

Minutes of UKRI-BBSRC Council Meeting 27 September 2019

Those attending:

Professor Ewan Birney FRS
Professor Ian Graham FRS
Professor Laura Green OBE
Professor Martin Humphries (Chair of the meeting)
Dr Deborah Keith
Professor Dame Ottoline Leyser FRS
Professor Andrew Millar FRS
Professor Malcolm Skingle CBE
Professor David Stephens
Dr Belinda Clarke
Professor Melanie Welham (UKRI-BBSRC Executive Chair)

Also attending:

Dr Paul Burrows
Dr Amanda Collis
Dr Karen Lewis
Dr Stephanie Blackwell
Dr Richard Brown
Dr David McAlister
Dr Jef Grainger
Paul Gemmill
Dr Lee Beniston
Dr Karen Lewis
Dr Elizabeth Saunders
Jackie Rostill
Dan Hodges
Dr Colin Miles
Dr Rowan McKibbin

STANDING ITEMS

ITEM 1: OPENING REMARKS (ORAL)

1. Martin Humphries (Chair) welcomed everyone to the first meeting of BBSRC Council with Martin acting as Chair in his role as Senior Independent Member. The SIM acting as Chair brings BBSRC Council in line with practice across other Councils of UKRI, freeing Melanie to take part and consider Council's discussions more fully, rather than focusing on the timings and logistics. Martin welcomed Dan Hodges (in place of Alex Marsh), UKRI Deputy Director of Analysis and Performance, attending as UKRI observer.

ITEM 2: MINUTES OF THE COUNCIL MEETING HELD ON 12 JUNE 2019 (UKRI BBSRC 16/2019)

2. The minutes were **agreed** as a correct record of the meeting. Martin signed.
3. Council **agreed** that going forward, delivery dates should be listed against items in the actions table.

ITEM 3: PROGRESS ON ACTIONS AND MATTERS ARISING (ORAL)

4. Paul Burrows and Amanda Collis provided Council with an update on all actions 'open' or 'in progress', see the action table at the end of the document.

ITEM 4: EXECUTIVE CHAIR'S REPORT (UKRI BBSRC 08/2019)

5. Melanie gave the Council opportunity to ask questions on her *Report from the Executive Chair*, which provided Council with an update on UKRI-BBSRC's recent activity.
6. Council queried what balance the GGR Demonstrators would have between bio-based research and industrial application. Amanda explained that the GGR SPF call is a UKRI-wide initiative and is focused on feasibility-based research across the UKRI remit. The scope is based on the [Royal Society GGR](#) report, of which, the call is a direct response.
7. Council noted that Rothamsted Research has been considering its future strategic direction and asked if BBSRC has been engaging with Rothamsted as it develops its future strategy. Melanie provided further context explaining that the current director is stepping down and that the institute have carried out an international science review which is informing their strategy. BBSRC recognises that Rothamsted Research has a long legacy in agricultural research which is of strategic importance and so BBSRC has worked very closely with the senior leaders at Rothamsted over recent months, stressing the activity is very much led by Rothamsted, as an independent research institute.
8. Rothamsted are looking to recruit their new director and Melanie noted that there may be Council members who could support the process, once they are at the appropriate stages of discussion. Paul Gemmill, who is leading on institute sustainability, noted that Rothamsted are also looking at the future strategy ahead in relation to the next spending review. Paul Burrows noted that the institute has a significant role to play in leading the agricultural industry progression towards meeting the UK Net Zero targets. Council also suggested that a missing part in the landscape is "fundamental" agricultural systems research.
9. Melanie explained that GCRF, NPIF and Newton budgets are set but other budgets are awaiting confirmation from the respective Government departments. Melanie highlighted the positive note from the Chancellors speech regarding continuing with the 2.4% spending commitment on R&D by 2027. UKRI and all of the research councils are building the business case for utilising the additional investment.
10. Melanie introduced the "Reforming our Business" project, which is tasked with delivering solutions to the challenges of cutting bureaucracy. One aim is to reduce the time and cost required of applicants during peer review, in addition to investigating how UKRI can work in a more agile way, allowing us to focus on value added activities as opposed to the "process", so we can build the best environment for Research and Innovation.
11. *These paragraphs have been removed as they were deemed business sensitive.*

ITEM 5: UPDATES FROM GOVERNMENT DEPARTMENTS (ORAL)

12. Martin explained that normally Council will have an update from Sir Ian Boyd, Defra CSA on behalf of CSAs across Government. However, Sir Ian's term on council has ended with Professor Gideon Henderson, the new Defra CSA, starting in December.

