



Biotechnology and
Biological Sciences
Research Council

Towards a circular bioeconomy for technology-relevant metals and textiles

Webinar

8 June 2022, 10:00-11:30

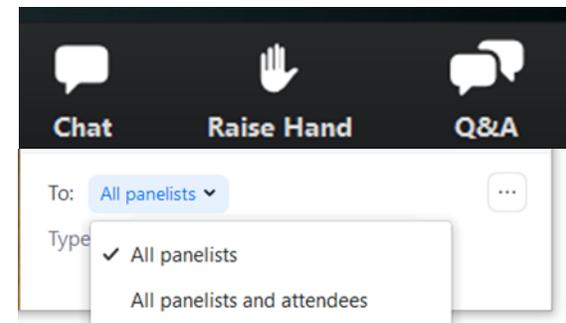
13 June 2022, 14:00-15:30

***please note the Webinars will be recorded**

Welcome: we will be starting shortly

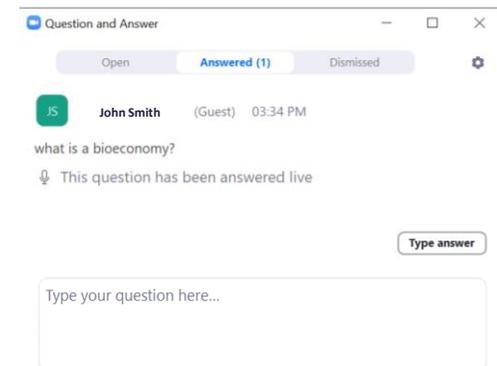
Technical Notes

- Please note the Webinar will be recorded
- By default, attendees are muted and video is turned off
- Please use the Chat to introduce yourself and your interests if you're looking for collaborators. You can add your contact details if you would like but be aware you're sharing them with everyone on the webinar
- Submit any questions that arise as the webinar progresses via the **Q&A** function
- For technical assistance during the webinar please contact the panellists in the Chat



Questions

- You can submit questions during the webinar progresses via the **Q&A** function.
- Questions can also be submitted to circulareconomies@bbsrc.ukri.org at any time. A team member will reply or we can arrange to speak.
- Detailed questions about a specific proposal which are unlikely to be relevant to other attendees should also be sent to the inbox.
- Questions about the Je-S system should be emailed directly to JeSHelp@je-s.ukri.org



Today's Panel

- Panellists

- Colin Miles: Research Strategy and Programmes (Sector Head)
- Jennifer Swarbrick: Research Strategy and Programmes
- Chloë Heywood: Research Strategy and Programmes
- Roderick Westrop: Research Strategy and Programmes
- Chrysanthi Michelaki: Research Strategy and Programmes
- Ellie Weston: Research and Innovation Funding Delivery
- Lucy Vencatasamy-Jones: Research and Innovation Funding Delivery

- Single point of contact

circulareconomies@bbsrc.ukri.org

- Slides and a Q&A document will be posted on the call website after the webinar and you will be emailed a copy of the recording

