Greenhouse Gas Removal Demonstrators

Full stage webinar

14th May 2020
SPF Greenhouse Gas Removal Demonstrators Programme (GGR-D)

• The Programme will assess sustainable routes for large-scale removal of greenhouse gases from the atmosphere allowing the UK to take a major step forward towards achieving net-zero emissions.
• Place the UK in a leading position to potentially benefit from the estimated £400 billion future global market in greenhouse gas removal.
• Use multi-disciplinary research to develop a range of technologies to potentially place the UK as international leader in greenhouse gas removal.
• Facilitate business development to implement the technologies in the future.
SPF Greenhouse Gas Removal Demonstrators Programme (GGR-D)

Programme Objectives

• To develop a suite of GGR technologies at demonstrator scale - £22.5m (led by BBSRC).

• To develop successful GGR solutions – understanding economics, governance, society and ethics at the programme level (Directorate Hub) - £6.3m (led by NERC).

• To develop and support sustainable GGR solutions – supporting technologies towards commercial readiness: The Hub, in conjunction with Feasibility studies - £1.5m to facilitate translation of the research (led by Innovate UK 2022-23).
Structure of Greenhouse Gas Removal Demonstrators concept

• up to five GGR Demonstrator facilities will be established and run over 4.5 years to test and pilot a suite of GGR approaches at scale.

• Findings will be integrated by a Directorate Hub which will co-ordinate the activities across the programme and link to relevant national and international research.
Background to the call

GGR Demonstrators (BBSRC)

• Up to £22.5 million is available for the call to support up to 5 demonstrators to test and pilot a suite GGR approaches at a suitable scale, moving towards TRL3-4 (or greater).

• Up to £4.5 million per demonstrator *(the 80% FEC value)* will be available dependent on the number of demonstrators funded.

• Each grant will be for a maximum of 4.5 years, ending financial year 2025/2026.
Background to the call

What are the Demonstrators expected to do?

- Demonstrate the potential for effective (quantitative) removal of CO₂ from the atmosphere at an appropriate scale (the UK 2050 target is 130 Megatonnes of Carbon dioxide (130MtCO₂) per annum).

- Undertake a complete Life Cycle Analysis for the Demonstrator using appropriate tools.

- Assess the environmental impacts of the chosen Demonstrator.

- Identify the key economic, financial, ethical, legal, social, cultural, behavioural and governance issues specific to the implementation of the Demonstrator project, including public acceptability issues.

- Develop the technology to support implementation at greater scale, within the UK, that will eventually meet or exceed the UK’s GGR 2050 targets as laid down in the Royal Society report on Greenhouse Gas Removal.
Eligibility criteria

• PIs and Co-Is from any discipline supported by UKRI are eligible.

• UKRI eligibility criteria applies for approved HEIs, RIs & IROs.

• Public Sector Research Establishments (PSREs) with 10 or more researchers can apply (now includes Forest Research).

• Recommend 6-10 Co-Is on a proposal (guideline only). The role of each Co-I needs to be fully justified.

• Inter-institutional and interdisciplinary applications are strongly encouraged.

• Investigators may be involved in no more than two proposals submitted to the call and only one of these may be as the lead Principal Investigator (PI).
Eligible costs

Please refer to BBSRC Grant guide (section 5) for an overview of all costs.

- Salary costs for the PI and CoIs, costed at an appropriate level to reflect the time spent developing and directing the Demonstrator.

- Salary cost for a dedicated Demonstrator Project Manager(s) (full time, part-time or job share) are eligible and should be requested at 80% FEC.

- Costs for supporting community events (room hire, catering, etc.) that will benefit the wider community rather than just the host institution are eligible to be requested at 100% FEC.

- Flexible Funds up to £500k of the grant (requested at 80% FEC) to support further academic or business interactions (to be discussed later in the Webinar).
Eligible costs – Capital equipment

- Capital expenditure of approximately 18% of the grant is available across all of the Demonstrators. Please read the BBSRC Grants Guide thoroughly (sect 5.14-5.3) when submitting costing for any research equipment.

- BBSRC will generally contribute no more than 50% of the final purchase price of any single item of capital equipment between £10k and £138,000 (incl VAT) and will expect the Research Organisation(s) to contribute the remainder.

