



PERENNIAL BIOMASS CROPS
PBC4GGR
GREENHOUSE GAS REMOVAL



Biotechnology and
Biological Sciences
Research Council

PBC4GGR Proof of Concept call

The role of Perennial Biomass Crops in meeting the UK's net zero carbon objectives

OPERATIONAL GUIDELINES

CLOSING DATE: 22nd March 2024

PBC4GGR (Perennial Biomass Crops for Greenhouse Gas Removal) is one of five demonstrator projects and a coordinating hub funded under the UKRI Strategic Priorities Fund. www.pbc4ggr.org.uk. The project is running for 4.5 years and is led by Aberystwyth University, together with UK Centre for Ecology and Hydrology, Rothamsted Research, Countryside and Community Research Institute, and University of Aberdeen. PBC4GGR will be administering flexible funding that will be awarded to academics at any UK research organisation, including via this current Proof of Concept (PoC) call.

PBC4GGR Proof of Concept funding will be used to encourage and support projects which seek to fill knowledge gaps in the sphere of perennial biomass crops and their role in greenhouse gas removal. We will prioritise those that have clear potential for further funding or have a route to commercial translation. Individual PoC projects should last no longer than 9 months.

The maximum value for a PoC is £50k at 100% fEC, with the award being 80% fEC. The host institution must be willing to provide the remaining 20% fEC.

1. Scope of the call:

Stabilising global temperatures necessitates urgent and drastic reductions in greenhouse gas emissions across all sectors of the economy. This requires both policy interventions and actions we can take as individuals. However, some sectors are unlikely to be able to reduce their emissions to zero, so we will need to offset those emissions by using greenhouse gas removal (GGR) technologies. One such technology is BECCS – biomass energy with carbon capture and storage.

In PBC4GGR we are investigating the potential for plants like willow and miscanthus to support BECCS in the UK. We will demonstrate novel establishment techniques that maximise yield whilst minimising greenhouse gas emissions, and provide an up to date quantification of the scope for greenhouse gas removal. We will establish the conditions required for farmer uptake and wider societal acceptance, and investigate the costs, benefits and trade offs for biodiversity and ecosystem services. In conjunction with other GGR projects and a coordinating hub we will determine the appropriate scale of implementation of BECCS in the UK compared to other GGR approaches.

We recognise that there are many elements relating to science, economics, regulation and policy approaches that will not be addressed by PBC4GGR, and are seeking to fund Proof of Concept studies to address some of these gaps. We are open to proposals on other perennial biomass crops that are suited to UK growing conditions and could contribute to the overall aim of GGR in the UK. We would also like to encourage proposals addressing crossovers between perennial biomass crops and other GGR approaches in the programme (afforestation, biochar, accelerated peat formation,



enhanced rock weathering) as well as the wider GGR landscape, including policy and regulation. Further details of these projects can be found at <https://co2re.org/ggr-projects/>.

PBC4GGR wish to fund Proof of Concept projects that:

- Address key knowledge gaps in our understanding of the role of perennial biomass crops in GGR in the UK that are not currently being addressed.
- Have potential to lead to future funding applications or commercial exploitation.
- Whilst we will fund projects across the scope described above, we are particularly interested in projects tackling crossovers between GGR approaches.

2. Funds and Scale of the Award:

We will fund projects lasting up to 9 months, and up to a (100% fEC) value of **£50k - PoCs are awarded at 80%fEC**. The awardee at the academic institution must be willing to provide the remaining **20% fEC**. We anticipate that at least 3 projects will be funded in this round, subject to them meeting the criteria thresholds for funding. All applications will be reviewed and assessed by an independent panel, and any potential conflicts of interest should be outlined in the application form. It is anticipated that awards will be announced by the end of May 2024.

3. Criteria:

Criteria for funding are as follows:

- Proposals must address a clear gap in our understanding of the role of perennial biomass crops as a GGR technology for the UK.
- Proposals must contain a clear and concise plan with well-defined objectives and deliverables.
- The project team is well placed to deliver the proposed project.
- Proposals must make clear their plans for following-up and progressing the work beyond the initial scope of the PoC proposal.
- The scope of work proposed is appropriate for the value of award applied for and the project duration indicated in the application (up to 9 months).