Purpose of the Webinar

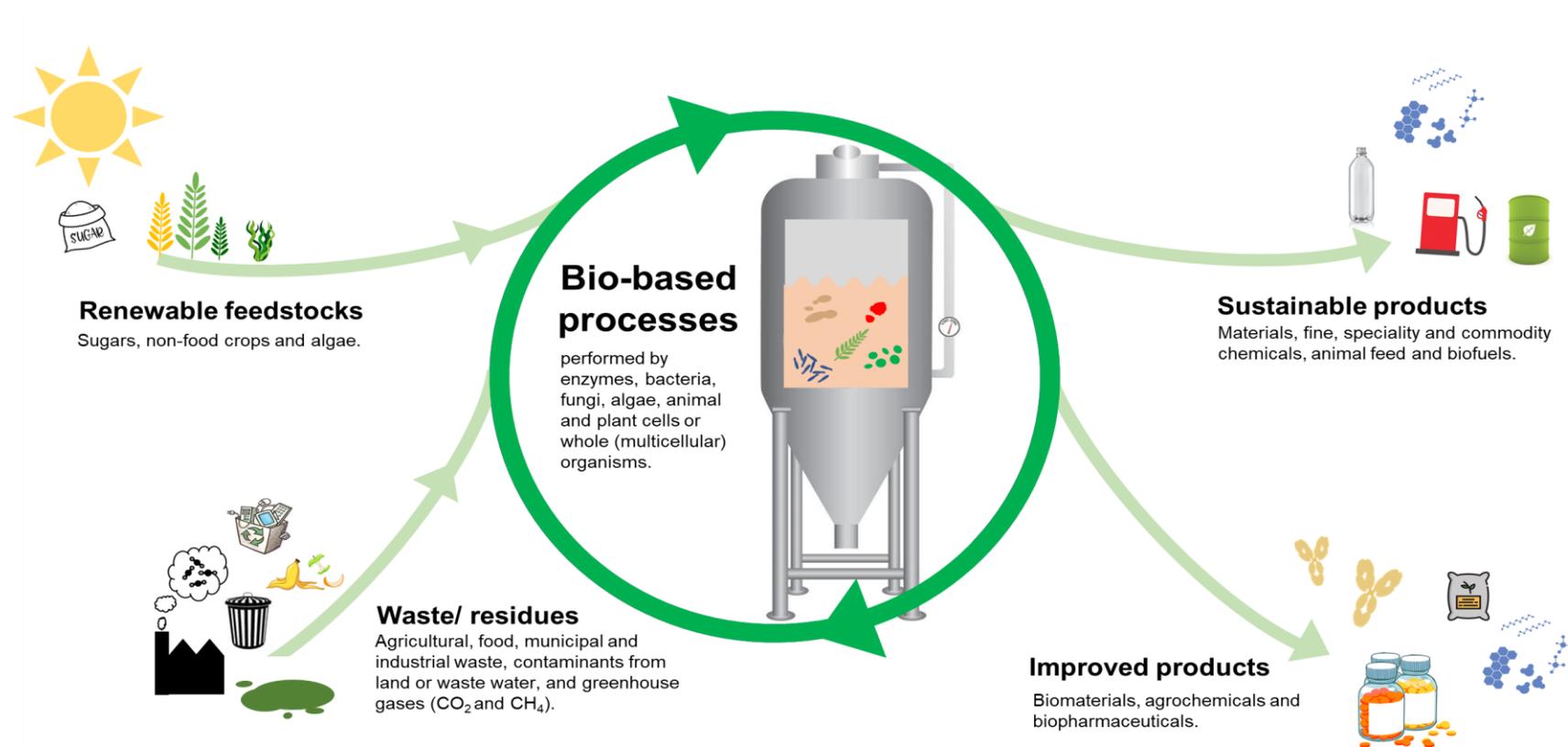
- Provide background for the '*Towards a circular bioeconomy for technology-relevant metals and textiles*' opportunity
- Outline the scope
- Outline the application process and eligibility
- Introduce the Team Résumé for Research and Innovation
- Answer your questions
- The Webinar will last for maximum 90 minutes

Agenda

- Overview and the scope of the call
- Application and assessment process
- Eligibility
- Open Q&A

Bioscience for Advanced Manufacturing and Clean Growth

Bioscience research relating to the use of biological systems and processes for manufacturing low carbon and/ or improved biopharmaceuticals, materials, chemicals, energy vectors and industrial feedstocks, and utilising renewable resources and waste.



Towards a circular bioeconomy for technology-relevant metals and textiles

What's this all about?

To develop a research programme that **applies biotechnological solutions** to offer circularity and environmental impact reduction in either the **textile industry** or the **recovery of technology-relevant metals** to:

- effectively re-use resources, thus reducing the need for new fossil-based inputs and reducing waste;
- reduce the environmental footprint of processes via switching to bio-based alternatives, and
- build in the recovery of materials at end of life, thereby facilitating remediation and minimising environmental impacts
- converge and grow a community of UK researchers and businesses providing biotechnological solutions to the circular bioeconomy
- improve understanding of the capabilities and limitations for translation and scale-up of the biotechnology-based approaches proposed.

