A Concordat for the Environmental Sustainability of Research and Innovation Practice

(CONSULTATION DRAFT V4.4)

Introduction

We are living in a period of unprecedented environmental change and increasing societal pressure to take meaningful climate action. The Intergovernmental Panel on Climate Change (IPCC)[1] have reported the extent to which we are already seeing the impacts of climate change today across the globe. The UN Environment programme[2] has highlighted that over a million species are threatened by extinction and many ecosystems are at risk of collapse. The climate science is clear that human activity is unequivocally changing the environment and our climate and that this will have a significant impact on human lives, the economy, and the natural world. Our science also tells us we need to act now – to set a series of measures in place over the next 5 to 10 years – to address the environmental sustainability challenges we face, including deep, rapid, and sustained reductions in greenhouse gas emissions[3] to address climate change as well as actions to address unsustainable resource consumption and biodiversity loss.

In 2019 the UK became the first major economy in the world to legislate on net zero carbon[4] targets with that legislation setting a binding target for the UK to reach net zero emissions by 2050[5].The national statutory targets in Scotland go further still with the Scottish Government Climate Change Acts[6] including targets to reach 75% emissions reductions by 2030 and net zero by 2045.

Research and innovation (R&I) is key to both understanding the impact climate change and biodiversity loss is having on our planet and how to solve these challenges. The UK R&I sector have been leaders in this and are well placed to lead the way in making R&I environmentally sustainable, alongside providing the R&I needed to help other sectors and wider society make this much needed transition. Looking ahead, we will only achieve our net zero targets if the R&I sector continues to offer intelligence, insight and innovative solutions to shift our society to an environmentally sustainable way of living. By signing this concordat, we recognise the need to change how we conduct research and innovation as well as promote wider solutions. We agree to take action now and into the future to reduce and eliminate our own environmental impacts and emissions and achieve the transition to sustainable practices. This concordat has been produced in collaboration with representatives across the research and innovation sector as we must work together to deliver our shared sector-wide ambition.

[1] 'Working Group I Contribution to the IPCC 6th Assessment Report, Climate Change 2021: The Physical Science Basis', https://www.ipcc.ch/report/ar6/wg1/#SPM
[2] UNEP World Environment Situation Room https://wesr.unep.org/article/biodiversity-and-nature-loss
[3] AR6 Synthesis Report: Climate Change 2023 https://www.ipcc.ch/report/ar6/syr/
[4] "Carbon" is used as shorthand throughout the document to refer to all greenhouse gases.
[5] UK Government Net Zero Strategy: Build Back Greener 2021 net-zero-strategy-beis.pdf
[6] The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, The 2009 Climate Change (Scotland) Act and The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020

What this concordat will achieve

Signatories agree to work individual and collectively to ensure the future design and practice of UK research and innovation is environmentally sustainability. By 2050 (or 2045 in Scotland) our sector will have in place:

- Visible and credible leadership for sustainability at all levels within institutions and across the R&I sector - from organisational leaders to individual researchers and from those funding the ideas to those delivering impact.

- Research and innovation that is carried out in the most sustainable way possible, aligned to the science of climate change and ecology, and transparent about its environmental impacts and open to collaboration and shared learning.

- New ways of working so that institutions and researchers continue to achieve a global reach and deliver world-leading impact in R&I using a climate conscious, low carbon approach, taking advantage of new ideas and new technologies.

- A majority of net zero or near-net zero infrastructure used for R&I (with scientifically robust carbon sequestration used where absolute zero is not possible).

- Robust decisions made in resourcing R&I projects and that data based on circular economy principles and whole life costing, with the need for responsible sourcing demanded all through supply chains.

- A shift to use of reusable products and innovative developments in single use materials and to have reduced the use of fossil fuel-based products being used and disposed of by those carrying out R&I to only those areas where there is no viable alternative.

