NERC Science and Innovation Advisory Committee 2nd Meeting: summary of discussion

29 and 30 April – British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET

Members Present: Professor Alastair Lewis (Chair), Professor Jane Hill, Dr Ekbal Hussain, Professor Carrie Lear, Dr Theresa Mercer, Professor Ian Main, Professor Stefan Reis, Professor Daniela Schmidt and Dr Glenn Watts.

Online: Professor Marian Scott and Professor David Topping

Ex-Officio: Rupert Lewis (NERC Deputy Executive Chair)

Apologies: None

Other NERC Attendees: Whole meeting: Dr Sarah Turner (NERC Associate Director, Strategic Programmes) Dr Liesbeth Renders, (Associate Director, Discovery Science).

Day 1: Anna Angus-Smyth (NERC Associate Director, Digital Environment & Infrastructure)

Item 3: Candy Snelling (NERC Associate Director, Estates & Sustainability), Mike Potter (NERC Head of Sustainability), Nopi Exizidou – (BAS Head of Net Zero Transition). Item 6 (via teams): Louise Heathwaite (NERC Executive Chair). Items 7 & 8 (via teams) Ling Xu (NERC Head of Futures). Item 9 (via teams). Jennifer Gold (ESRC Director of Research and Strategy). Item 10 (via teams) Debbie Harris (NERC Business Manager).

Secretary: Gemma Davies (NERC, Governance Manager)

Key issues discussed

Understanding the carbon impacts of R&I

The committee noted UKRI and wider drivers for low carbon research & innovation practice.

UKRI net zero targets currently apply to Scope[1] 1, Scope 2, and business travel emissions within the wider Scope 3 emissions. There is no Scope 3 target at present. For the purposes of the workshop, members were asked to consider both: UKRI-NERC owned and operated activities, and activities funded or influenced by UKRI-NERC. UKRI policy does not permit the use of UKRI funds for carbon offsetting, due to concerns over permanence and governance. Members highlighted the importance of understanding potential trade-offs when considering carbon reduction (e.g. impacts on pollution, safety, biodiversity, and EDI).

The committee discussed i) the constraints inhibiting low carbon research & innovation practice and how we turn these into opportunities; ii) what internal mechanisms and external support would help UKRI-NERC with this transition to low carbon research & innovation practice (funded and delivered). The committee also considered the best ways to embed consideration for carbon reduction in investments and how this might be implemented.

Realising actionable information from environmental data

The committee discussed how we might move beyond curation of environmental data towards improved access, integration, and use of environmental data as actionable information, supporting decision making across science, policy, and industry. Members highlighted challenges with current ways of working and existing data infrastructure including fragmentation, data accessibility, and administrative barriers, and emphasised the value of partnership led, use case driven approaches across UKRI, government, and other sectors

Workshop sessions focused on i) identifying the priority opportunity areas where new data products could be transformative in delivering actionable intelligence from environmental information for diverse users; ii) The highest potential partners for NERC to work creatively with in maximising use of environmental information across the public and private sectors; and iii) actions needed to address the barriers to the effective delivery of actionable intelligence from environmental data for diverse users.

People, support and technical facilities

The committee discussed areas of NERC science delivery that may be particularly sensitive to the provision and availability of specialist and/or advanced technical skills and capability, for example in instrumentation and autonomy engineering, technology, communications and software development. Based on institutional examples, options that may help enhance careers

[1] UKRI Emissions Scope Coverage

- Scope 1: Direct emissions from owned or controlled estates, ships, aircraft and UK fleet
- Scope 2: Indirect emissions from the consumption of purchased electricity used for estates
- Scope 3: Indirect emissions from business travel, construction and chartered ships and aircraft

where technical skills are foundational to delivering environmental science research were discussed.

Atmospheric Sciences Consultation

The committee agreed that the work should be positioned as advice from this committee to NERC Executive, with clarity on purpose, scope, timescale, and outputs. Also, that the consultation should focus on a 10–20-year horizon and align with UKRI strategy, Net Zero priorities, and international obligations

The committee discussed plans for a broad consultation (June- October), including an online survey, focus groups and/or workshops, aiming to gather input from diverse career stages, sectors, and international partners (e.g. Met Office, Defra, industry, European partners).

The final output will be a collective committee report.

Executive Chair Update

The committee was updated on the significant shift in UKRI's funding model, emphasising the new 'bucket' approach, the integration of research and innovation, and the implications for environmental science, talent development, and cross-council collaboration. It was reiterated that the new UKRI funding model is structured around multiple 'buckets': Bucket 1 focuses on curiosity-driven science, Bucket 2 and 3 on mission-oriented and growth-aligned research, and Bucket 4 on foundational investments. Enabling progression across buckets is important: the model aims to better integrate research and innovation, requiring closer collaboration across councils and with Innovate UK.

Innovation Pathways

The committee identified interventions and points of learning that NERC can use to inform shaping future investments and initiatives to support future successful innovation.

Committee members discussed the case studies they had provided, illustrating innovation pathways, commercialisation journeys, and lessons learned from environmental science projects, highlighting both successes and challenges. These examples showcased different models for translating research into market or policy impact.

Impact accelerators from institutional perspective

The paper, authored by SIAC members provided background information on IAAs to stimulate discussion on the effectiveness, or not, of IAAs for supporting impacts from UKRI-NERC science. The outcome from the discussion is advice for UKRI-NERC Executive Team concerning the best use of UKRI-NERC recently confirmed small commercialisation budget.

ESRC metascience unit

The ESRC Director of Research and Strategy explained that the UKRI Metascience Unit aims to generate evidence for improving science funding, runs experiments on funding processes (e.g., peer review, desk rejection), and builds the field of metascience through grants and fellowships. The unit has established UKRI's first trusted research environment (data lab) to streamline secure access to funding data for analysts and external researchers, reducing the administrative burden of data sharing agreements. Ongoing work to develop new impact metrics beyond citations was discussed. The Metascience Unit is collaborating internationally, with other countries replicating the model. Future priorities include expanding experiments, improving situational awareness, and diversifying impact metrics to better assess research outcomes across disciplines.

SIAC ToR

The committee agreed they were fit for purpose. The updated ToR will be published shortly.

Standing items

The committee confirmed the minutes and noted the update from Council and the forward agenda