The call scope

- We are inviting applications in two key areas:
 - **technology-relevant metal recovery**
 - **textile manufacturing and recycling**
- For the chosen area (metals or textiles) applications should address **one or more** challenges which will be described on the following slides. These descriptions are not exhaustive and other ideas that fit these challenges are encouraged.
- We encourage proposals that feature interactions with other disciplines but the **main aim of any project must be to develop and utilise biotechnological processes**
- Applications need to demonstrate a move away from the current linear system towards a circular system where materials and resources are re-used
- Applications should seek to provide evidence of impact on greenhouse gas emissions and environmental impact reduction that biotech-approaches can have compared to conventional approaches, when appropriately scaled

Scope: Textile manufacture and recycling

We are interested in applications that use **biotechnological approaches** to develop:

- **novel, sustainable and renewable textile polymers and fibres**
- **sustainable approaches to textile dyeing and finishing**
- **routes to recycle end of life textiles.**

Applications should address **one or more** of these challenges

The textile type is not limited to clothing textiles

These descriptions are not exhaustive, and other ideas that fit the three challenges are encouraged. Please contact us well in advance of the deadline if you are unsure whether your application fits within the scope of the opportunity

Scope: Textile manufacture and recycling

Biotechnological approaches to develop novel, sustainable and renewable textile polymers and fibres

- Approaches should make use of polymers from, for example: end-of-life textiles, crop residues and byproducts, food industry residues, coarse wool, municipal solid waste as a source of natural fibre, crop fibres (such as hemp, flax, algae), waste feedstocks as the basis for the manufacture of synthetic fibres through microbial fermentation.
- Projects that propose circular processing of such crop fibres will be considered. However, breeding of crops (such as cotton and hemp) to improve their sustainability would be out of scope.
- Applications which use biotechnology in the design process to create desired properties, for example resilience, drape, and breathability to make fabrics for specific application such as sportswear, are of particular interest. This could be, for instance, during the fibre spinning process or deposition of polymers.
- The use of biotechnological processes to extend the life of textiles or change properties during use are also in scope.

Scope: Textile manufacture and recycling

Biotechnological approaches to develop sustainable approaches to textile dyeing and finishing

- Approaches should address the generation of novel, benign, and low impact bio-derived dyes or bio-derived functional replacements for petroleum-based chemicals used in textile finishing to give desired performance attributes. This includes water repellence, sweat wicking or softness, for example, from bacteria, algae, plants, wastes or residues.
- We welcome applications to develop novel methods for incorporating bio-derived dyes and finishings into textiles that eliminate or reduce wastewater and waste chemicals in the process.
- Applications which explore the recovery of dyes from end-of-life textiles (allowing circularity in the supply chain) are also encouraged.

Scope: Textile manufacture and recycling

Biotechnological approaches to develop routes to recycle end of life textiles

- Approaches should explore the means to overcome major challenges in polymer recovery and reuse, dye removal, and related issues with garment components and embellishments (for example zips, buttons, sequins, beads) during recycling.
- Approaches should be predominately biotechnologically focused but could also include both chemical and mechanical approaches to facilitate biological processes.
- Recovered fibres should be suitable for creating new textiles or for new high-value applications.

Scope: Technology-relevant metal recovery

We are interested in applications that use **biotechnological approaches** to:

- develop or improve technology-relevant metal recovery from e-waste, mining, battery, and other industrial wastes
- enable the development of sustainable routes to produce high value products from recovered metals of significant industrial potential using industrial biotechnology, biorefining, and engineering biology.
- explore the feasibility of economic scales of operation and understand biotechnological-based metal recycling's role in the circular economy, including life-cycle assessment consideration.

Scope: Technology-relevant metal recovery

The anticipated outcomes of this programme will be:

- an improved understanding of how biotechnological methods can be used for extracting and separating key metals from complex mixes at a range of scales
- new biotechnological methods for solubilisation and recovery of metals including biofabrication of high value products

This opportunity will further demonstrate the ability of biotechnological methods to assist with some of the issues faced in relation to waste and recovery of technology-relevant metals.

What is out of scope?

