

Environmental and Social Sustainability Framework 2024-2029

1. INTRODUCTION

1.1 Purpose and scope

Keele University has had a long-standing commitment to promoting “sustainability in all that we do”. This framework sets out the context, governance structure, guiding principles and overarching commitments, to support and enable Keele University to continue its [sustainability journey](#) and accelerate action through the period 2024-2029, to embed and inspire sustainability within and through the University’s;

- Leadership & Governance
- Campus & Operations
- Learning, Teaching & Research
- Partnership & Engagement,

It outlines six focus areas, as shown in Figure 1, to collectively inform and advance sustainable development within Keele University and far beyond. These themes are derived from a consideration of [transformative entry points for achievement of the United Nations Sustainable Development Goals \(UN SDGs\)](#), while ensuring all aspects of Keele University are encompassed in a manner that ensures effective collaboration and action, thereby respecting the interconnections of the goals through Keele University’s established approach to interdisciplinarity.

The six focus areas form the foundations of an overarching ‘SDG Impact Committee’ (SDG as an acronym for Sustainable Development Goals) and sub-groups. This approach is intended to create and/or facilitate the mechanisms and processes required for decision-making, sharing information, planning and managing action, assessing, reporting and reviewing progress, to fully embed sustainability in all areas of the institution with collective responsibility and shared ambition. This will be a key enabler to support the University to track and meet institutional targets and KPIs, and to build upon its significant reputation as a leader in sustainability over this 5-year period.



Figure 1. Keele University Sustainability Framework Model

1.2 Background and Overview

Keele University is the UK's largest integrated campus university, occupying a 617-acre estate with over 12,500 students. The campus community includes circa 3,000 students living in Halls of Residence as well as over 180 staff residential properties, two 19th century Grade II listed buildings, extensive woodland and lakes and a large Science and Innovation Park within the Keele Growth Corridor University Enterprise Zone. The University plays a major role in the regional economy, contributing over £0.5bn and supporting the direct and indirect employment of over 7,000 people.

Keele University was founded 75 years ago to prepare students for an uncertain, post-war world and to support wider society through research in partnership with others. Keele University has a core mission to provide world-leading research and education, and is built upon beliefs in;

- the transformative capacity of a university education for individuals, communities and society;
- the importance of advancing knowledge through independent, high-quality research and academic enquiry;
- the critical role of education and research in transcending national and social boundaries;
- leadership in environmental sustainability as a critical behaviour to secure a sustainable future;
- valuing and celebrating the rights, responsibilities, dignity, health and wellbeing of individuals through a living commitment to equality, diversity and inclusion.

Purpose - Keele University

Keele University has carried out world-leading research in environmental sustainability themes, such as Clean Technology, for several decades. Indeed, being a beacon for environmental sustainability has been part of Keele's identity and sense of purpose for over 15 years, evidenced by myriad activity, research and projects with significant positive outcomes for the University and beyond ([Our sustainability journey - Keele University](#)). In 2015, Keele University committed to promoting "sustainability in all that we do" as one of six strategic aims, and action taken upon this commitment led to the prestigious award of "Global Sustainability Institution of the Year" by the International Green Gown Awards in 2021, in recognition of Keele's strong institutional-level commitment to sustainability across campus operations, education, research, staff and student community and wider external engagement. In 2024, Keele was one of fifteen initial signatories of the Concordat for the Environmental Sustainability of Research and Innovation Practice, representing a shared ambition to continue delivering leading research but in a more environmentally responsible way.

At the core of Keele University's mission is the vision for a more sustainable world, by adopting the [United Nations Sustainable Development Goals](#) (UN SDGs) (Figure 2)- a 'universal call to action' announced in 2015 with the aim of "ending poverty, protecting the planet and ensuring that peace and prosperity is enjoyed by all by 2030" (United Nations, 2015). In 2014, Keele University implemented an Education for Sustainable Development Strategy, and an Institute for Sustainable Futures was launched in October 2018 to drive interdisciplinary research with six challenge themes addressing all 17 SDG goals. Keele University has shown commitment to contributing towards the SDGs through research, teaching and campus operations, which has been recognised by consistently high rankings in the [Times Higher Education Impact rankings](#).



Figure 2 United Nations Sustainable Development Goals (Source: [SDGs \(un.org\)](#))

The interconnections of the 17 goals have been represented in various diagrammatic forms, but perhaps most usefully by the 'SDGs wedding cake' (Figure 3), which depicts the three dimensions of sustainable development- social, economic and environmental (often simply represented as a Venn Diagram of equal overlapping circles) as tiers, with economy embedded within society, embedded within the biosphere. The foundational biosphere system includes the environmental SDGs of climate action, life on land and in water, and clean water and sanitation; the integrity of which are fundamental to supporting a healthy society, which in turn is critical for a functioning economic system.