ITEMS FOR DISCUSSION AND NOTE

ITEM 6: OUTCOMES OF BIG BIOSCIENCE IDEAS PIPELINE (UKRI BBSRC 18/2019)

- 13.** Amanda Collis introduced the agenda item on the 'Biosciences Big Ideas Pipeline' (launched June 2019), highlighting that it is a pilot programme aiming to engage the broader bioscience research and innovation community in identifying adventurous and exciting ideas that could be taken forward by BBSRC. Amanda explained that the item would seek to review and prioritise ideas submitted through wave one of the pilot exercise and seek Council's feedback on the pilot and how it would like to engage with the process going forward. Council was informed that the pilot would run for two further waves.
- 14.** Council were informed that while the aim of the pipeline was to have a 'rich and deep bottom drawer' of developed ideas that could quickly be taken forward as opportunities arise – for example through cross-cutting UKRI funds – there were a number of avenues through which ideas could progress.
- 15.** BBSRC received 30 ideas by the first batching date of August 14th 2019, 28 of which were suitable to be brought to Council for prioritisation. Amanda thanked Council, who had reviewed the ideas ahead of the meeting and returned to the office commentary and high, medium, or low priority scores for each idea.
- 16.** Stephanie Williams-Blackwell and Richard Brown led the Council through the session format which would include collective prioritization of ideas, discussion of areas highlighted through horizon scanning that may be suitable for submission to future waves of the pipeline and gathering Council's feedback on wave one of the pilot exercise and how it would like to engage going forward.

Review and prioritisation of ideas

- 17.** Council reviewed a table of ideas ranked by aggregated priority scores returned in advance of the meeting. Council was invited to collectively agree the prioritization scores, discussing and advising BBSRC on any ideas that may require further development before progression and what that might entail. Council was advised that the Office would work to take forward ideas that were considered high priority and that this could be done through a number of different routes.
- 18.** In reviewing the ideas, Council noted that a number could be integrated. It was advised that this process would need to be carefully managed with originators being brought together and expert Chairs employed to facilitate the discussions and help develop ideas.

Outputs of horizon scanning activities

- 19.** Council discussed areas from BBSRC's Horizon Scanning activities that it had highlighted at its last meeting, noting areas that aligned with big ideas received and any areas that might be suitable for future submission to the pipeline:
 - a. Biodiversity and sequencing of species was highlighted and its alignment with idea BBIP0015. Council noted a need for GCRF style funding along with a multi-funder and multi-country approach. Biodiversity Is Global: empowering mega-biodiverse countries with a biodiversity-based bioeconomy. Council stated this idea should be discussed with NERC to understand their ongoing programmes, as well as Defra, the devolved administrations, and the United States Department of Agriculture.
 - b. Multi-Scale Biology: cells in context and physiology from molecular biology to whole organism was noted as an important area that was absent from the first

wave of the big ideas pipeline.

Council feedback on the pilot programme

- 20.** Council agreed that it would like to continue to prioritise ideas received through the bioscience big ideas pipeline stating that the activity fit well with Council's horizon scanning function. The format and volume of supporting paperwork had been acceptable. Feedback on the process and recommended refinements are noted below:
- a. There is currently a range of ideas being submitted from grants through to genuinely strategic big ideas. Council recommends sifting genuine big ideas from those applications which appear to be describing a single grant before the prioritisation stage.
 - b. Council recommends providing data on alignment of ideas to BBSRC's forward look and succinct contextualized intelligence from BBSRC Office as an aid to prioritization.
 - c. Future assessment of ideas should continue to be decoupled from the people and institutes that submitted them.
 - d. The Office should consider whether it would be appropriate to give weighting to the categories within the prioritization criteria, suggesting that they should not be weighted equally.
 - e. Council stated that it should undertake an annual review of the 'longlist'
 - f. Council noted the opportunity to highlight areas in the call text if there is a dearth of ideas in a certain field.
 - g. Council stated it would be helpful to understand why, if investment had already been made in an area, the big idea had not yet been realized and what was needed next to take it forward.
- 21.** In taking ideas forward and providing feedback, Council advised that communications need to be well thought through so as to not lead originators into thinking there will be funding for their idea when asking for more work to develop ideas. It was also stated that ensuring that the 'best in class' are brought in to lead or help develop ideas will be critical to their success.
- 22.** Council urged caution with respect to the development of ideas leading to funding opportunities and highlighted the need to decouple the development process from future funding.