- Single capital items of equipment above £138,000 (incl VAT):
  - 2 page business case for each item.
  - Normally funded at 50% of total cost and the institution will be expected to provide the remaining 50%.
  - 3 x Quotations (If there are less than three potential suppliers for an item explain this in the ‘Justification of Resources’ attachment and upload 2 blank documents as equipment quotes).

- Quotations should be as accurate as possible at submission but some refinement will be allowed once successful applicants are informed but before the grant announcements are made.

- Capital equipment should be tendered rapidly after grant outcomes are known, as spend will need to occur in FY 2021/22.
A **Steering Committee** will be appointed by the Programme Board to advise the programme as a whole. The Committee will provide strategic input on the shape and delivery of the cross-cutting activities, supporting technologies to readiness, and alignment with other initiatives.

Each of the **Demonstrators** will be required to appoint:

- **An Expert Advisory Group** This group will provide specialist advice specific to that Demonstrator. The Chair of each Expert Advisory Group will also be a member of the Programme Steering Committee to ensure the connection to the wider programme.

- **A Management Board** to meet frequently (~bi-weekly) to monitor progress. The board will report to the Programme Management Board through the Directorate Hub.

The **Programme Management Board** is already in place. The board will oversee delivery of the programme and later be responsible for monitoring and evaluation of the programme.
Documentation Required at Full Stage

Je-S Submission (Deadline 6th August 2020 4pm)
- Cover letter (including how EOI feedback has been addressed).
- Je-S Proposal Form – only ONE form
- Case for support (maximum of 14 pages)
- Justification of Resources (maximum 4 pages)
- Diagrammatic Work Plan (Gannt Chart)
- Data Management Plan
- CVs (named applicants and research staff)
- Letters of Support – lead RO; collaborators (e.g. industry) & project partners
- OPTIONAL: Facility form
- Equipment business case(s) if over £138k (quotations also required)

(NOTE: A separate Pathways to Impact statement is no longer required).
Other Guidance
(generic feedback to all applicants to be addressed at full stage)

• A greater emphasis on social science and the need for specific expertise in each proposal.

• A clearer breakdown of the scalability criteria for CO₂ capture. Encompassing: the starting capability per annum, the expected capability at the end of funding and at what point in time maximum potential will be reached. The anticipated start and finish Technology Readiness Levels (TRLs) should be indicated.

• The nature of the intended CO₂ storage mechanism(s) and any associated risks.

• Clearer alignment with national policy frameworks on greenhouse gas removal.
• Read the documents and formal eligibility requirements carefully, these are all available to download from the call website (Call for Proposals, Guidance to Applicants).

• Address all aspects of the assessment criteria and fully address the call scope.

• Ensure you communicate your proposal clearly, for both subject specialists and more general scientific audience.

• Collaborative teams need to be able to demonstrate full synergy and ability to work together effectively.

• If in doubt, please contact us for advice: GGR@bbsrc.ukri.org
Assessment criteria

- Appropriateness of the technology and impact
- Excellence of the research proposed
- Ability to deliver and leadership quality
- Interdisciplinarity of the research proposed
- Management strategy
- Resources
- Communication tools and collaboration activities

- Data management plan
- Ethics and animal usage

(full details available in the Guidance to Applicants document)
Assessment Process

Full Stage deadline

- Submit full stage application via Je-S: Deadline 6\textsuperscript{th} August 2020.

Assessment

- External peer review (August-December)
- GGR-D Expert Panel 18-19\textsuperscript{th} January 2021
- May be invited to interview by GGR-D expert Panel 18-19\textsuperscript{th} January 2021
Flexible Fund

• As part of the total research budget (£4.5M) flexible funds with a suggested limit of £500K, can be requested as part of the proposal for allocation by the Demonstrator for further research and development.

• Facilitate early business interaction activities prior to provision of Innovate UK funding (competitions to run in FY2022/23 with funds awarded as grants in Q3 for two years) to strengthen, the quality, collaborative and cross-disciplinary nature of future innovation.

• Example uses: specific projects to fund academic researchers to overcome blockages e.g. feasibility studies, PoC projects, desk based studies, visits to learn new techniques, facilitate early engagement with business.

• Encourage seeking of collaborations with companies where funds can be matched.
BBSRC Networks in Industrial biotechnology and bioenergy (BBSRC NIBB)

- Foster collaborations between academia, industry, policy makers and NGOs in order to find new approaches to tackle research challenges, translate research and grow the IBBE community.