4. Eligibility:

Funding is available to higher education institutions, research council institutes and independent research organisations in the UK that are normally eligible for UKRI funding. We welcome applications from investigators who work on a part-time basis. We encourage collaboration across organisations where it will be beneficial to the delivery of a project; where two or more organisations are participating, a single application should be submitted via the Principal Investigator's institution, and they will be responsible for the disbursement of funds to third parties. Businesses cannot be funded directly, but we encourage projects with business partners, and subcontracting is allowed, although we would not expect to fund proposals where more than 20% of the award is subcontracted. Standard BBSRC eligibility rules apply. Post-Doctoral Research Associates who are involved in developing an application and who are to be engaged in the research can be named as a 'Researcher Co-Investigator' in applications but can not be PIs. Individuals may submit or be named on more than one application.

5. Application Form:

You must apply using the application form provided. Your application should be emailed to flexfunds@aber.ac.uk. Your application should consist solely of the application form and CVs, as a single pdf document, and letters of support from any industrial partners. Any additional materials will not be accepted. You can expand text boxes on the application form, but must comply with word limits.



Title: 30 words max.

People and organisations involved: Please specify PI, CoI, Researcher CoI (if any). Additional rows can be added to this table if required. Any industrial collaborators should also be included here.

Dates: Please state your likely start date (allowing a suitable period for contract signing) and project duration, which can be up to 9 months.

Costs: please state your 100% fEC and 80% awarded cost. We require further details of costs in a later section.

Executive summary: 400 words max. Summarise the project you would like to undertake, its relationship to the role of perennial biomass crops in GGR, and how it contributes to the overall objectives of the PBC4GGR Demonstrator.

Track record of applicants and their capacity to deliver this project: 400 words max. Please use this section to explain how the applicants are suited to delivering the project proposed and their specific roles in the team. You do not need to repeat information that is contained in CVs. Where subcontractors are used, please detail them here.

Project description: 1500 words max. Please describe the scientific background to your project, its overall aims and the measurable objectives. You should describe the work to be done, why your choice of methods is appropriate, and how the work proposed relates to your objectives. If you foresee any ethical issues arising, please outline them here, along with any mitigation planned. Where industrial collaborators are included, please explain their role and contribution here, and how they expect to benefit from the project.

Relevance to PBC4GGR: 400 words max. Explain why the project is relevant to the potential for perennial biomass crops to deliver greenhouse gas removal in the UK context, and its relevance to other land based carbon removal approaches, if any. Whilst we are particularly interested in the contribution the project could make to greenhouse gas removal, any wider environmental impacts should be described here.

Impact: 400 words max. Please describe the potential benefits of undertaking the project and what future work it might lead to. This might include the project's relevance to future research funding (i.e. its leverage), its societal, commercial and policy impacts, and any other co-benefits.

References: References for all sections should be included here. References following any standard journal format are acceptable. Please provide hyperlinks and DOI where available.

Public summary: 400 words max. Explain your project and its relevance in terms a lay person could understand. The PBC4GGR team will use these summaries on our website and in other public facing material so no confidential material should be included in this section.

Project plan: 1 page max. Please include a work plan (e.g. Gantt chart) indicating timings, objectives and deliverables, including any impact activities. Outline how you will manage the project, and consider project risks and risk mitigation, including in relation to COVID-19.

Costings: Please complete the table in the application form, which uses standard UKRI headings. Further information on what to include under these headings is available in the [BBSRC research grants guide](#). Equipment purchases are not permitted in this scheme. Projects will be funded at 80% of fEC.

Justification of resources: 400 words max. Please provide a brief description of time worked on the project by members of the team, any subcontract costs, how any travel costs have been calculated, and details of any other directly incurred costs (e.g. consumables). We do not require justification for indirect costs or other Directly Allocated costs. If your project is leveraging any financial (cash or in kind) contributions from other sources specifically for this project please state them here.

Declaration of conflicts of interest: Proposals will be reviewed by independent assessors, we therefore need to know where any conflicts of interest may arise. See section 10 (below) for examples.

CVs: Please provide a 2 page CV for all named applicants.



6. Application Process:

Applications should be submitted on the application form together with CVs as a single pdf document by email to flexfunds@aber.ac.uk. All applications will be acknowledged within three working days. All information submitted will be held in strictest confidence by the assessment panel.

