

UK RESEARCH AND INNOVATION

ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL

NOTE OF THE 12th EPSRC SCIENCE ENGINEERING AND TECHNOLOGY BOARD (SETB) MEETING, HELD ON 8 FEBRUARY, AS AN ONLINE MEETING.

Attendees:	Susan Roser (University of Edinburgh) Avinash Aithal (University of Bristol) Phil Taylor (University of Bristol) Su Taylor (Queen's University Belfast) Graham Niblo (University Southampton) Miles Elsdon (University of York) Alison Noble (University of Oxford) Timothy Softley (University of Birmingham) Charlotte Williams (University of Oxford) Martin Schroder (Manchester University) Jane Jiang (University of Huddersfield) m.c (University of Southampton) Andy Wright
Apologies:	Jeremy Burroughes (Cambridge University) Leigh Lapworth (Rolls Royce) Paul Winstanley (University of Glasgow) Adrian Mulholland (University of Bristol)
EPSRC Staff:	Jane Nicholson (Director, Research Base, SETB Chair) Kedar Pandya (Director, Cross Council) Alison Wall (Deputy Director, Research Base) Nick Cooper, (Joint Head, EDI & People Team) Sarah King (Joint Head, EDI & People Team) Samantha Francis (Deputy Director, Research Base) Diane Howard (Senior Manager, Managing our Portfolio and Priorities) Sarah Harman (Head of Managing our Portfolio and Priorities) Rachel Bishop (Deputy Director, Research Base) Andy Lawrence (Joint Head, Engineering) Maisie England (Joint Head, Engineering) Lucy Martin (Deputy Director, Cross Council) Ruqaiyah Patel (Joint Head of Energy and Decarbonisation) Rosanna Greenop (Head of strategy, STFC)
Secretary:	Hayley Cook (Executive Assistant, Research Base)

1. Welcome, EPSRC update and UKRI update

- 1.1 The SETB chair (Jane) welcomed everyone to the meeting and formally opened the meeting.
- 1.2 SETB approved the minutes from the previous meeting.
- 1.3 Jane reviewed the action log:

Action	Description	Owner	Update
10-02	Paul to link Mark and Kathryn up to relevant stakeholders in the Digital, security and Resilience space.	Paul Winstanley	Complete
11-01	All to read the UKRI Infrastructure Roadmap ahead of the February SETB meeting.	All	Complete
11-02	Paul to share work on SME cooperatives with Alison Wall	Paul Winstanley	Complete
11-03	Jeremy to send list of courses that should be covered in a CDT call.		Complete
11-04	Paul to suggest some better wording for the Innovative Teaching CDT Stream	Paul Winstanley	Complete
11-05	Nick to update the Strategic Themes mapping following SETB input	Nick Cooper	Complete
11-06	All to send additional comments on the Strategic Themes to Nicholas.cooper@epsrc.ukri.org	All	Complete
11-07	EPSRC to contact businesses asap via the BEF to give an update on what is known about the stipend increase so they can plan for the stipend uplift in their budgets.	EPSRC	Complete – UKRI shared comes in October 2022. There were discussions last week and further comms will be shared in March 2023.
11-08	Update SETB on the outcome of the Council Advisory Body Review	Jane Nicholson	Complete

1.4 UKRI & EPSRC Update

Jane provided an update on the recent activities in UKRI, EPSRC and the UK Government, including changes in government department structure which included:

Government changes

The formation of three new departments,

- Energy, Security and Net Zero –(Secretary of State – Grant Shapps)
- Business and trade department (Secretary of state Kemi Badenoch)
- A new department DSIT - Science, Innovation and Technology,(Secretary of state Michelle Donelan with George Freeman remaining as Minister of Science

SETB members discussed and shared the following points:

- Great to see building platforms for science
- It was discussed how funds, policy and responsibilities will work and agreed will need to wait to see how this evolves.
- Recognised that Government focus on research and innovation has come a long way and it's positive we now have this new department and at the forefront of government thinking.

The Funding Service

It was advised the Technology Funding Services that will replace Je-S remains in progress for implementation across the year. UKRI have sent out comms about how people need to apply, as the information being asked for will look different, and there will be further communications in March.

It was noted by SETB members that 'TFS' (at the time viewed) did not seem to have appropriate mechanisms for departmental checking and everything appeared to go through centralised research offices. In Je-S editors can be added (e.g., finance officers, research facilitators, PA, etc) to grants to ensure they are presented to EPSRC as professionally and this capability would be helpful in the new service - **ACTION** – Jane to follow up and share update.