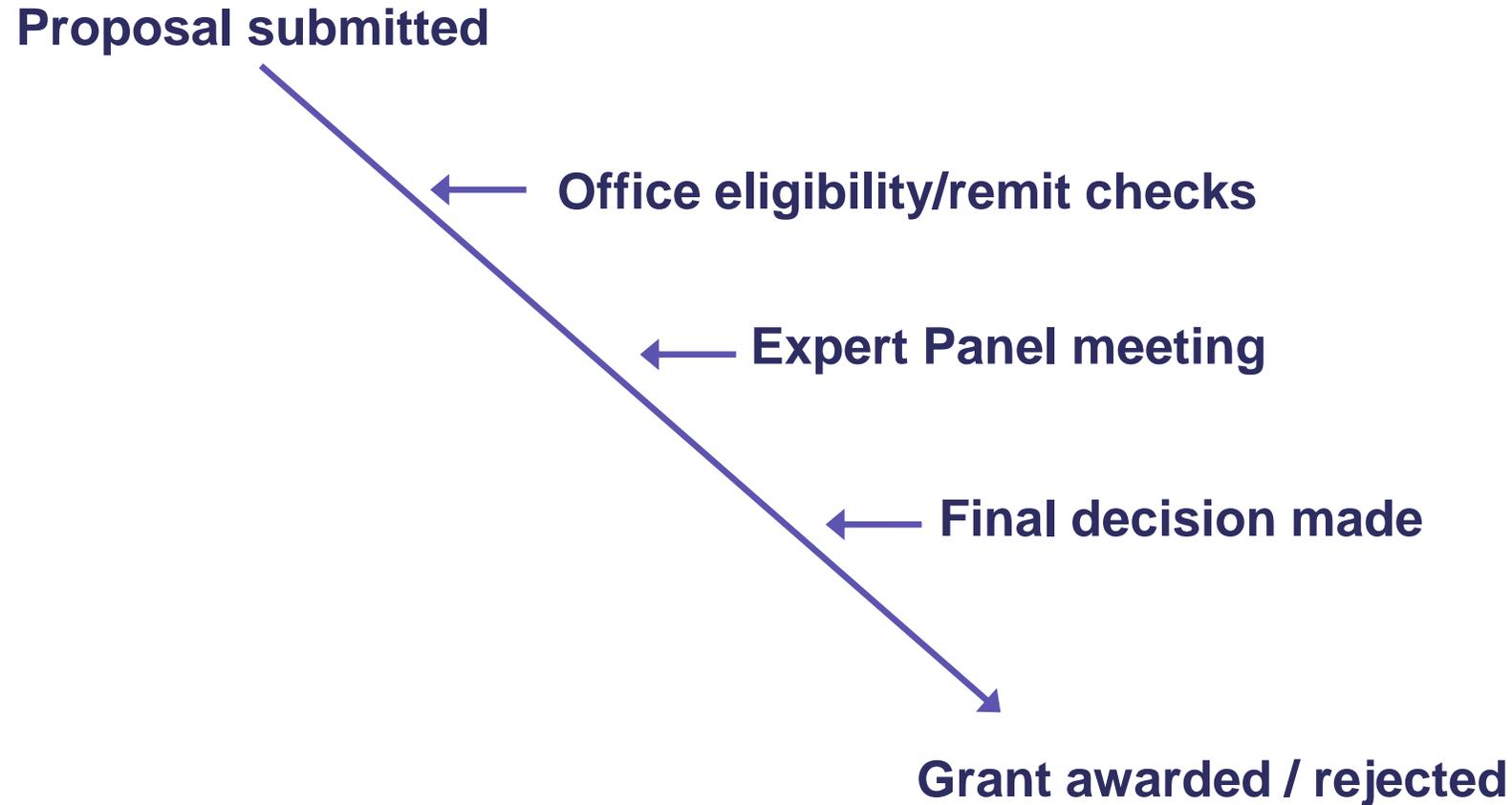
Applications in the following areas will not be accepted:

- applications that do not fit the scope of the opportunity
- projects with an exclusive focus on purchase of equipment
- resubmissions of previously unsuccessful applications
- specific to the textiles area - the funding opportunity focuses on circular approaches, as such, breeding crops (e.g., cotton, hemp) to improve their sustainability would be out of scope.

What can you apply for?

