



**Natural
Environment
Research Council**

NERC Science Committee 22nd Meeting: summary of discussion

5 March 2025 – Polaris House, Swindon

Members Present: Professor David Hannah (Chair), Professor Jane Hill, Professor Anna Hogg, Dr Ekbal Hussain, Professor Carrie Lear, Professor Ian Main, Dr Theresa Mercer, Professor Stefan Reis, Professor David Topping and Dr Glenn Watts.

Via Zoom: Professor Marian Scott and Professor Daniela Schmidt

Ex-Officio: Dr Tracy Shimmield (Interim NERC Director, Research and Skills),

Apologies: None received

Other NERC Attendees: Whole meeting: Dr Sarah Turner (NERC Associate Director, Strategic Programme Generation & Delivery (SPG&D) and Liesbeth Renders (NERC Associate Director, Discovery Science and Highlight Topics)

Item 6: Candy Snelling (NERC Associate Director Estates and Sustainability) and Mike Potter (NERC Head of Sustainability) via zoom. Item 7&8: Hannah Collins (NERC Associate Director, Corporate Affairs) via zoom and Claire Andrews (NERC Head of Community Engagement) in person. Item 9: Kerry Firth (NERC Head of Policy Partnerships) in person. Item 13: Oliver Knevitt (NERC Head of Research Capital & Place) in person and Rachel Lamb (NERC Senior Programme Manager, Research Capital & Place) via zoom. Item 14: Louise Heathwaite (NERC Executive Chair) in person.

Secretary: Gemma Davies

Key issues discussed

Self-assessment exercise outcome 2024

The committee discussed and advised on improvements which might be made to the operation of Science Committee (SC).

Outcome of Town Hall

Tracy Shimmield updated the committee on the Town Hall event of 6 February 2025 in Leeds, noting it was the first one in 3 years. 5 topics were covered: UK Environmental science in a global context; Data and Technology for the Environmental Science of 2040; Understanding diversity and inclusion in the NERC research and innovation community; Research Infrastructure in a Carbon-Constrained World, and Applying UK Environmental science to enable sustainable business growth.

UKRI Carbon Budgets and NERC Carbon Forecasting

UKRI have a net zero target for 2040 as set out in the UKRI sustainability strategy. To achieve this goal UKRI will introduce carbon budget caps to all Councils from 2025/26. SC were asked for a science perspective on how to best manage carbon budgets for NERC. The committee were asked to provide advice on roll-out of the change to operations and advise on wider community consultation which will be on-going over the next 6-12 months.

During discussion SC raised the importance of common metrics and benchmarking. Carbon dioxide removal was discussed along with carbon costs of using Artificial Intelligence (AI) technologies and data storage. The need for practical actions to cut carbon wherever possible in programs, in parallel with carbon accounting and quantifying the carbon emissions was raised. The need to work with partners to get additional funding for the technology needed to deliver these types of solutions, along with capturing case studies to share best practice and learning from other organisations and countries with ships, was also encouraged.

SC raised the need to take into consideration and further explore unintended consequences of carbon saving decisions. It was noted that there is a fixed lifetime of vessels and so likely to be a sudden drop rather than a gradual year on year reduction in carbon usage. Also raised was the importance of considering embodied carbon in infrastructure as well as operational emissions.

Update on delivery of NERC Diversity and Inclusion Living Action Plan 2022-2025

The committee noted progress against the NERC Diversity & Inclusion Living Action Plan and provided reflections to inform options going forward.

SC reflections included having a clearer summary of what has worked, the benefits of blind assessment and activities in engaging with schools to produce students in this field, (noting working with museums, university students and the Science, Technology, Engineering, and Mathematics (STEM) climate Ambassador). Showing that environmental science impacts people's lives to attract early career scientists was also suggested.

SC advised that a revised action plan is the way forward and that NERC should identify what is working well, continuing doing that and continue reflecting on testing new approaches. SC also raised the need to think about the targeting of what has worked.

