



## Minutes of the 21st meeting of NERC Council in UK Research and Innovation (redacted)

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### NATURAL ENVIRONMENT RESEARCH COUNCIL

Twenty-first meeting of NERC Council in UK Research and Innovation held at the Advanced Research Centre, University of Glasgow on Thursday, 8 June 2023.

#### Members present:

Professor Sir Duncan Wingham (Executive Chair), Rashik Parmar (Senior Independent Member), Judith Batchelar (via Zoom), Professor Hannah Cloke, Dr Rebecca Heaton, Dr Matthew Harwood, Professor Sir Stephen Holgate, Professor Mike Kendall, Michael Lewis, Professor Peter Liss, Clare Matterson (via Zoom), Gordon McGregor, Professor John Pyle, Professor Gideon Henderson, CSA, Defra, (via Zoom) (part), Professor David Hannah, Chair, Science Committee (via Zoom) (part), Charlie McNichol-Fardon, Chair, Future Leaders Council

**NERC/UKRI Directors (Head Office):** Tim Bianek (UKRI, Chief Operating Officer), Nigel Bird (Director, Major Projects), Alison Robinson (Deputy Executive Chair and Director, Business Delivery and Insight), Professor Susan Waldron (Director, Research and Skills), Dr Iain Williams (Director, Strategic Partnerships)

**Apologies:** None

**Other attendees:** Dr Liam Haydon and Kate Hamer, Item 5, Sarah Turner, Item 6, Anna Angus-Smyth, Item 7, Robyn Thomas, Item 8

**Secretariat:** Helen Page

#### Introductory items

#### 1. Executive Chair's welcome, unconfirmed minutes of the 20<sup>th</sup> meeting of NERC Council and Decisions and Actions (Oral)

- 1.1 Duncan Wingham welcomed members to the twenty first meeting of NERC Council.
- 1.2 Duncan Wingham welcomed Professor Mike Kendall to his first NERC Council meeting and Charlie McNichol-Fardon to her first meeting in her capacity as Chair, Future Leaders Council.
- 1.3 Duncan Wingham asked members for any updates to their declared interests or any vested interests in the items being discussed today. None were declared.
- 1.4 Duncan Wingham asked members for any amendments and matters arising from the minutes of the previous meeting. No amendments were made, and the minutes of the twentieth meeting were confirmed as a good record.
- 1.5 Duncan Wingham advised that the actions from the previous meeting had been completed.

## 2. Update from CSA, Defra (Oral)

2.1 Gideon Henderson provided an update under the following headings:

a) Government

Gideon Henderson reminded Council that the UK Science and Technology Framework Document had been published in March 2023 which set the strategy for the Department for Science, Innovation and Technology (DSIT).

b) Cross-Government

Gideon Henderson commented that a range of plans under the heading 'Powering up Britain' had also been published in March 2023 which included a Net Zero Growth Plan and the Green Finance strategy.

Gideon Henderson added that there had been a cross-Government focus on food, including price and supply chain; agriculture innovation and Artificial Intelligence.

Gideon Henderson informed Council that the Net Zero Innovation Board continued to focus on achieving the Government's net zero goals. The Climate Adaptation Research and Innovation Board (CARIB) intended to publish a document on the research needs of Government later in the year.

Gideon Henderson added that the Government, led by the Foreign, Commonwealth and Development Office (FCDO), had been involved in international negotiations related to deep sea mining as part of the United Nations Convention on the Law of the Sea (UNCLOS).

c) Defra

Gideon Henderson informed Council that Philip Duffy had recently been appointed as the new Chief Executive at the Environment Agency (EA). He added that this was viewed as a positive appointment given that Philip Duffy was a strong advocate for science and technology within Government.

Gideon Henderson commented that Defra had formally launched its Global Centre on Biodiversity for Climate with £40 million of official development assistance funding. CEFAS had also launched its International Centre for Ocean Protection and Use (iOPUS).

Gideon Henderson commented that Defra continued to work closely with UKRI, for example, on an environmental monitoring innovation package co-funded by Defra, NERC and Innovate UK.

Gideon Henderson commented on the Strategic Research ideas to be discussed later in the meeting and offered his assistance in liaising with interested Government departments.

2.2 Council commented that it also welcomed the appointment of Philip Duffy which it hoped would lead to increased engagement between NERC and the Environment Agency. Gideon Henderson added that Robert Bradburne, the Chief Scientist at the Environment Agency was also a positive appointment.