7. Evaluation Process:

Proposals will be screened to check that they meet the criteria and have the required information. All proposals will be reviewed by two independent assessors, who will score them prior to an online panel meeting. The PBC4GGR project manager will judge whether any conflicts of interest could arise before allocating proposals to assessors (described below). The panel will be made up of the Project Management Board for PBC4GGR and any additional assessors required. Proposals will be introduced at meetings by the assessors, discussed by the panel and ranked by the following criteria:

Criteria	% contribution of total score
Quality of Science proposed	30
Relevance of proposal to the application of perennial biomass crops for GGR in the UK.	20
Likelihood of achieving wider impact	20
Project management	10
Track record of applicants	10
Value for money	10

Applicants will be notified of results within a month of the panel meeting. Specific feedback that the review panel provides will be made available to all applicants.

8. Payment of Awards:

Aberystwyth University will provide a simple contract for the awardee, assigning all rights to the awardee's University or consortium but requiring funds to be spent as detailed on the application and a final report to be sent to the PBC4GGR project manager. A signed contract will be required prior to project commencement. Consortia of applicants will need to have signed agreements in place prior to funded projects commencing; the PBC4GGR project manager will check this is the case. **Funds will be transferred at 80% fEC from BBSRC to Aberystwyth University in arrears on final project costs once a project has completed.** Aberystwyth University will then pay invoices to awardees institutions.

Note on release of funds

Successful applicants will be informed via email and an electronic award letter will be sent to the PI. It is their responsibility to inform and circulate it to the institution's awards/ research office.

9. Monitoring, Reporting and Finances:

Within a month of the scheduled completion of the project, grantees are required to provide, by email to the PBC4GGR project manager at flexfunds@aber.ac.uk the following documents:

- o A 2 page end of project report (template will be provided). Sections will include a summary of the outcomes, potential for impacts and a financial expenditure statement. We will not require receipts to be submitted, although these must be kept, as they may be required for possible future audits.
- o A 1-page explanation of the project including at least one picture or graph (a template will be provided), that PBC4GGR is able to use for public dissemination of the results.
- o Invoice.



All reports will be checked by the PBC4GGR project manager, and they will be made accessible in confidence to the PBC4GGR project management board for approval. PBC4GGR may choose to use the case studies in publicity material.

10. Conflict of Interest Guidance:

Applications will be assessed by the PBC4GGR Project Management Board. This consists of the PBC4GGR Principal Investigator (Iain Donnison, Aberystwyth University), the project manager (Judith Thornton, Aberystwyth University) and work package leaders; Ian Shield (Rothamsted Research), Jeanette Whitaker (UK Centre for Ecology and Hydrology), Julie Ingram (Countryside and Community Research Institute, University of Gloucestershire), Astley Hastings (University of Aberdeen). Where conflicts of interest arise, suitably qualified individuals from other organisations will be co-opted onto the panel in order as assessors.

Applicants must state on their proposal form if any conflicts of interest are likely to arise with any of the above individuals. Examples of a conflict of interest include:

- Employed by the same institution as the applicant(s)
- Actively involved in research collaborations with the applicants(s)
- Working closely with the applicant(s), for example as a co-author or PhD Supervisor, or has worked closely in the last 4 years
- Holding a current position on the governing body of, or an honorary position within the institution(s) of the applicant(s). In receipt of personal remuneration in excess of £5,000 per annum from the applicant's organisation
- Personal/family relationship with the applicant(s).

Similarly, any Panel Member with a conflict of interest will declare it and will not participate in the review of that application.

11. Data Protection Regulations:

Please be aware that copies of proposals will be made available to the PoC Assessment Panel who will use information provided in the application for processing the proposal through assessment, the award of any consequential grant, and for the payment, maintenance and review of the funds. Funding comes from UKRI-BBSRC, so to meet the Research Councils' obligations for public accountability and the dissemination of information, non-confidential details of awards may also be made available on the Research Councils' websites and other publicly available databases, and in reports, documents and mailing lists. All parties involved in PoC assessment and monitoring have to sign a confidentiality undertaking.

12. Acknowledgement:

Any publications should acknowledge support as follows *'We acknowledge the financial support provided by PBC4GGR, a UKRI BBSRC grant BB/V011553/1 via a Proof of Concept grant'*.