Community Insight related to Diversity & Inclusion (D&I)

The committee noted NERC's D&I quantitative data findings. SC contributed their qualitative insights to inform future updates to the NERC D&I Living Action Plan. SC advised on other potential sources of qualitative insight and on potential partners NERC might approach to work with to target specific under representations highlighted in the data.

SC agreed it is important to look at trends and the trajectory of data. It was also noted that this is a linear story from school to undergraduate to postgraduate, but it is important to attract other disciplines into environmental science. SC raised the need to explore the environmental work of those outside Higher Education Institutions (HEIs), along with looking at what other organisations are doing in the UK and internationally, and to be cautious of unintended consequences. It was also noted that unclear career pathways are a barrier to entry, and so understanding how we communicate how environmental studies lead through to jobs in a diverse industry is important.

Discipline Hopping

The committee advised on how learning from the Discipline Hopping initiative, that took place in the financial year from 2021 to 2022, could be applied to existing funding mechanisms in future and how we can best support our communities to facilitate interdisciplinary collaboration.

SC agreed that it was a good model that could be incorporated into future initiatives, such as EDI initiatives. SC noted as much notice as possible is required to help facilitate interdisciplinary collaboration as it takes time to build up good communication across disciplines.

The committee advised that NERC could learn from others through mechanisms such as: Training for panel members on interdisciplinarity, introducing measures like the European Commission, where applicants must justify interdisciplinary working is essential to deliver the expected outcomes. Other suggestions included considering what happens to established networks, what career paths are there to encourage interdisciplinarity. It was advised that this is valuable for early career researchers in terms of building networks and connecting across different disciplines.

Highlight Topics Evaluation Part 2 - Stakeholder Survey findings & future activity

The committee noted and discussed the findings of the Highlight Topic (HT) evaluation stakeholder survey and commented possible options for the future, in particular on ways in which to address identifying thematic priority areas.

SC cautioned how much weight to put on the results of the evaluation due to the very low response rate, noting the possibility of a bias sample.

SC agreed that timescales and responsiveness should be reviewed for a quicker turnaround of ideas proposal to application to awards, (noting however that it can take time for new interdisciplinary groups to form). SC agreed the need for large grants to facilitate activity at scale, and strategic projects that are linked to government missions etc. but agreed this needs to be done in a way that responds better to the wider community and in a more inclusive way.

Evaluation measures for NERC Strategic Programmes

The committee reviewed the metrics readily available to NERC to inform assessment of the impact of SC advice to invest in specific Strategic Programme Areas.

SC agreed the more automated and quantitative the evaluation metrics the better, as then they can be repeatable and consistent. It was suggested NERC could use 'Altmetrics', the number of end users, and tracking early career community. Another measure suggested was to see how influential these documents are by seeing how often these documents have been used in policy and other non-periodic publications. The responsible use of metrics was highlighted by SC.

UKRI Infrastructure

The committee discussed and advised on themes and emerging choices for infrastructure development in the UK environment sector.

SC agreed with the Environment Sector themes noting the need to consider human health. During discussion, it was suggested linking the instrument development community and the data processing community (e.g., this could help with achieving net zero). It was suggested that capabilities could be prioritised by, identifying those that cross different parts of the NERC remit such as compute capability, and by how well they are aligned towards government priorities.

SC raised the need to consider how we link up and partner with different parts of the UK sector. Reviewing what we already have that needs investment and considering international risks such as data access being 'cut' was also raised as it changes the landscape of what the UK might need.

Executive Chair Update

Louise Heathwaite updated the committee on the spending review and covered 4 main topics for the future direction of travel: 'Talent and Skills' to provide skills base for the future; 'Data and Digital' to innovate how to collect, monitor and measure more appropriately (and how do it at low carbon cost); 'Innovation' and 'International'. Net-zero and the importance of partnerships with other councils and government departments. Louise informed the committee that the new Deputy Executive Chair, Rupert Lewis, starts in April, and that soon there will also be a Chief Operating Officer.

Standing items

The Committee confirmed the minutes and noted council feedback, the information papers, and the forward agenda.