Jane closed with a final update that EPSRC continue to work on delivery plan implementation.

2. UKRI Strategic Themes Update

2.1 Jane shared the UKRI 5 strategic themes for the current period as follows:

- Building a green future
- Securing better health, ageing and wellbeing
- Tackling infections
- Building a secure and resilient world
- Creating opportunities, improving outcomes

2.2 A summary of the comments from SET B from the discussion included

- Consideration of partnering with DEFRA and DHCLG amongst other departments in investment for low carbon living
- The importance of further consideration of epidemic preparedness and the interdisciplinary research opportunities
- Much of the conversation reflected on the 2 health related themes where the subtheme focuses were more directed to preventing and managing ill health – rather than the opportunity to focus on how everyone can live their best life. By reframing the perspective of these themes in this way there could be greater opportunities for more adventurous approaches and solution to ensure everyone lives well. SET B encourage EPSRC to see how they could input to the development of these themes to build on opportunities for medical and digital science to work together and how psychology, behavioural and cultural resilience as well as engineering was included in consideration of areas for future focus

ACTION – Provide SETB summary to Council in March

ACTION – SETB requested a UK capability mapping of sub themes

ACTION – Jane to share the detail of the advisory groups for information

3. Engineering Net Zero

3.1 Jane welcomed Lucy Martin (Deputy Director, Cross-Council Programmes) and Ruqaiyah Patel (Joint Head of Energy and Decarbonisation), who lead work on Engineering Net Zero, one of the mission-inspired priorities within EPSRC. SETB were informed that the update provided to SETB used material from an update to Council in December 2022.

3.2 Lucy and Ruqaiyah provided an overview of Engineering Net Zero which takes a whole systems approach, to tackle climate change, reduce consumption behaviours, and enhance sustainability and economic prosperity.

The update included:

- How EPSRC works closely with government and colleagues within UKRI
- Discussion on some of the plans for this SDP period (until March 2025), and the need to invest in high risk, high reward research, and need to have people with the skills to deliver research against this priority.

3.3 SETB were then invited to provide feedback on the skills and training needs within Engineering Net Zero. Points from SETB included:

- Some members emphasised that science is important to get to Net Zero – and advised it's important not to train too broad and too wide. People should be trained to be experts in their disciplines and given specific training to then be able to work in interdisciplinary teams.
- Others noted the need for depth of expertise, but it was noted by others that breadth would be helpful as well.

- Members challenged digital twin modelling and suggested not to over emphasise them in the plans.
- It was asked how will we be measuring success and to know if we are on track?
- In reference to skill sets, it was suggested that there is a perception that more could be done to support students being more industry ready, and asked if there was a way to unlock that?
- Slide on skills was developed based around CDTs – this would be relevant across many CDTs beyond this thematic area
- It was commented that the delivery of all CDT's would need to consider net zero and environmental sustainability.
- It was noted that there is a need for the early career stage to ensure the pipeline.
- It was reflected that with KTP, research into industry is already happening.

3.4 Further discussions included:

- The inclusion of science aspects and not just engineering aspects in recognition of not excluding communities.
- There is a need to consider how we link effectively training and research outcomes.
- There is a need to think within as well as across disciplines.
- It is important to get balance right of depth and wider environment understanding in training provision.
- Consideration is needed on how you build the ability to work in a team given the needs to work collectively. The development of team science approaches would contribute here.
- It is important to consider how to encourage movement between academia and industry – such as collaborative placements. How can you make it easier to move between the two and get the experience early on without an imbalance to an individual career. How do you take a specialist and make them into a team player?

4 TERC – Tomorrow's Engineering Research Challenges

Jane welcomed Rachel Bishop, Andy Lawrence, and Masie England to present the item. After sharing papers with SETB, Rachel opened the session and noted that the team had previously updated SETB in 2022. EPSRC Council had asked SET B to provide input to EPSRC to help identify initial technical research areas for possible additional investment by EPSRC

SETB were given an opportunity to feedback and below is a summary of following discussion:

- Is there value in considering future policy environment?
- Robotics and AI – these are just some aspects of it. How does this sit within the global stage?
- The 8 themes are all important, but some overlap which might provide an opportunity
- Consider how much financial commitment already is going into each area?
- Transportation didn't specifically reference freight transport – and this is a major sustainability challenge. SETB felt that this could this be brought out more.
- Nature based engineering questioned – should not just be interpreted that because it's nature it adds value – overlaps with other themes would provide focus points.
- Noted that this is about putting engineering at the forefront – but advised that also need to clear on wider goals being contributed towards - what is the add that don't already have

- Opportunities for a public engagement with engineering were highlighted – UKRI was developing it public engagement approaches and EPSRC was feeding in that engineering could be an early focus area . It was agreed in summary to identify the things we should do to add value on the longer term and where the opportunities lie, considering the timescales that they work on.