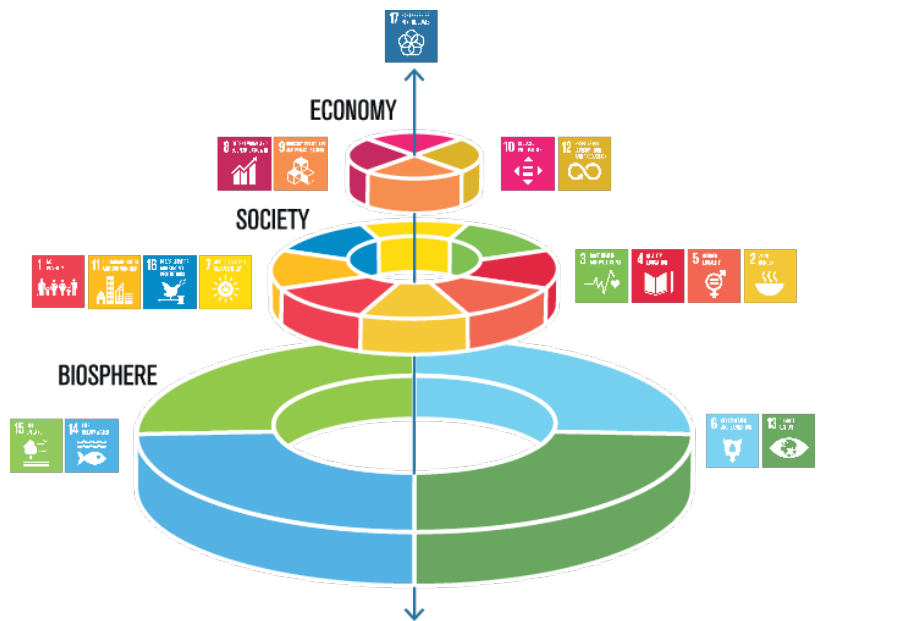


Figure 3. SDGs 'Wedding cake' (Source: [Stockholm Resilience Centre](#))

It is known that the ecological stability of Earth's Holocene epoch (believed to have begun approximately 11,700 years ago) is being severely threatened by human impact. The [planetary boundaries concept](#) (Figure 4) is a framework, first proposed in 2009, to describe limits of nine critical processes that regulate the stability and resilience of the Earth system, beyond which it would leave the Holocene-like state which allows humanity to develop and thrive. The boundaries are interrelated processes within the complex biophysical Earth system, and together mark a critical threshold for the foundations of sustainable development.

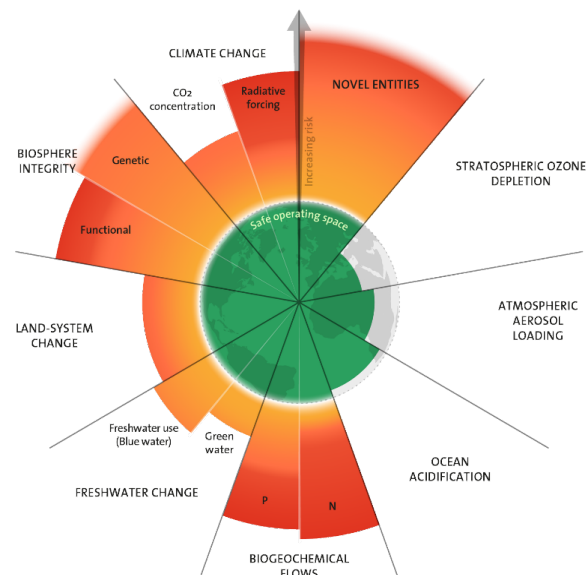


Figure 4. Planetary boundaries framework, first developed in 2009, shown here as updated in 2023 (Source: [Planetary boundaries - Stockholm Resilience Centre](#))

This concept of a 'safe operating space' for Earth's stability and resilience, providing the foundation of socioeconomic sustainability, was further developed in a '[doughnut economic](#)' visual framework for sustainable development, as a

‘safe and just space for humanity’ between an ecological ceiling and social foundation (Figure 5). The ‘doughnut’ brings the complementary concepts of the UN SDGs and planetary boundaries together, providing a useful framework for holistic sustainability and sustainable development.