By achieving these aims, the UK will retain its global influence in R&I, continuing and enhancing the strong partnerships and collaborations that exist and aim to inspire organisations, researchers and innovators around the world to follow in the UK's footsteps in how we conduct R&I in an environmentally responsible way.

Scope

This concordat covers all aspects of environmental sustainability (including but not limited to carbon emissions). By environmental sustainability we mean ensuring our interactions with the environment avoid depletion or degradation of natural resources, reduce or eradiate our greenhouse gas emissions and allow for long-term environmental quality; ensuring that the needs of today's population are met without compromising future generation's ability to meet their needs.

The principles of the concordat have been designed to complement other related policy areas such as the UN-SDGs[7], Equality, Diversity and Inclusion (EDI), Health and Safety, modern slavery and research ethics.

'We', as used in this document, refers to everyone involved in research or innovation activities within the organisations who are signatories to the concordat. This includes, but is not limited to

[7] United Nations Sustainable Development Goals https://sdgs.un.org/goals

Higher Education Institutions, independent research organisations and organisations funding research and innovation.

This Concordat has been written in recognition that we must deliver our shared aims in a way that avoids unnecessary bureaucracy.[8] Key to this will be signatories adhering to the agreed delivery mechanisms and reporting is meaningful and streamlined within existing institutional structures.

This concordat recognises the inter-linkages between research and innovation, teaching and other aspects of higher education and vocational training, including how we run our campuses, infrastructure and estates. We ask signatories to report robust and consistent aggregate data that includes research and innovation activities with other activities, providing a coherent overall picture of impact.

Additionally, this concordat recognises that many HEIs, Research Organisations and funders work with businesses, nationally and locally to deliver R&I activities. This concordat includes, again, in a holistic way, these partnerships, as it does partnerships with wider community organisations.

Priority areas for delivery

Signatories to this concordat agree to the following seven (7) areas where we commit to taking action at the institutional level and collectively across our sector to deliver real change by 2050:

1. Leadership and system change

We will show leadership, ambition and deliver on the part we must play in addressing environmental sustainability, including the UK reaching net zero by 2050 (and Scotland by 2045); in doing that we commit to ensuring research and innovation that we undertake or fund is practiced in a sustainable way. We will ensure environmental sustainability is embedded into our strategies and referenced in relevant research and innovation policies. We commit to supporting and encouraging a holistic sector-wide culture change that will enable and empower all parts of the system at different levels to increasingly embed environmental sustainability into research and innovation practice. We will regularly highlight and share examples of best practice and our learning experiences to support continuous improvement and to help others who are at an earlier stage in exploring solutions.

2. Sustainable infrastructure

Recognising the significant lifetime and environmental impact of buildings and large equipment; we commit to ensuring the research and innovation infrastructure that we create, provide or fund aligns to our organisational net zero goals and will assist the sector reach net zero by 2050. We will maximise use of existing infrastructure where possible. We will also address the operation of new and existing infrastructure, including digital infrastructure, to ensure researchers and innovators are enabled and encouraged to plan and carry out their activities in an environmentally sustainable manner, for now and allowing for adaptation to future climates.

3. Sustainable procurement

[8] Independent Review of Research Bureaucracy (July 2022) - GOV.UK (www.gov.uk)

We will ensure that the procurement decisions which are made in relation to all the research and innovation activities we undertake or fund will increasingly prioritise consideration for wider environmental impacts including lower carbon emissions. Through our approach to procurement, we will encourage the shift to a circular economy. We will reflect our commitment to this principle by ensuring that the role of sustainable procurement decisions in research and innovation practice is included in our organisation's strategies and policies.

4. Emissions from business and academic travel

For research and innovation to have global reach and benefit we recognise that we must address carbon emissions associated with travel. We commit to increasing opportunities to connect to each other virtually and to adapt to carrying out more research and innovation activities virtually where possible, so the need for travel is reduced. Where travel is deemed essential in the context of the initiative we will actively seek to travel less frequently, consider hybrid options for those travelling from further afield and prioritise and accommodate low carbon modes of travel (while also ensuring inclusivity and being mindful of the needs of attendees).