ACTION UKRI BBSRC 18/2019A: Council to continue to review the Big Idea Pipeline submissions subject to office review of the Council recommendations (point 15, a-g). Delivery Date Dec 2019. Lead: Amanda Collis

ITEM 7: DOCTORAL TRAINING: REPORTING THE OUTCOMES OF DOCTORAL TRAINING PARTNERSHIP (DTP3) (UKRI BBSRC 19/2019)

- 23.** Martin handed over chairing duties to Melanie who introduced Karen Lewis and David McAllister (Associate Director, Research and Innovation Talent). Council was asked to declare conflicts of interest and a strong conflict of interest had been identified for Professor Ottoline Leyser, who took left the room for the duration of item 7. A soft conflict was identified for Ian Graham for one aspect of the discussion and he left the room for this element.
- 24.** Karen summarised the outcomes from the Doctoral Training Partnerships (DTP)

Assessment Panel meeting held over 10th and 11th July 2019 and presented the proposed allocations for those partnerships rated as fundable, providing brief details of the three bids considered unsatisfactory and unfundable. There were 15 applications received for the call which opened in January.

25. David reminded Council of the aims of the DTPs which are to develop capacity in the core disciplines of biosciences and ensure that students receive technical, scientific and transferrable skills for future employment in the research and other sectors, within an inclusive and supportive training environment.
26. *These paragraphs have been removed as they were deemed business sensitive.*

ITEM 8: INDUSTRIAL BIOTECHNOLOGY AND SYNTHETIC BIOLOGY IN THE CONTEXT OF THE BIOECONOMY AND CLEAN GROWTH (UKRI BBSRC 20/2019)

27. Martin introduced Rowan McKibbin (Associate Director, Frontiers and Foundations), Colin Miles (Head of Strategy, Renewable Resources and Clean Growth) and Lee Beniston (Head of Innovation) to this session. Council was invited to have a strategic discussion about the opportunities presented for BBSRC bioscience by the current Government policy focus on action in significant areas such as Clean Growth, 'net zero' and environmentally persistent plastics. The slide deck attached to the papers (item 8) for this meeting provides relevant background information.
28. Paul Burrows introduced the item which builds on the discussion that Council started at the previous council dinner regarding the bioeconomy and industrial biotechnology in relation to the huge amount that BBSRC research has to offer these themes. BBSRC has led across UKRI in developing the narrative for the bioeconomy and its contribution to clean growth and sustainability agendas across the breadth of UKRI partners. This has been informed through Lee Benniston working extensively with BEIS to help develop a UK Bioeconomy Strategy across government. The strategy is a joint industry and Government strategy, spanning agriculture to leading bio-based processes, and has the potential to contribute significantly to the UK and global circular economy.
29. Colin Miles gave a brief presentation on BBSRC's strategy and future thinking with respect to Industrial Biotechnology and Bioenergy. Colin gave an overview of some of the current activities working directly towards government strategy (Circular Economy, Net Zero) such as the Networks in Biotechnology and Bioenergy (NIBB) and highlighted some of our current international partners (Brazil, FAPESP; India, DBT; EU, and Newton/GCRF). Future activities relating to Net Zero include a Greenhouse Gas Removal Demonstrator programme (£22.5m) and there will be £2m Industrial Biotechnology for Higher Value Chemicals which will strive to support the UK Bioeconomy.
30. Colin explained that the community that the NIBB have brought together are eager to engage with BBSRC on bioscience projects for clean growth, as demonstrated by a significant number of Big Ideas coming in from the NIBB community. IBBE aspirations in the future are to support sustainable manufacturing and improved processing systems, building on the outcomes across the academic and business communities. Colin explained that there needs to be opportunity in the future to create inward investment and change the culture of the global chemicals manufacturing towards low carbon alternatives.