2.3 Council asked for more information on the Global Centre on Biodiversity for Climate. Gideon Henderson advised that the Centre had been launched on 25 May 2023 as part of international climate finance funding with the aim of improving climate outcomes.

2.4 David Hannah asked for some additional information on the environmental monitoring innovation package and whether this was being viewed as an innovation testbed. Gideon Henderson commented that there were two components, and that Defra would work with NERC on new ways of making the measurements and with Innovate UK on how these technologies might be brought to market.

### 3. Executive Chair's update (Oral)

3.1 Duncan Wingham gave an oral update on some of the key activities since the previous Council meeting.

a) The Funding Service

Duncan Wingham informed Council that Executive Committee (ExCo) had agreed that the incoming Senior Responsible Officer (SRO) for the funding service, Stian Westlake, would have ultimate responsibility for decision making regarding the funding service. He added that there would be a significant reduction in the number of schemes available in future and the application process would be simplified, confirming that engagement with the community was ongoing. Duncan Wingham agreed to circulate a schematic which outlined the schemes which would be available.

**ACTION: Schematic of the funding service to be shared with Council members**

b) UKRI Environmental Sustainability Strategy

Duncan Wingham informed Council that UKRI had agreed to introduce a carbon budget, which would operate in a similar way to a financial budget. He added that a baseline would need to be established initially which would take approximately 12 months, with the carbon budget likely to be agreed in approximately 18 months.

Council asked what would be in scope and whether offsetting had been considered. Duncan Wingham responded that UKRI policy was not to offset. He acknowledged that some universities might find this challenging, and it had been agreed that the concordat would seek to agree that any offsetting was recorded, along with the mechanisms used, noting that UKRI would be required to comply with any future regulatory framework on offsetting. He added that scope three would be included but only for the UK.

c) Building a Green Future

Duncan Wingham informed Council that there was an agreement, in principle, for a £30 million public health strategic programme on mitigation and adaption, with a focus on indoor air pollution, in partnership with EPSRC, Department of Health and MRC.

He added that a further £30 million call was planned in partnership with Innovate on Accelerating the Green Economy.

d) Department for Science, Innovation and Technology (DSIT)/UKRI

Duncan Wingham informed Council that DSIT had now agreed responsibilities on place across Government departments. He added that there was some pressure on UKRI to increase the proportion of funding outside the Greater South-East, commenting that NERC funding in the Greater South-East was proportionate. A decision was due to be made by Executive Committee on the way forward.

DSIT had also requested a re-prioritisation of funds under three headings: semi-conductors; quantum and Artificial Intelligence which had some impact on the research councils, particularly for EPSRC. Duncan Wingham suggested that NERC might respond with a Highlight Topic focus on quantum and AI if asked to do so.

e) NERC Impact Awards 2023

Duncan Wingham reminded Council that the 2023 NERC Impact Awards would take place on 29 November 2023 at the Natural History Museum.

f) RRS Sir David Attenborough

Duncan Wingham informed Council that the RRS *Sir David Attenborough* had successfully passed its trial phase and had now entered normal service.

[Gideon Henderson left the meeting]

**4. Agenda and unconfirmed minutes of Science Committee (NERC 23/12)**

- 4.1 David Hannah introduced this item to update Council on the Science Committee two-day meeting which had been held at Cranfield University in April 2023 that had included a tour of the NERC FAAM facility and aircraft.
- 4.2 David Hannah informed Council that Science Committee had reviewed the following topics at their last meeting: Strategic Research Investment to achieve NERC Strategic Delivery Plan ambitions; CO<sub>2</sub> storage research facility; National Capability Science, multi-centre award, CHAMFER; NERC Doctoral Training investments; Exploring the Frontiers pilot evaluation and EDI in funding calls.
- 4.3 David Hannah commented that Science Committee had reviewed the ideas provided by Head Office in terms of delivering investments to achieve NERC's remit and Delivery Plan ambitions and scored the ideas as either high, medium or low priority for investment. He added that a further gap analysis exercise had been undertaken and this information was provided in the paper for discussion later in the meeting (NERC 23/14).
- 4.4 David Hannah reminded Council that a recruitment campaign for Science Committee was underway with interviews due to be held in June and July. Science Committee was seeking to recruit seven new members with start dates anticipated to be October 2023 or January 2024. David Hannah expressed his thanks to the panel members and Head Office team for their assistance in supporting the recruitment exercise.