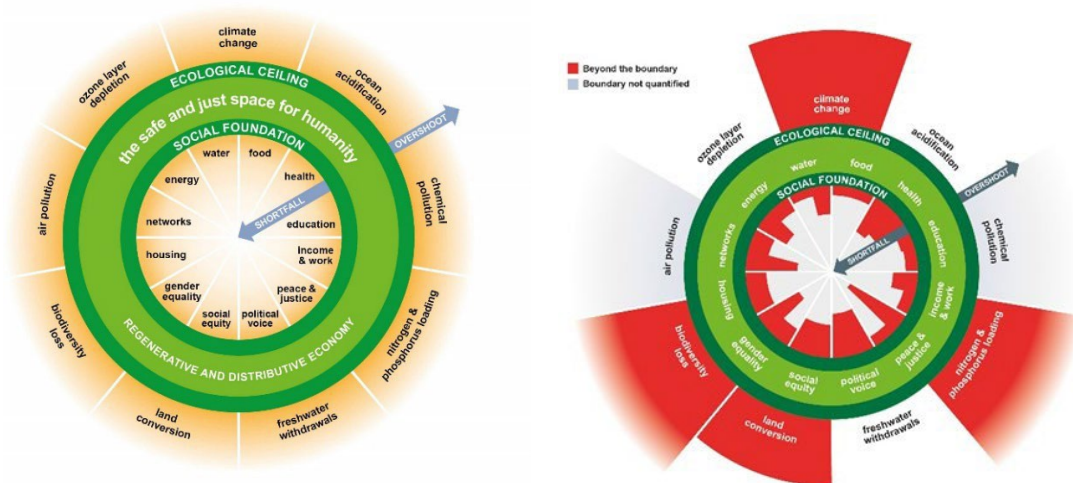


Figure 5. The Doughnut of social and planetary boundaries, and b. with representation of overshoots and shortfalls

Two of the planetary boundaries- climate change and biosphere integrity- are recognized as ‘core’ boundaries based on their fundamental importance for regulation of the Earth system (Steffen et al., 2015), and the strength of evidence of the anthropogenic effect of increasing temperature of the Earth’s surface, and likely implications, highlights the urgency and scale of required climate action. In recognition of this, in May 2019 Keele University Council was amongst the first Higher Education Institutions to declare a climate emergency and committed to a stretching target of reaching carbon neutrality by the year 2030. Demonstrating sincerity of this pledge, in 2021, the University realized its ambition of creating an expansive on-site Low Carbon Energy Generation Park (LCEG), comprising two wind turbines and 12,500 solar panels, collectively generating over 6 GWh of electricity from renewable resources annually. In combination with a 1 MW battery and Europe’s largest Smart Energy Network Demonstrator (SEND) to increase agility of matching on-site energy supply and demand, as well as investment in initiatives to reduce overall campus energy demand, this has resulted in a greater than 25 % decrease in carbon emissions associated with electricity consumption since commencement of operation. Reflecting Keele University’s understanding of the multi-faceted nature of sustainable development, and commitment to using the campus as a living laboratory, the LCEG and SEND have been used as a springboard for extensive research, education and community engagement and supported almost 300 SMEs, thereby demonstrating far-reaching impact beyond their intrinsic technological value. The University runs two Climate Change Skills Bootcamps, awarded Outstanding by Ofsted, to enable external organisations to enhance their knowledge and preparation for net-zero and smart energy transition. To date¹, 140 individuals from over 100 organisations have completed these bootcamps.

¹ As of July 2024

While proud of such notable achievements and their significant ripple effects, Keele University is all too aware of the scale and speed of continued action that is required, and the evolving knowledge and implications of scientific evidence. In September 2023, all nine processes of the planetary boundaries were quantified for the first time (Richardson *et al.*, 2023), with the conclusion that six have been transgressed. In the same year, the UN published a [special edition of their annual SDG Progress Report](#) ‘halfway to the deadline for the 2030 Agenda’, in which they lamented the triple crises of climate change, biodiversity loss and pollution, and the social inequalities compounded by the COVID-19 pandemic, financial markets and political events.

It is increasingly becoming certain that following business-as-usual practices, and operating within existing economic models and structures, will have irreversible, catastrophic consequences for humankind and all other species supported by the Earth’s biosphere- causing major economic and societal disruption and devastation. Evolving scientific evidence and modelling indicates that focus on human-induced climate change in isolation is insufficient for protection of the Earth System from irreversible destabilisation (Richardson *et al.*, 2023). The role of biosphere integrity as the “second pillar of stability of our planet” and the requirement for “mitigating global warming and saving a functional biosphere for the future to go hand in hand” is becoming clearer (Lucht, 2023).