5. Collaborations and partnerships

We understand the leadership role we must play when collaborating with the partners to carrying out research and innovation, both in the UK and internationally. We will advocate for greater consideration of environmental sustainability in the research and innovation activities we co-produce or collaboratively undertake or fund. We will encourage greater sharing where we find solutions to lower carbon emissions or other environmental challenges associated with our research and innovation activities.

6. Environmental impact and reporting data

The above priorities generate positive environmental impact through effective delivery. We agree to providing transparent and consistent reporting to deliver this change.

Signatories agree that:

a) At an institutional level we will report headline environmental performance and data on an annual basis on our website. The scope of reporting will include the research and innovation endeavours that we undertake and/ or we fund. Minimum reporting requirements are set out in annex 1

b) We will collect and report environmental data using standardised reporting frameworks and mechanisms, so we don't duplicate effort.

c) We recognise that for our organisation to reach net zero, we may need to offset a proportion of carbon emissions in future, we will work collaboratively with other concordat signatories to agree acceptable standards for genuine permanent carbon offsetting. We will report any carbon offset as part of our environmental reporting.

d) We recognise that the cumulative effect of all signatories reporting across the sector will also contribute to overall concordat delivery and impact.

7. Delivery of the concordat

Good practice guidance can be found in annex 1. The guidance sets out the different responsibilities across the research and innovation sector to assist everyone play their role in embedding environmental sustainability into research and innovation practice.

Signatories agree that:

a) At a strategic level we will provide a public commitment to the Concordat including how our organisation will deliver its shared aims by publishing a letter endorsed by the head of the organisation on our website within 6 months of becoming a signatory.

b) We will ensure that we include reference to the Concordat and its commitments in at least one appropriate organisational strategy/policy document to assist joined up implementation.

c) We will use our organisation's existing internal processes (or where necessary set up new procedures) and publish annual review of our progress on the commitments of the Concordat along with priority actions for the year ahead.

d) We will nominate an appropriate board member or senior leader within our organisation to be responsible for signing off our annual review and forward plan, challenging progress if necessary.

Organisations can show their support for the concordat at two levels: as a signatory or as a supporter. Signatory organisations agree to all 7 priority areas outlined in this concordat and will follow the guidance (annex 1) in considering how they will deliver against the concordat. Supporters of the concordat agree with the aims and many of the priority areas included in the concordat, however they are not able to commit to being a full signatory at this time. Supporters are able to become signatories at any time, as and when they can agree to the commitments in the concordat.

Annex 1: Good practice guidance notes on concordat delivery

UKRI, on behalf of all Concordat signatories, will convene task and finish groups, focusing on areas where there is agreement that cross-sector coordination will assist faster progress. Outcomes of these groups could be to develop appropriate tools, mechanisms and guidance and/ or to agree common definitions, common minimum standards and shared reporting principles.

UKRI will host the concordat online for the sector along with signposting to appropriate guidance and frameworks and will publish a list of verified signatories and supporters.

UKRI will manage an agreement with an external organisation to run the concordat sign-up process and maintain the list of signatories and supporters.

Reporting overall progress of the concordat

To measure collective progress, UKRI will arrange for an initial review in 2024 to capture the current landscape of environmental sustainability in UK research and innovation practice.

A sector-wide 5-year review of impact and a concordat review will be commissioned by UKRI (from 2029) to allow us to collectively understand progress and ensure delivery. We recognise the need for continuous improvement and, after five (5) years of operation will review the wording of the concordat priorities and guidance to ensure they reflect the current landscape, appetite for change and capabilities of the sector. If needed to ensure delivery, audit-style checks on organisations could be introduced across the sector carried out by a third-party organisation using a sampling methodology to inform a report of findings and include recommendations going forwards.