**Items for discussion**

**5. Strategic Delivery Plan Progress Report 2022-23 (NERC 23/13) *Slides, item 5***

- 5.1 Alison Robinson introduced this item and presented slides. Liam Haydon and Kate Hamer observed this item.
- 5.2 Alison Robinson reminded Council that this was the first progress report since the launch of the new NERC Strategic Delivery Plan (SDP) and that the purpose of the report was to ensure NERC was on target to meet its ambitions, noting there was no current requirement from UKRI to provide reporting on NERC's SDP ambitions.
- 5.3 Alison Robinson explained that the overall summary tracker, contained within the slides, marked activity as either: 'green,' well balanced portfolio; 'amber,' further activity required to build the portfolio or 'red,' significant gaps in the portfolio, noting that the overall summary seemed reasonable given that the report was the first based on the 2022 SDP.
- 5.4 Duncan Wingham invited Nigel Bird to provide an explanation on the variances illustrated in the financial overview slide. Nigel Bird explained that this was due both to the impact of COVID slowing down strategic research and discovery science funding which had resulted in a decision to move funds to the National Capability budget. He added that the PhD extension costs had been less than originally anticipated meaning the funds could be reinvested.
- 5.5 Council congratulated NERC on a useful and well-structured report, commenting that it would be useful to include some narrative examples, such as good practice within NERC

activity which had resulted in wider good practice or adoption. Alison Robinson confirmed that a discussion was scheduled soon to look at how NERC used the learnings from the report including the cross-cutting aspects of the report in more detail.

- 5.6 Council asked for more detail regarding methodology to be included in future versions to aid Council review and challenge. Alison Robinson explained that the methodology involved input from individual teams about successes and areas for improvement followed by an in-house moderation process. She added that Directors reviewed the scoring prior to a discussion at NERC Management Board to provide independent input.
- 5.7 Council asked for clarity under the heading 'place' particularly on delivering the international aspect. Duncan Wingham commented that the approach by DSIT on international funding remained unclear, due, in part, to the continuing uncertainty on association with Horizon Europe and the termination of the Global Challenges Research Fund. Council added that the rating of 'amber' on place might therefore require further consideration and Alison Robinson agreed.
- 5.8 Council queried whether the programme report was realistic in its assessment that all ambitions would remain on track or improve in the coming year. Council noted that there was a separate risk register where the risks associated with efficiency savings and the introduction of the new IT systems under the Simpler and Better Funding and The Services for HR, Accounting, Reporting and Procurement (SHARP) programmes were captured. Council agreed, on balance, that the SDP report should remain focused on delivery, noting that there was management attention on the interdependencies between the two reports. Council asked for more consistency in the 'Learning and Action' section of the summary report.
- 5.9 Council suggested that it might be worthwhile to link Diversity and Inclusion and public engagement and recommended partnering with organisations with links to careers and schools to strengthen the STEM pipeline, noting that citizen science was a growth area. Alison Robinson reminded Council that the Future Leaders Council would have responsibility for the Diversity and Inclusion funding line and public engagement, and both would be discussed at their forthcoming meeting. She added that the public engagement strategy would also require updating over the coming year.
- ACTION: Future Leaders Council to discuss links between public engagement and Diversity and Inclusion at their next meeting**
- 5.10 Council asked whether there was a mechanism to compare performance across the research councils. Alison Robinson explained that there was no formal mechanism for comparing performance across the research councils although this did occur informally and there were some comparative statistics available.
- 5.11 Council asked whether there was likely to be a performance contract with UKRI considering the forthcoming governance changes, such as to the Council Terms of Reference. Duncan Wingham commented that there was unlikely to be a performance contract, noting that a more uniform approach to reporting would be welcome. Tim Bianek added that progress on delivering the UKRI strategy was reported to the UKRI Board using a dashboard approach and that each council played its part in delivering the strategy.
- 5.12 In summary, Duncan Wingham commented that there were some improvements to be made to the progress report including an increased focus on narrative success, further information on the methodology used and a move towards an evidence-based approach. He added that a similar summary was provided to the UKRI Board which included both quantitative and narrative elements which might be used as a template for future SDP progress reports.
- 5.13 Alison Robinson expressed her thanks to Liam Haydon and to the wider team for their help

in producing the summary report.