- The indicative budget for this combined opportunity is up to £5 million
- Small grants up to £375,000 (100% fEC). BBSRC will fund 80% of this value (max £300k)
- Duration of funding: up to 24 months per project
- We are anticipating supporting 8-10 projects in *each* area (textiles and metals)
- Can request funding for equipment where necessary to deliver project

Overview of the process



Application process

- **Application Deadline: 21 July 2022 16:00 (UK Time)**
- Submit a single Je-S proposal form (even if multi-institutional)
 - Cover Letter (One A4 page)
 - Case for Support (up to six A4 pages)
 - Justification of Resources (up to two A4 pages)
 - Team Résumé for Research and Innovation (R4RI) (up to two A4 pages)
 - Diagrammatic workplan (one A4 page)
 - Data management plan (one A4 page)
 - Letters of Support (where required)
- Applicants should also refer to the [Je-S handbook](#) and [BBSRC research grants guide](#), in addition to [the funding opportunity webpage](#) and call guidance, when preparing an application.

Application Documents

- **Case for Support**
 - Up to 6 pages
 - Flexible structure
 - Integrated routes to impact
- **Justification of Resources**
 - Describe resources required
 - Directly incurred/directly allocated/exceptions
- **Data Management Plan**
 - Data management and sharing

Refer to guidance for applicants document for further information on what to include

Eligibility and collaborations

- Standard BBSRC eligibility criteria apply
- You must be:
 - lecturer level or above
 - based at a UK research organisation eligible for BBSRC funding.
- Institutions normally eligible for BBSRC funding include, but not limited to:
 - higher education institutions
 - strategically funded institutes
 - eligible independent research organisations
 - public sector research establishments.
- Where eligible, we encourage applications from: Early career researchers, other disciplines and research technical professionals
- Partnership with industry/business is strongly encouraged but not mandatory
 - BBSRC are unable to fund the work of project partners
 - Letters of support are required

Team Résumé for Research and Innovation

- **Up to 2 pages + eligibility table** (template provided)
 - Role of each team member
 - Evidence of capability within team to deliver proposed work
 - Eligibility (standard eligibility criteria apply)
- Showcase **research outputs** and **contributions to teams, people development, scientific community** and **wider society**
 - Examples given should be directly relevant to the circular bioeconomies call
- Refer to **R4RI template and guidance** document available to download from the funding opportunity webpage for further information on what to include or contact us at circulareconomies@bbsrc.ukri.org

Team Résumé for Research and Innovation

- Mitigates against potential biases associated with CVs
 - Allows capture of a wider range of contributions to research and innovation
- Excellent opportunity to showcase why your team is right for the delivery of the proposed project
- Opportunity to highlight particular individuals
 - No need to mention every team member for each section
 - Select most relevant exemplars from within team to showcase
- Do not include CVs in your application!

Panel Assessment

- Will be assessed solely by the **Circular Bioeconomies Expert Panel** (no external peer review)
- Process:
 - 2 week individual assessment period (individual scores)
 - 2 week online discussion board period (agreed scores)
 - Panel meeting (finalise agreed scores and ranking)

Assessment criteria

- Fit to the scope of the opportunity
- Scientific merit
- Timeliness and promise
- Ability of the applicants to deliver the objectives of the project
- Anticipated economic and social impact
- Value for money

In addition, the following will be assessed for alignment with current guidance and policy:

- Data management plan
- Ethics and Animal usage

Some “Dos and Don’ts”

- ✓ DO submit proposals on a single Je-S form.
- ✓ DO include Researcher Co-Investigators/Fellows where relevant.
- ✓ DO request funding for equipment where necessary to deliver project.
- ✓ DO include references within the page limit of Case for Support and Team R4RI.
- ✗ DON'T include international or otherwise ineligible Co-Is
- ✗ DON'T submit identical, previously unsuccessful proposals
- ✗ DON'T submit standard individual CVs



Summary

- Read the call text, guidance and formal eligibility requirements carefully
- Address all aspects of the assessment criteria and the call scope
- Ensure you communicate your proposal clearly, for both subject specialists and a more general scientific audience

If in doubt, please contact us for advice: circulareconomies@bbsrc.ukri.org



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Thank you

Please use the Q&A function to ask
any questions

circulareconomies@bbsrc.ukri.org