means of transport such as train travel for UK and many European destinations, and withdraw funding for domestic flights within three years, except for reasons of equality, diversity and inclusion.

Working with the wider university sector, we will encourage remote attendance to international conferences where possible. We will ensure that the environmental impacts are considered by departments and individual staff members before booking business, including academic, flights. We are committed to improving access to surface travel and encouraging these sustainable options among our staff. We will also work in consultation with our staff on a comprehensive flying policy in order to create a strategic and sustainable approach to international academic and business travel.

Student flights as part of courses

A number of our courses require students to fly, such as for field trips or international placements. These are exciting and enriching opportunities for our students, helping them to understand the real-world implications of their area of study and experience new cultures and ways of working.

We are committed to seeking effective ways to ensure that carbon emissions are considered alongside learning outcomes, student experiences, staff expertise and financial costs in making decisions on destinations for teaching and learning activities. Opportunities will also be sought to discuss the responsibilities that follow from carbon emissions from travel with students as part of ESD objectives, including potential compensatory actions.

Travel: Travel to university

Getting to university in Sheffield, and periodically visiting home, can incur significant carbon costs for our students. No travel is carbon-free, and we will encourage students to travel in the most environmentally sustainable way possible.

For students in the UK moving into or out of their accommodation, car is often the most efficient and practical way to travel – usually with the help of family or friends. We will continue to encourage students to leave their own cars at home and use active travel and public transport to get around Sheffield and to visit home.

We understand that flights are necessary for most of our international students. International students are a key part of our University community and we will continue to encourage prospective students from all over the world to study in Sheffield.

The UN's Sustainable Development Goals encourage a holistic approach to sustainability. While there is a pressing need to reduce carbon emissions, we must not lose sight of the other goals, which include Reduced Inequalities, Decent Work and Economic Growth, Partnerships and Quality Education. International students who study at our University will be equipped with the skills and knowledge needed to help the world overcome these challenges, wherever they choose to work and live.

International students contribute immensely to the cultural and economic vibrancy of our city, region and the UK as a whole. We are committed to reducing our environmental impacts but we also understand that there is real value in the diversity of nationalities within the University's staff and students. Therefore, we must accept the Scope 3 emissions relating to this air travel as necessary to foster an international outlook. We will look to measure these emissions and to develop ways to reduce and offset them.

Waste

Waste has a wide-ranging sustainability impact, from litter to hazardous materials, that requires responsible waste management processes and circular economy thinking.

Our commitments:

- Commitment to the waste hierarchy: avoid, reduce, reuse, recycle
- Embed circular economy thinking
- Improve upon our overall recycling rate
- Help students to reuse and recycle unwanted items, particularly at the end of term
- Engage with local organisations to reduce food waste

We produce a varied and substantial amount of waste every year. Waste can have significant environmental impacts including releasing greenhouse gases and polluting local environments during processing. It can also pollute natural environments further afield if it is not properly dealt with. We take the commitment to avoid, reduce, reuse and recycle materials very seriously and are committed to applying the principles of the circular economy wherever possible.

Waste: Circular economy

Our resource efficiency vision is based around the circular economy.

This means that we seek to reuse and upcycle products and resources as much as possible before disposal, so that waste from one process becomes materials for another. We will also procure re-used and upcycled products where possible.

As indicated by the waste hierarchy, upcycling, recycling and disposal should be secondary to avoiding and reducing the total amount of resources used. For example, coffee cups equate to around 2.5 percent of our waste stream – equivalent to 29 tonnes of waste per year. Disposable cups are an example of where we know that we can make an impact by safely promoting reusable alternatives in order to reduce the production of unnecessary single-use materials.

Finding alternative uses for products will be an important part of our circular economy commitment. It is also possible to design out waste altogether if waste implications are considered from the outset in any activity, or to repurpose or redirect them as resource inputs in the next supply chain.

Labs are a significant consumer of single-use materials and other resources. When dealing with research involving potentially hazardous materials, we have to prioritise safety. We are, however, looking at ways to use our expertise from our research, such as the leading Redefining Single-Use project from the Grantham Centre for Sustainable Futures, to overcome these obstacles and cut our plastics from labs and offices. The circular economy work within the Advanced Resource Efficiency Centre in our Energy Institute is also contributing to the development of an international standard on circular economy at the International Standards Organisation. We will work closely with lab managers and departments to help them to learn from this research, reduce their waste and become more efficient.

We are reviewing our office furniture disposal and investigating the ways in which products and materials can be designed for disassembly and reused.