Guidance on roles and responsibilities in delivering the concordat

This section provides guidance on the delivery of each of the priority areas to recognise the different roles and responsibilities of researchers/innovators, their employers, and funders of research. By providing a breakdown of the different responsibilities, we wish to help signatories and supporters understand the different roles we all must play in embedding environmental sustainability into research and innovation practice across the sector.

1. Leadership and system change

a. **Employers of researchers and innovators should:**
   - at a leadership team level, ensure that the organisation's strategic ambition to increase the environmental sustainability of all research and innovation practice is specifically addressed and published as part of the organisation's environmental sustainability commitments.
   - at managements levels ensure that the organisation's sustainability ambitions are effectively embedded into strategic decision-making processes.
   - Take action to empower and enable ownership and leadership of the issues to be exercised at all levels.

- put in place mechanisms to capture and publicly report progress against the commitments and to maintain and develop the concordat.
- regularly look for opportunities to implement, reward, and share ideas and good practice inside and outside their organisation.

b. **Researchers, innovators and professionals supporting research should:**
   - show leadership in their work/field by designing, carrying out and disseminating research and innovation in an environmentally sustainable manner that reflects the commitments and expectations of both their host organisation and their funder(s)
   - actively encourage those they collaborate and communicate with to do the same as above.
   - seek opportunities to develop, implement, and share ideas and good practice

c. **Funders of research should:**
   - show leadership by establishing and communicating expectations to increase the environmental sustainability of the research and innovation activities they fund.
   - recognise differing responsibilities, at an organisation level and grant applicant level in the expectations that are set (as outlined above).
   - ensure their funding policies and terms and conditions are progressively updated to reflect the principles of this concordat.
   - encourage those who they fund to share research and innovation outcomes and good practice where it addresses or solves environmental sustainability challenges of how research and innovation is practiced.

2. Sustainable infrastructure

a. **Employers of researchers and innovators should:**
   - commit to creating and publishing strategic commitments that will ensure both new and existing infrastructure is aligned to the organisation's net zero pathway.
   - adopt best practice wherever infrastructure is being updated or designed/scoped, to ensure researchers and innovators that use the infrastructure can carry out their activities in an environmentally sustainable way (now and in the future).
   - Seek and follow accredited environmental sustainability standards for construction/manufacture and for efficient operation and decommissioning, where possible.

b. **Researchers and innovators should:**
   - design and carry out research and innovation endeavours in a way that optimises the sustainable operation or efficiency of building and equipment infrastructure.
   - consider leasing/sharing infrastructure and existing equipment from within the organisation or from other parts of the research and innovation sector prior to making new investments.

a. **Funders of research and innovation should:**
   - ensure decision making processes seek high standards of environmental sustainability in the research and innovation infrastructure they fund from procurement to end-of-life.
   - Design building infrastructure to take into consideration future climate adaptation and resilience.

- recognise in funding policies and when reviewing business cases that the UK government "value for money[9]" definition accounts for making more environmentally sustainable decisions, which may come at a higher initial cost.

3. Sustainable procurement

a. **Employers of researchers and innovators should:**
   - establish and communicate sustainable procurement policy and guidance and budgets/decisions that prioritise more environmentally sustainable options being purchased
   - consider equipment sharing/leasing.
   - seek opportunities to influence procurement decisions in organisation-wide procurement activities, in large research and innovation infrastructure projects, to encourage uptake of the principles of a circular economy and to influence key suppliers/supply chains.

b. **Researchers and innovators should:**
   - increasingly seek to ensure the design of research and innovation activities considers the environmental impact of the entire supply chain.
   - include environmental sustainability considerations in procurement decision making processes, including whole life cost analysis, where information is available.
   - should seek to prioritise environmentally sustainable options and to take into consideration the principles of a circular economy when making decisions (while ensuring procurement processes meet legal requirements).

c. **Funders of research and innovation should:**
   - ensure funding policies and guidance are updated to enable and encourage researchers and innovators to take procurement decisions that allow more environmentally sustainable purchases, advocate whole life costing calculations instead of only considering upfront costs and generally encourage the principles of a circular economy.
   - recognise in their funding decision making processes that "value for money"[10] considerations should account for making sustainable procurement decisions, which may come at a higher initial cost. We acknowledge that this can be complex and that funders may approach this in different ways; we will share learning over time with each other in this area.