**6. Strategic Research Investment to achieve NERC Strategic Delivery Plan ambitions (NERC 23/14) Slides, item 6**

6.1 Susan Waldron introduced this item and presented slides. Sarah Turner observed this item.

6.2 Susan Waldron informed Council that it was being asked to consider whether NERC investment through Strategic Research Investments (SRI) was underpowered in diagnosis of environmental challenges and to advise on which of the six areas identified as high priority by Science Committee should be developed ahead of a subsequent discussion at the December Council meeting.

6.3 Susan Waldron outlined the six areas which had been identified by Science Committee as higher priority:

- predicting and managing future novel ecosystems in the UK
- spillover effects and global sustainability in land- and sea- scapes
- critical minerals for the transition to net zero
- resilience to wildfires
- enhancing the resilience of UK coastal seas to climate impacts
- environmental cost benefit impact of geoengineering on planet Earth

6.4 Duncan Wingham restated that Council was being asked to consider initially whether the balance between solution and diagnosis driven research in NERC's strategic research investments was appropriate before considering the six themes.

6.5 Council highlighted the importance of continuing to fund diagnostic research, particularly given that NERC is the primary funder of such research, noting that National Capability funding also had an element of diagnostic research.

6.6 Council discussed the six areas which had been identified by Science Committee as higher priority, noting that some, such as the geoengineering idea, might fit better under the Building a Green Future theme. Council had varying views on which ideas should be developed further, noting that some of these areas already received significant research funding and, from the information presented, it was difficult to understand their reach.

6.7 Council agreed that it was not possible to prioritise the ideas based on the information provided. Duncan Wingham suggested Susan Waldron return to Council in September with additional information to enable a decision to be made. He added that a clear, one-page, framework setting out options for weighting funding investment to diagnosis or solutions, would be useful to inform Council and address the issue of how to balance future NERC funding.

**7. NERC Digital Strategy and Data Infrastructure (NERC 23/15) Slides, item 7**

7.1 Iain Williams introduced this item and presented slides. Anna Angus-Smyth observed this item.

7.2 Iain Williams explained that Council was being asked to note progress made in developing NERC's digital infrastructure portfolio, including the recommissioning of the NERC Environmental Data Service (EDS) following the publication of NERC's first Digital Strategy in June 2022.

7.3 Iain Williams outlined the progress made so far on delivering the ambitions of the strategy including activity planned for 2023/24 and activity which would be delivered in partnership. He gave an overview of the EDS including total funding and the registered users from 2018

to 2022 and outlined some of the future challenges.

- 7.4 Council was content with the progress made so far and commented that it would also be important to consider the quality of the data and retain a timebound view. Iain Williams commented that the data centres addressed these issues and provided the expertise that was needed to access and better understand the data.
- 7.5 Council highlighted the continuing difficulty in data interoperability, such as between health and environmental data. Anna Angus-Smyth commented that consideration at UKRI level on how to work with Trusted Research Environments (TREs) across domains, including JASMIN exploring their role in TREs, might help address this issue. Duncan Wingham added that it would be useful to connect data in this way, noting that this would require partnership working and co-funding.
- 7.6 Council noted the importance of ensuring there were clear career paths for those responsible for data, given the important contribution they made. Iain Williams confirmed that career paths were a consideration and advised that discussions were ongoing with NERC research centres to ensure there was good cross working on identifying digital career paths in NERC institutes.

## **8. NERC 'Ways of Working' (Oral) Slides, item 8**

- 8.1 Alison Robinson introduced this item and presented slides. Robyn Thomas observed this item.
- 8.2 Alison Robinson explained that the Ways of Working programme, led by the NERC Associate Directors, was moving into the implementation stage. She reminded Council that the programme was in response to headcount targets and wider Operational Expenditure (OpEx) financial constraints. Alison Robinson explained the Ways of Working programme had been put in place alongside, and to integrate with, wider UKRI change including the Simpler and Better Funding programme, SHARP and UKRI operating model.
- 8.3 Alison Robinson explained that the Ways of Working programme was designed to ensure NERC Head Office had the ongoing capacity to deliver the NERC core mission, centred around environmental science. To deliver these core outcomes the programme was working to deliver, via specific work packages, under three headings:
  - organisation
  - ways of working
  - process

She added that NERC Management Board would agree the implementation plans at their meeting in July with the intention of completing the programme by the end of 2023.