- Phase I ran 2014-2019, 13 Networks.

- Phase II, 6 Networks funded 2019 for a further five years to continue to build capacity and capability in the UK by supporting research and translation in biologically based manufacturing.
Flexible Fund

• BBSRC expects flexible funds to be distributed in a fair, open and recorded way.

• A proposed mechanism for this is:
  ➢ An event is held to advertise/discuss the call – a workshop, sand-pit or a call for proposals
  ➢ Projects are reviewed by the Management Board where the proposals are discussed and ranked
  ➢ The ranked list is reviewed and approved by the Executive Group (PI/CoIs) who authorise the final sign off

• Senior nominee from Management Board could be used to sign off where conflicts of interest at Executive Group level arise.

• External peer review can be utilised dependent on circumstances.

• BBSRC expects to see evidence of monitoring of projects along with outcomes at the end of the project and more longer term outcomes such as funding leveraged. An Extranet will be set up by BBSRC for this purpose.
Example funding release process (Phase I NIBB)

- Managed as a separate part of the main grant and will be held by BBSRC until requested (at any time) by the host institution.
- Funds will be reimbursed in arrears – audit trail is required

**Funding proforma submitted by lead institution via extranet site once project starts**

Funds paid to the institute carrying out the project (they cover 20% FEC)
High Value Biorenewables

A BBSRC Phase II Network in Industrial Biotechnology and Bioenergy

Dr Caroline Calvert – Network Manager
HVB:

- Promotes discovery, development and application of high value, low volume bio-based chemicals, tools and platform technologies
- Facilitates partnership and knowledge transfer between UK academia and industry
- Driven by industrial demand: providing biobased solutions for the manufacturing industries

Network activity – no core funds for research
Core Activities

• Membership organisation
• Communications – Website, Newsletters, Twitter
• Scientific workshops, annual meetings, training and networking events
• Special interest groups e.g. plant cell cultures, enterprise, synthetic biology
• Training fund for early career researchers and technical workforce
• Flexible Fund for research & collaboration support...
Flexible Fund £1.41m

- **Proof of Concept (PoC)** – TRL 1-4, industry support, collaborative & cross-disciplinary
- **Business Interaction Vouchers (BIV)** – work by an academic with an industrial partner
- **Sandpit** – well defined, industrial challenges & targets defined by Leadership Team
- **Progression Fund (PF)** – for successful HVB projects close to impact
- **Enterprise Fellowships (EF)** – enabling progression of ideas towards commercialisation

<table>
<thead>
<tr>
<th>Fund type</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PoC/ BIV/ PF</td>
<td>£200k</td>
<td>£250k</td>
<td>£300k</td>
<td>£50</td>
<td>£800k*</td>
</tr>
<tr>
<td>Sandpit</td>
<td>£200k</td>
<td>£200k</td>
<td></td>
<td></td>
<td>£400k*</td>
</tr>
<tr>
<td>EF</td>
<td>£140k</td>
<td>£70k</td>
<td></td>
<td></td>
<td>£210k*</td>
</tr>
</tbody>
</table>
Operating Competitions

- Publish call with defined guidelines – frequently change
- Application form for required information and free text for workplans. Word count limits.
- CV of applicant and letter from University
- Set deadlines – sufficient notice
- Offer support, meetings

https://www.highvaluebiorenewables.net/funding/
Review Process

1. Application checked by Network staff
2. Reviewer conflict of interest checks
3. Reviews allocated to panel with scoring guidelines
4. Reviews submitted prior to the review meeting – scores checked and recorded
5. Review meeting – rules regarding conflict and good practice etc
6. Ranked list and funding shortlist – confirmed by EG
7. BBSRC request for funding; rejections sent to unfundable with some feedback
8. BBSRC confirmation, awards made – often require consortium agreement etc.
Award Monitoring

- Start date confirmed, end of project report form supplied
- Midway email to check on progress
- End of project report, invoice and claim form - checked
- Case-study? Progression fund? Other support?
- Sharing results with the Network
- Follow up at intervals for updates – case study building – takes a long time for impact to build
Flexible Fund

✓ **Engagement** - attractive Network offer
✓ **Collaboration** - purpose and progression
✓ **Agility** – responsive to community need
✓ **Impact** - research legacy output

- caroline.calvert@york.ac.uk
- @HVB_net
- www.highvaluebiorenewables.net
Thank you