4. Emissions from business and academic travel

a. **Employers of researchers and innovators should:**

[9] As outlined in guidance from HM Treasury's Green Book, updated 2022 https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent/the-green-book-2020.
[10] See footnote 13.

- commit to implementing and advocating an organisation-wide policy which addresses reducing travel required in a clear and measurable way that will, over a specified period, reduce environmental impacts, including carbon emissions.
- encourage the prioritisation of virtual or hybrid conferences, events and meetings which their organisation is involved in.

b. **Researchers and innovators should:**
   - increase opportunities to meet, collaborate, disseminate and adapt to carry out more research and innovation activities virtually or offering hybrid solutions.
   - prioritise setting up collaborations and leveraging existing local skills or if necessary, upskill others who are already located in the field where global fieldwork or research is required, rather than to travel out from the UK.
   - For travel which is deemed essential, actively seek to optimise journeys to require travel less often and will prioritise low carbon modes of travel.

c. **Funders of research and innovation should:**
   - encourage more virtual connections, hybrid meeting solutions and sustainable travel associated with the research and innovation activities they fund, being mindful of inclusion in how these decisions are made.
   - seek to hold a proportion of meetings virtually and offer hybrid meetings where they are tied to decision making or reviews of the research and innovation activities they fund. Alternative virtual or hybrid options should be considered when attendees would need to travel internationally to attend an in-person meeting. This could include meeting plans for panels, interviews and boards (ensuring that the inclusivity is considered, for example cybersecurity and connectivity capabilities of attendees, especially for international connections).

5. Collaborations and partnerships

a. **Employers of researchers and innovators should:**
   - encourage and enable researchers and innovators to seek opportunities to collaborate and partnerships to solve the challenges of delivering environmentally sustainable research and innovation.
   - through the organisation's strategic commitments, highlight the expectation for researchers and innovators to play their part in helping to work with and learn from the partners they collaborate
   - advocate for taking greater consideration for environmental sustainability in the research and innovation activities they undertake or fund.

b. **Researchers and innovators should:**
   - actively seek interdisciplinary and cross-sector partners to address the environmental sustainability challenges of how research and innovation is practiced.
   - play a key role in advocating for environmental sustainability to be considered in research and innovation practice across the UK and wider world through the existing and new collaborations and partnerships they are part of.

c. **Funders of research and innovation should:**
   - ensure funding polices allow and encourage interdisciplinary and cross-sector collaborations and partnerships to be created or maintained where they can help

solve environmental sustainability challenges associated with the research and innovation activities they undertake or fund.

6. Environmental impact and reporting

Minimum annual reporting requirements for all signatories is summarised below. Performance information or environmental data provided for HMT sustainability reporting or following the HE Standardised Carbon Emissions Reporting framework can be used to meet concordat requirements. Signatories are encouraged to integrate concordat reporting into existing organisational sustainability reporting.

We recognise that many actions are difficult to capture numerically, and that the concordat is designed to address environmental sustainability of research practice, not just carbon emissions. Therefore, in addition to data reporting, all types of organisations should also annually report on the following items:

a) A short commentary from the nominated senior leader on overall progress against the concordat commitments. This should include any organisational leadership highlights.
b) A narrative on environmental decisions or enhancements made in regard to infrastructure or infrastructure funding processes in the last year
c) A narrative on environmental decisions or enhancements made in regard to procurement processes in the last year
d) A narrative on actions taken to minimise the negative environmental impact of business and academic travel in the last year
e) A narrative on environmental actions or decisions made in relation to collaborative or partnership working in the last year.

The following guidance on reporting data is divided up into 3 areas: Higher Education Providers, independent Research Organisations and Funding Organisations.