- 8.4 Council asked how NERC would support its employees through this significant period of change. Alison Robinson agreed that it was important to support people and that the Ways of Working programme would be one way of doing this specifically through the plans under the 'ways of working' aspects which sought to empower and enhance trust as well as delivery across the office. She added that the leadership team would continue to monitor results from staff surveys and take action as needed, giving this a strong degree of priority.
- 8.5 Council asked whether the changes NERC was proposing were in line with those being considered under the UKRI operating model. Tim Bianek responded that the detail of the operating model work was not yet defined although the steps NERC was taking were consistent with it and there were ongoing mechanisms in place to ensure these remained aligned.

- 8.6 Council asked whether the NERC research centres were being asked to make similar efficiency savings. Duncan Wingham confirmed that the centres were out of scope as most of their activity was classified as programme activity rather than OpEx.
- 8.7 Duncan Wingham thanked Robyn Thomas and the NERC Associate Directors, on behalf of Council, for their leadership on this programme of activity.

[David Hannah left the meeting]

## **9. NERC Infrastructure Pipeline (NERC 23/16)**

- 9.1 Iain Williams introduced this item, presenting the current infrastructure pipeline and updating Council on progress with the four infrastructure ideas previously agreed by Council in 2020:
- Floods and Droughts Research Infrastructure (being implemented)
  - Future Marine Research Infrastructure (scoping study completed)
  - Geothermal Energy
  - Carbon Storage Research Facility (CSRF) (scoping study ongoing)
- 9.2 Iain Williams explained that the CSRF was the most mature scoping study currently underway for a UKRI Infrastructure Fund bid and that NERC had been working closely with both British Geological Survey and the Department for Energy Security and Net Zero on this topic.
- 9.3 Duncan Wingham commented that this would be a £200 million investment with long term capital investment and resource implications. He noted that the ongoing resource implications posed significant risk for NERC. Due to these considerations, as well as ongoing debate about the nature of the science case, he advised Council that the proposal, as scoped, was not deliverable and would not be submitted.
- 9.4 Council was supportive of investment in carbon storage although it acknowledged it was a large commitment and that a lot of work was already underway, particularly in industry. Council suggested it might be better run at Government level with NERC providing scientific advice.
- 9.5 Council agreed not to take the infrastructure, as currently scoped, forward for investment, given the risks raised by the operational costs and scale of use by the community. Council agreed that a new footing be found for ongoing discussions with Government and business, given that there seemed to be many science questions relevant within the NERC remit. Council asked that any options for future programmes or infrastructure in this area be identified and scoped by NERC without replicating the risks of this current proposal. Council asked for an update about further related Carbon capture, utilisation and storage (CCUS) proposals to come back to Council for early consideration including as part of the roadmap.
- 9.6 Duncan Wingham asked whether there were plans to renew the Infrastructure Roadmap published in 2019. Iain Williams confirmed there was an intention, although no timeframe had been agreed.

[Stephen Holgate and Mike Kendall left the meeting]

## **10. UKRI NERC Council Terms of Reference (NERC 23/17)**

- 10.1 Rashik Parmar introduced this item, commenting that the revised Terms of Reference (ToR) clearly listed the responsibilities for Council. Duncan Wingham invited comment from Council on the ToR.



10.2 Council asked whether the ToR should include a responsibility on holding NERC to account. Duncan Wingham advised that the intention was to move Council away from the role of a governing body to an advisory body, with that specific responsibility being the role of the UKRI Board. Duncan Wingham highlighted that the ToR formalised who should chair the Council meetings.

10.3 Council welcomed the clarification of the main areas of focus which Duncan Wingham confirmed were taken from the Higher Education and Research Act 2017.

## **11. Rolling programme of business (NERC 23/18)**

11.1 Helen Page reminded Council members that this item provided an opportunity to raise items for discussion at future Council meetings and that items for discussion might also be submitted to her at any point.

11.2 Council asked for an item to be added on the links between Diversity and Inclusion and Public Engagement. Duncan Wingham commented that these areas were now the responsibility of the Future Leaders Council and updates would be provided in future by Charlie McNichol-Fardon.

11.3 Council suggested that it might be useful to invite Philip Duffy and Robert Bradburne of the Environment Agency to a future Council meeting which was agreed.

**ACTION: NERC Executive to extend an invitation to Philip Duffy and Robert Bradburne to attend a future NERC Council meeting**

## **12. Any Other Business (Oral)**

12.1 There was no further business.