Keele University is therefore committed to ensuring that its actions, operations and strategies are aligned and promote progress along a pathway to true sustainability and sustainable development, respecting the deep interconnections of the UN Sustainable Development Goals, and pivotal role of climate action and biosphere protection in realising this shared vision. In 2024, Keele University affirmed its commitment to the UN Sustainable Development Goals by becoming a member of the [UN Sustainable Development Solutions Network](#) (UN SDSN), and reframing its sustainability strategy and governance structure around the SDGs, as outlined in Section 2.

2. FRAMEWORK

2.1 Context, Guiding Principles and Commitments

Keele University is committed to following, and contributing to, scientific evidence to understand how individual, organisational, national, and global action should be taken to combat destabilising anthropogenic effects on Earth systems and enhance progression of the United Nations Sustainable Development Goals. Based on current understanding, and notwithstanding current macro-environmental and sector challenges, our overarching institutional-level commitment is to plan, act and review in accordance with legislation and guidance for best-practice³ in regard to;

1. Meeting goals and associated targets of the [17 UN Sustainable Development Goals](#); fulfilling obligations as a signatory of the [SDG Accord](#) and a member of the UN SDSN.
2. Limiting the increase in Earth’s average surface temperature, by 2100 compared with pre- industrial levels, to 1.5 °C, necessitating net zero carbon dioxide emissions globally by the early 2050s; fulfilling obligations as a signatory of the [Race to Zero for Universities & Colleges](#) and [Concordat for the Environmental Sustainability of](#)

[Research and Innovation Practice.](#)

3. Halting and reversing biodiversity loss on land and in the ocean; fulfilling obligations of our [Nature Positive Pledge](#).
4. Contributing to increased understanding of Earth System science and the systemic and technical solutions that are required to protect, recover and rebuild resilience, and enhance prosperity and equity for all within a 'safe and just space for humanity'; examining our business model and decisions against the [five aspects](#) of organisational design and [ten principles of the UN Global Compact](#), to ensure we advocate for a business model of operation that ensure social justice and ecological safety.
5. Being accurate, transparent, accountable, collaborative, and proactive in sharing knowledge and building effective partnerships.

These guiding principles and associated pledges will be monitored and refined in line with emerging evidence, guidance, and legislation. Action upon these principles and commitments will be decided, delivered and reviewed by the SDG Impact Committee and associated sub-groups displayed in Figure 1 and further outlined below.

2.2 Structure, Implementation and Governance


















The above commitments and pledges have been made with a solemn awareness of the increasing urgency and scale of action required in the face of planetary and humanitarian crises. Their fulfilment is dependent on collective intention and effective mechanisms for collaboration and cooperation across the entire institution. An SDG Impact Committee has therefore been set up to oversee the creation and delivery of a detailed sustainability strategy and trackable plan, jointly managed by the relevant sub-groups shown in Table 1. It is intended that these sub-groups will provide cross-disciplinary² forums for debate, discussion and agreement of immediate, short-term and long-term priorities, and associated aims and objectives, to fulfil the guiding principles and commitments of Keele University's sustainability agenda, with ongoing cycles of planning, action and review.

For some areas within this overall SDG Impact Plan, targets and objectives, and processes for monitoring, review and reporting are already well-established, e.g. the University-wide Equity, Diversity & Inclusion Strategy and Action Plan, which is managed by an existing committee. Where this is the case, duplication of efforts and resources has been avoided as far as possible. For other areas, such as Natural Environment, Maintenance, Restoration & Development and Responsible Consumption and Waste Management, groups have been formed which will meet regularly to develop and manage new strategies and action plans. For example, the emerging nature of guidance and legislation with regards to nature recovery and Biodiversity Net Gain has potential to create conflicting agendas and is therefore likely to require a forum for debate and discussion. Regardless of how these SDG Impact sub-groups 'run on the ground', implementation and progress against metrics and indicators associated with all areas relating to the SDG Impact Strategy and Plan will be monitored and reported to the overarching SDG Impact Committee on a 6 monthly

² All groups will include representation from Professional Services, Academic faculties and Student body of Keele University
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basis.