6.1 Higher Education Providers

As a minimum, HE organisations should seek to publicly report the following on an annual basis:

- Total annual carbon emissions (CO¬2e) arising from your direct operations. Data split by scope 1 and scope 2[11].
- Scope 3 emissions, regardless of funding source, should also be reported where possible.
- Total annual carbon emissions offset (CO¬2e).

All Scope 1,2 and 3 carbon emissions data presented should align to GHG protocol methodology.

HE organisations following the Standardised Carbon Emissions Framework and reporting via JISC through the Estates Management Record (EMR) (and in future the environmental sustainability data reporting mechanisms designed to replace the EMR), would satisfy the reporting commitments of this concordat.

6.2 Independent Research & Innovation Organisations

As a minimum, Independent Research & Innovation organisations should seek to publicly report the following on an annual basis:

[11] Scope 1, 2 and 3 are internationally recognised standards created by the Greenhouse Gas Protocol to measure and manage emissions https://ghgprotocol.org/.

- Total annual carbon emissions (CO¬2e) arising from your direct operations. Data split by scope 1 and scope 2.
- Scope 3 emissions, regardless of funding source, should also be reported where possible.
- Total annual carbon emissions offset (CO¬2e).

All Scope 1,2 and 3 carbon emissions data presented to should align to GHG protocol methodology.

Organisations and Institutes carrying out research and innovation have previously not reported through one specific framework or reporting body. Reporting using the newly created reporting framework for Independent Research & Innovation Organisations would satisfy the reporting commitments of this concordat. [note for draft concordat; this new framework will be produced in collaboration with stakeholders in time for the concordat launching. It will be based on a combination of HM Treasury's reporting requirements for reporting environmental sustainability impacts under the Government's Greenhouse Gas Commitment and reporting guidance from the international Greenhouse Gas Protocol.] The new framework has been created in collaboration with Independent Research & Innovation Organisations and is tailored to the activities and impacts of these organisations.

6.3 Funding Organisations

As a minimum, Independent Research & Innovation organisations should seek to publicly report the following on an annual basis:

- Total annual carbon emissions (CO¬2e) arising from your direct operations. Data split by scope 1 and scope 2.
- The total actual or estimated scope 3 impact from your funded activities – annual carbon emissions (CO¬2e). Where figures are estimated please note this and explain the methodology used to estimate the figure.
- A narrative on actions taken to better understand your scope 3 emissions from your funded activities and certainty of current estimates (where applicable). We recognise that some data on the impact of R&I activities may not be easily gathered due to the complexity of organisations. This can be calculated on an apportioned basis, using headline data from the research and innovation community.
- Total annual carbon emissions offset (CO¬2e).

All Scope 1,2 and 3 carbon emissions data presented to should align to GHG protocol methodology.

Organisations which fund research and innovation have previously not reported through one specific framework or reporting body. Reporting using the newly created reporting framework for research and innovation funding organisations would satisfy the reporting commitments of this concordat. [note for draft concordat; this new framework will be produced in collaboration with stakeholders in time for the concordat launching It will be based on a combination of HM Treasury's reporting requirements for reporting environmental sustainability impacts under the Government's Greenhouse Gas Commitment and reporting guidance from the international Greenhouse Gas Protocol.] The new framework has been created in collaboration with research and innovation funders and is tailored to the activities and impacts of these organisations.

7. Delivery of the concordat

Leaders signing this concordat on behalf of their organisation should:

- ensure that a letter is generated and published on their website to make a public commitment to the concordat within 6 months of becoming a signatory. This should be signed by the head of organisation e.g., Chief Executive, Head Director or Vice Chancellor.

- include concordat references in appropriate organisational strategies and documents. This may include environmental strategy, corporate responsibility reports or your annual report.

- ensure the annual reporting is aligned to the minimum expectation set out in this annex.

- nominate an appropriate senior lead to sign off your concordat annual report and forward plan who is in a position to challenge progress if necessary. This may be an existing leader with responsibility for performance reporting.