5. CDT – Centre for Doctorial Training

Jane welcomed Alison Wall, Nick Cooper, and Sarah King to the meeting.

Sarah King presented slides sharing the latest timeline and shared the Outline panel plans. SET B would have a key role in advising on portfolio balance of the outlines invited to the next stage of the CDT call at their meeting scheduled for the 18 May.

Nick Cooper shared the balance information and focus areas. this included information about science priorities and geographic distribution and sectors.

It was highlighted the plan is to finish panels on 11th may and then have a SETB meeting on 18th May. This will involve presenting a number of potential portfolio balances to SETB and asking for advice on the benefits and risks of each potential scenario. This will focus on portfolio level not on specific proposals. It was asked if the process made sense and if SETB needed any further information to provide informed advice.

5.4 SETB shared the following feedback

- How will this work with the AI CDT call in parallel – it was advised we won't balance across them, as they have discrete remits.
- It was asked if EPSRC had a desired balance across the portfolio – an overview of what a good portfolio looks like, or a scale of activities within that would be a starting point. EPSRC agreed to provide a sense of the current portfolio by research training experience and research themes, noting that we're not looking to directly replicate this but evolve to fit future needs.
- It would help to have panel notes and understand the panels' rationale for having ranked as they have. EPSRC advised this wasn't part of the plan to ensure a separation of the role of peer review from SETB's balancing advice. EPSRC will only bring forward proposals that have been recommended by the peer review panels as the highest quality and would only propose substituting proposals of a similar ranking if the balance needed adjustment.
- It was flagged that there could be risks in trying to cover off many different criteria. This was recognised and was why the criteria had been placed in a priority order. the information to be shared with SETB would need to be able to identify the consequences of balancing against lower criteria on criteria further up the list.
- SETB advised that there may be anomalies where proposals could have been coded to multiple focus areas or research priorities. EPSRC agreed to reflect on how we manage this.
- SETB discussed the full proposal peer review process, and the need for a robust process in a short timeframe. EPSRC confirmed that those conversations are ongoing internally. SETB shared that independent peer review is paramount and while sympathetic to the time scale challenges, had concerns about alternative approaches. SETB flagged the need to understand any conflicts of interests, and to ensure sufficient reviews, such as by pre-notifying the community. EPSRC thanked SETB for the feedback and advised that they are working through this to ensure robustness. SET B agreed that the EPSRC ambition to be able to announce the outcomes before the end of the year was right (given student recruitment timetables) and thus agreed that it was not possible to extend the timeline for the call process.

6 Big Ideas – Assessment of Updated Ideas

6.1 Jane welcomed Samantha Francis, Sarah Harman and Diane Howard. STFC’s Head of Strategy, Rosanna Greenop, also joined the meeting to observe the discussion of Big Ideas.

6.2 SETB discussed one updated idea. As this had previously been discussed at the SETB meeting in September, SETB’s focus was on additional information that had been provided by the submitter, input from STFC’s Visions panel, and recommendations for next steps to take. The SETB recommendations are summarised below:

SETB recommended that the submission did not progress further through EPSRC’s Big Ideas pipeline. Instead, they signalled agreement with the recommendations of the STFC Visions panel to pursue an alternative approach to future funding in the area.

AOB and Close

- SETB shared feedback on Research fish – **ACTION** - Jane responded and will share with colleagues
- Jane thanked members whose membership with the board expires in March

Summary of actions:

Action	Description	Owner	Status
12.1	Check if TFS can add editors	Jane Nicholson	
12.2	Provide a SETB summary to Council in March.	Jane Nicholson	
12.3	SETB requested a UK capability mapping of sub themes within UKRI strategic themes	Jane Nicholson	
12.4	Share detail of advisory groups with UKRI strategic themes.	Jane Nicholson	
12.5	Share feedback on Research Fish to EPSRC SLB	Jane Nicholson	