31. Colin noted that previous investment has been limited from BBSRC when applications involve manufacture. Additionally, it appears that IBBE doesn't appear to be a priority of Innovate UK. However, IBBE has had external recognition of the potential impact it can have from UK government, BEIS and UKRI in relation to the carbon agenda.
32. Rowan followed with a presentation on the strategy and future thinking regarding Synthetic Biology. Synbio is part of the solution to developing novel products and improving processes, thus aligning with similar strategies under clean growth and Net Zero. There is an opportunity to exploit the UK's world-leading position, create an entrepreneurial environment, encourage SME engagement, and promote responsible research and innovation and ethical green growth.
33. For Synbio in the UK, the aspiration is to have flagship centres of excellence, alongside technology platforms, a dynamic and agile culture with a highly skilled workforce, an entrepreneurial spirit and an internationally networked community. Rowan highlighted a pathway to achieve these aspirations with potential short (<12 months) and medium term (12-24 months) actions mapped out.
34. The 5-year plan aims to have large-scale strategic investment across government, consideration of BBSRC and the UK's role nationally and internationally, and access to key infrastructures. We should ensure that Synbio continues to be agile, and horizon scan for new disruptive technologies. Rowan highlighted some of the challenges facing Synbio such as slow-to-change regulatory frameworks; first-mover disadvantage, (negative) public perception and the challenges of fostering true multidisciplinary science.
35. Council **discussed** the boundaries of the remit of Synbio from underpinning tools and technologies, through to specific challenge-oriented applications and considered whether having all of these activities branded as 'Synbio' was helpful. There was also discussion about whether the regulatory issues were confined to GMOs only.
36. Melanie highlighted that Synbio was one of the "8 Great Technologies" which has influenced how the area looks now and reinforced that Synbio isn't one technology or remit but fits across numerous different areas and may need to be broken down to align with current government strategies. Aspects of Synbio can be described as metabolic engineering, but it is important to partner Synbio with IBBE to develop real world impact (manufactured products). Melanie highlighted that the underlying tools and technology would remain in the Synbio remit.
37. Lee explained his work with BEIS in the development of the UK Bioeconomy Strategy and outlined that the current policy environment, such as the: UK Clean Growth Strategy, UK Industrial Strategy and 25 Year Environment Plan, all align to provide an excellent foundation for the UK bioeconomy to thrive on a pathway to clean, green growth. Lee explained there is a significant opportunity to ensure that the bioeconomy plays a key role in putting biotechnology at the heart of the UK's journey to clean growth and in contributing towards both the UK Net Zero targets and 2.4% ambition.
38. *This paragraph has been removed as it was deemed business sensitive.*
39. Council recognised BBSRC's excellent leadership and support in UK bioeconomy activities and noted the importance of BBSRC's continued role sustaining, growing and harnessing its business relationships across the UK bioeconomy.

40. Council **advised** there were several areas that BBSRC can support in working towards net zero, such as Willow coppice and Miscanthus, which are in remit for IBBE and Agriculture for Food Security and offers added value from the products that can be made from these biomass sources. However, Council noted that Willow and Miscanthus are unlikely to be a feasible cost-effective solution for sustainable aviation fuel. Council acknowledged the biofuels debate and the BBSRC response, however, Council highlighted the need for sustainable aviation fuel.
41. Council **advised** that a re-packaging (a banner linking Synbio to IBBE) exercise to align with government strategy may attract more investment in Synbio/IBBE. Council also **advised** BBSRC Office to consider China as a key partner in agricultural systems. Colin highlighted that arranging a mutual understanding of the ownership of arising IP has proven difficult in this area.

ITEM 9: REVIEW OF “BIOSCIENCE FOR INTERNATIONAL DEVELOPMENT” (UKRI BBSRC 21/2019)

42. Martin introduced Jef Grainger, who along with Amanda Collis and Ian Graham presented this item. Amanda Collis introduced the item highlighting the substantial scale up in ODA investment via GCRF and Newton and that it was timely to reflect on the investment so far and identify the challenges and opportunities arising.
43. Ian Graham, as chair of the Task and Finish Group, noted that it is a very complicated landscape and explained that the group went slightly beyond the typical review, pulling out much more insight than expected. There was a clear message that the BBSRC approach is good and BBSRC should have more confidence in forecasting from our own science base. The dual system of mission-led research but leaving the door open for serendipity is something to be welcomed and should be continued going forward.
44. Jef (senior leader,) who was supported by Frances Medaney and Michael Booth on the project, then led Council through a more detailed overview. There was a mixed economy of investments that was well received by the Task and Finish Group. In terms of GCRF Theory of change, which details the pathway to impact over 15 years, BBSRC has a niche in the first 2-4 years (early stage fundamental and strategic research) of the pathway. Council advised that BBSRC stick to this strength and focus on the gains made in those first years of the pathway, ensuring the appropriate networks and partnerships were being established and supported to ensure the effective uptake and translation of research outputs.
45. Council queried if it is possible to assess feedback from the partner countries. Jef advised it was not done as part of this exercise but agreed with council that it would be worthwhile asking the question in the future. Council highlighted that the UK also has work to do in meeting SDG's and should avoid focusing entirely on international endeavors when, for example, the UK could improve how it manages its water resources.
46. Council highlighted concern that the precedent for ODA spend to be intermittent between calls and mechanisms and the strict spend profiles for ODA investment is restricting when projects are faced with additional unforeseen challenges that can arise in international projects. Melanie explained that ODA investment is on calendar year cycle and tied to a strict UK government commitment of 0.7% GNI spend, where

there are additional processes required for reporting.