Table 1 SDG Impact Committee and associated sub-groups

GROUP/ SUB-GROUP	PRINCIPAL SUSTAINABLE DEVELOPMENT GOALS*			LEADS**
SDG IMPACT COMMITTEE	17 PARTNERSHIPS FOR THE GOALS 			Deputy Vice-Chancellor; PVC International
Sub-groups				
SUSTAINABLE OPERATIONAL STRATEGY & PLANNING	7 AFFORDABLE AND CLEAN ENERGY 	13 CLIMATE ACTION 	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	Chief Operating Officer; Head of Net Zero Delivery & Sustainability
RESPONSIBLE PRODUCTION, CONSUMPTION AND WASTE MANAGEMENT	2 ZERO HUNGER 	6 CLEAN WATER AND SANITATION 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Deputy Director of Estates Services and Campus Services; Head of Net Zero Delivery & Sustainability
NATURAL ENVIRONMENT MAINTENANCE, RESTORATION & DEVELOPMENT	14 LIFE BELOW WATER 	15 LIFE ON LAND 		Professor of Sustainability in Higher Education, School of Life Sciences; Head of Capital Planning and Programme Delivery
EDUCATION & RESEARCH FOR SUSTAINABLE DEVELOPMENT	4 QUALITY EDUCATION 			PVC Education; PVC Research & Innovation
STAFF & STUDENT EQUITY, DIVERSITY & INCLUSION, HEALTH & WELLBEING,	1 NO POVERTY 	5 GENDER EQUALITY 	8 DECENT WORK AND ECONOMIC GROWTH 	Associate Director of EDI; Head of Student Accessibility & Inclusion
	10 REDUCED INEQUALITIES 			
SDG COMMUNICATIONS, ENGAGEMENT & PARTNERSHIPS	3 GOOD HEALTH AND WELL-BEING 	11 SUSTAINABLE CITIES AND COMMUNITIES 	17 PARTNERSHIPS FOR THE GOALS 	Head of Corporate Communications and Marketing; Director of Engagement & Partnerships

*All sub-groups will contribute to several other SDGs- for example aims & objectives of Education & Research for Sustainable Development will contribute to all 17 SDGs

**SDG Impact Committee and sub-groups include representation from academic services, professional services and student body.

The SDG Impact Committee will have overall responsibility for fulfilling obligations as a signatory of the SDG Accord and member of the UN SDSN member, as well as overseeing timely submission of evidence to the Times Higher Education Impact rankings and QS Sustainability rankings, and producing an annual sustainability report. This annual report will cover activity, progress and outlook across all areas relating to the Sustainable Development Goals and will be produced and presented to Senate and Council and made publicly available on the University's website.

Further details of the SDG Impact Committee and associated sub-groups, sustainability themes and pledges can be found [here](#).

3. RELATED POLICIES AND PROCEEDURES

[Access and Participation Plan](#)
[Adoption Leave and Pay Policy & Procedure](#)
[Bullying, Harassment and Victimisation- Policy Statement for Students](#)
[Carbon Accounting, Reporting and Management Code of Practice](#)
[Dignity and Respect Policy & Procedure .docx](#)
[Equity, Diversity and Inclusion Strategy and objectives](#)
[Ethical Investment Code of Practice](#)
[Exceptional Circumstances Code of Practice](#)
[Fixed Term Working Policy and Procedure](#)
[Gender Segregation Joint Code of Practice](#)
[Health and Safety Policy](#)
[Inclusive Education Framework](#)
[Learning and teaching strategy](#)
[Maternity Leave and Pay Policy and Procedure](#)
[Menopause Support for Staff and Students Code of Practice](#)
[Modern Slavery Statement](#)
[Parental Leave Policy](#)
[Paternity Partner Leave and Pay Policy](#)
[Reasonable Adjustments for Disabled Students Policy](#)
[Recruitment and Selection Code of Practice](#)
[Responsible Procurement Strategy](#)
[Sexual Violence & Misconduct Policy for Staff & Students](#)
[Shared Parental Leave and Pay Policy and Procedure](#)
[Support to Study Policy](#)
[Sustainability in Food Code of Practice](#)

4. REVIEW, APPROVAL & PUBLICATION

This sustainability framework will be reviewed/updated at least annually by the Head of Net Zero Delivery & Sustainability in consultation with the SDG Impact Committee, and Section 3- Related Policies and Plans will be updated accordingly.

5. REFERENCES

Lucht, W. (2023) quoted within University of Copenhagen **"Six of nine planetary boundaries now exceeded"** Available at: [Six of nine planetary boundaries now exceeded \(phys.org\)](#) (Accessed 10.07.2024)

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Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). **Planetary boundaries: Guiding human development on a changing planet**. *Science*, 347(6223), 736–736. <http://www.jstor.org/stable/24746123>

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6. DOCUMENT CONTROL INFORMATION

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