Waste: Recycling and disposal

For those resources that we need to dispose of it is important that we do this safely and sustainably.

In 2016/17, 94.5 percent of our waste was recycled, composted or sent for energy recovery. Some materials such as radioactive waste (a by-product of University research) and asbestos are non-recyclable, so achieving 100 percent recycling rates is not currently possible.

We do still have room to improve on our recycling rates. Despite a concerted information campaign, user recycling rates (bins in offices and on campus) remain at around 30 percent. A waste analysis conducted in 2019 shows us that almost 27 percent of our general waste was made up of recyclable material. We will draw on behavioural research and work on clear messaging to improve these rates.

We are committed to remaining in line with best practice in waste disposal. Research on government priorities as well as industry-wide best practice solutions is already underway. We always seek to learn and bring together these solutions in our holistic approach to sustainability.

The end of term is often a challenging time for waste services in the city, as thousands of students move home. Our End of Term Clear Out scheme with other city partners encourages students to donate unwanted items and helps to ensure waste is recycled or disposed of responsibly. We will grow this campaign and foster a culture on- and off-campus that minimises waste by making donating and reusing items the norm, all year round.

Waste: Food waste

Despite streaming at source, food waste is still an issue upon which we can improve. Food waste accounts for approximately 12.5 percent, or 144 tonnes, of waste per year.

In tackling this we will examine what infrastructure or processes we need to put in place to eliminate unnecessary food waste.

Our staff and students have led the way in reusing and redistributing food for a socially useful purpose. Through the Green Impact scheme, community fridges have been opened at our Endcliffe and Ranmoor students villages for students and local residents to use. We are proud of the student Save our Sandwiches campaign which redistributes unused food from cafes and outlets across campus to local food charities and homeless shelters. We will support these initiatives and provide the supporting infrastructure so that food is donated year round to those who need it.

Our place in the city region

The University of Sheffield is a transformative organisation in the city region.

Our commitments:

- Apply our knowledge and research to sustainability challenges within the region, to provide a unique contribution to a post Covid-19 green recovery
- Strengthen relationships between the University, public bodies, businesses and voluntary sector organisations to build collaborative capacity to address sustainability challenges
- Enhance understanding of our activity by engaging with staff and students through our public engagement programme of events
- Engage with local communities to find compromise and overcome shared local challenges

The University of Sheffield is a transformative organisation in the city region.

The passion and expertise of our students and staff makes the city a more vibrant and prosperous place to live. We want to use our knowledge, research and enthusiasm to help support the region through its transition to a more sustainable future.

Working with the city region

The University's role as a driver of sustainable development in the Sheffield City Region, including Barnsley, Doncaster and Rotherham, is now even more crucial in a post-pandemic green economic recovery.

We will use our academic and professional expertise to support the Sheffield City Region Local Enterprise Partnership to deliver its Net Zero (NZ) Framework. We will collaborate with local private, public and voluntary sector organisations to tackle sustainability challenges. Sustainability will become a key theme of many of our cultural events, including Festival of the Mind.

The University is committed to its civic values, and partners with many city and regional bodies as part of its commitment to being a civic University. We will clarify responsibilities to make it easy for the University's staff and students to engage with organisations across the region in a clear and strategic way to ensure maximum impact, while simultaneously helping local organisations to better engage with us.

We are determined to use the expertise and innovation of our staff and students to promote a sustainable and prosperous future for the Sheffield City Region.

Community relations

Thousands of University staff and students live in our local communities – supporting the businesses, social cohesion and cultural vibrancy that make Sheffield's neighbourhoods unique.

We are committed to creating sustainable local communities and ensuring the University and its students coexist harmoniously with our neighbours.

The University is a major source of development activity in the Sheffield City Region, and this can impact on local communities. We will always go above and beyond the necessary minimum to try to find solutions and compromises to challenges surrounding our developments. We will be open and transparent about why and when we need to carry out work that might impact on local people and mitigate this wherever possible.

We want our campus to be open and welcoming to everyone. Wherever possible, we will incorporate elements into our estate to benefit local people, such as safer cycling and walking routes, public cafes, improved public realm infrastructure and greener, more biodiverse planting.

We know that students and permanent residents living side by side is not always harmonious, with waste management and anti-social noise being issues that cause friction. We will continue to work proactively with the City Council to help students manage their waste effectively, particularly at the end of term, and ensure students move into private housing understanding how waste in Sheffield is sorted and collected. We are committed to operating our 24/7 security helpline, available to support residents with issues relating to noise and anti-social behaviour.