47. Council **agreed** on the utility and framing of the proposed Vision and Framework for Bioscience for International Development (Annex 4), commenting that overall it is a positive piece and are keen to see the recommendations operational as soon as possible. Council also commented that the group had done a thorough job.

ITEM 10: FORWARD LOOK (UKRI BBSRC 22/2019)

48. Melanie led the discussion on the Forward Look as it sets out potential agenda items for forthcoming Council meetings and discussion subjects for Council dinners. The December meeting will cover: collaborative training; the mid-term review of Institute strategic programmes (taking place in October 2019); and a review of the updated risk register. Duncan Wingham, EC (NERC) will attend for a discussion item on opportunities at the BBSRC-NERC interface. Jenifer Rubin (EC, ESRC) is looking at a range of areas including research culture which could link into the 2020 meetings.
49. Council **commented** that at some point a data science and infrastructure discussion should be considered by Council, together with relevant ideas from the Big Ideas Pipeline. Council **identified** areas for discussion at the BBSRC: NERC interface, for example: biodiversity and sequencing all of the species on the planet, where a brief for Duncan would be useful. Council advised that the Research Reproducibility conversation needs to be revisited to cover where the topic is heading now. Council would also like to see discussion around the International Strategy Framework to be brought forward to the Council meeting in March 2020 where Tim Wheeler should be invited.
50. Council queried if having other research council ECs (BBSRC, MRC, EPSRC and increasingly ESRC) attending throughout the year would assist with aligning thoughts on strategies and working together across disciplines.

ACTION BB22-2019: Engage with Duncan Wingham on cross NERC-BBSRC topics for discussion at December Council meeting, e.g. biodiversity and Earth Biogenome Projects. Lead: Melanie Welham. Delivery Date: Dec 2019.

ITEM 11: ANY OTHER BUSINESS

51. Melanie shared the slides showcasing the outputs of the most recent UKRI branding exercise.
52. Ksymena will be returning from maternity leave in October and will resume her role as lead of Council Secretariat. Council thanked Oliver and Elizabeth for the support they had provided to Council over the past 12 months.

Council Secretariat
September 2019

Agenda Item	Action Description	Owner	Delivery Date	Status
	Actions from 27 September 2019			
6	<i>ACTION UKRI BBSRC 18/2019A: Council to continue to review the Big Idea Pipeline submissions subject to office review of the Council recommendations (point 15, a-k)</i>	Amanda Collis	December 2019	Ongoing
7	<i>This section has been removed as it was deemed business sensitive.</i>			
7	<i>This section has been removed as it was deemed business sensitive.</i>			
10	<i>Forward a brief to Duncan Wingham on cross council remit topics such as biodiversity and sequencing all of the species on the planet.</i>	Melanie Welham	December Council Meeting	Ongoing
	Actions from 12 June 2019			
6	<i>BBSRC Executive will take forward the recommendations and develop an implementation plan and brief Appointments Board on the new strategy advisory arrangements.</i>	Paul Burrows	Update in March 2020	Complete – Report in due course
7	<i>Feedback from Council discussion to be incorporated into the finalised draft of the roadmap.</i>	Rowan McKibbin		Complete.

8	<i>BBSRC Executive Team to keep Council updated on progress with spending review planning.</i>	<i>Paul Burrows</i>		Ongoing.
9	<i>BBSRC to consider these areas as part of on-going strategic development and alongside the ideas submitted to the 'Bioscience Big Ideas' pilot.</i>	<i>Peter Burlinson</i>		Complete
10	<i>BBSRC to consider this input as the review of bioscience for international development is finalised and as a part of spending review preparations.</i>	<i>Amanda Collis</i>		Complete
11	<i>BBSRC to consider the input from Council when updating the risk register.</i>	<i>Lucy Davidson</i>		Complete.

Annex 1 – SENSITIVE: ITEM 6 RESERVED: OUTCOMES OF BIG BIOSCIENCE IDEAS PIPELINE (UKRI BBSRC 18/2019)

This item was recorded separately as it was deemed business sensitive.