climateXchange

Scotland's centre of expertise connecting climate change research and policy

Post-Doctoral Research Opportunity: Supporting transition to peat-free horticulture in Scotland

ClimateXChange (CXC) wishes to offer a 6-month post-doctoral research opportunity to examine the supply, suitability and sustainability of alternatives to peat for use in Scottish horticulture.

1. The need for this research

Around 1,000 hectares of Scotland's peatlands are currently being used to produce peat for horticulture. In 2022, Scotland supplied around 167,000 cubic metres of peat for use in UK horticulture or for export, representing 18% of the total peat used within the UK, with 60% of peat used in UK horticulture coming from outside of the UK.

Ending the sale of peat in Scotland would help to protect our peatlands as well as those elsewhere in the world, supporting our Environment Strategy for Scotland aim to be "responsible global citizens with a sustainable international footprint" and to "play our full role in tackling the global climate emergency and limiting temperature rise to 1.5°C".

2. Background

Scotland's peatlands have a critical role to play in responding to the twin crises of the global climate emergency and loss of biodiversity. In good condition, peatlands are a significant natural carbon store; they support important ecosystems and biodiversity, improve water quality and reduce flood risk. However, when degraded or in poor condition, these benefits are lost and peatlands become a net source of carbon emissions.

In 2020 Scottish Government set out ambitious plans to restore degraded peatlands. They have also pledged to develop policy on banning the sale of peat-related gardening products, as part of a wider commitment to phase out the use of peat in horticulture (2021-22 Programme for Government).

There has been considerable activity in the past 15 years (e.g. targets for the use of peat in amateur and professional horticulture in the 25 Year Environment Plan). Progress has been made in the amateur sector, with growing media usage figures showing a substantial fall in retail sales of peat (for hobby gardeners), it is clear that the professional sector is finding transition more difficult.

3. Project scope and aim

This project will examine the evidence for the potential alternatives for peat in Scottish horticulture and assess the potential for early commercial adoption.

The research will examine three primary questions:

1) What is the current state of confident knowledge for horticultural peat alternatives in Scotland, and where are the gaps and areas of active debate? This will include consideration of:
   a) SWOT (strengths, weaknesses, opportunities and threats) and PESTLE (political, economic, social, technological, legal and environmental) analysis.
   b) the current state of readiness within the horticultural industry for a transition to non-peat inputs? (this will include analysis of the domestic and import supply chains)
   c) the complex challenges (including but not limited to mini-tubers, ericaceous, some vegetable crops, propagation) and what is the evidence for suitable alternatives?
2) How might grower trials support efficient and collaborative transition for the industry in Scotland?
3) What is needed in terms of knowledge, information or support for a successful transition for the industry in Scotland?

Whilst some work has been undertaken on a UK basis, this project will examine a specifically Scottish perspective.

The outcomes of this work will inform development of policy towards ending the sale of peat, and thereby help the Scottish Government to deliver on its climate change priorities. It will also improve the understanding of the transitional needs of the horticulture industry to support its continued contribution to environmental improvement without the need for peat.

Recent work undertaken for SG will help provide some foundation material for this work (including a Consultation and a Business and Regulatory Impact Assessment), as will work done on a UK basis by bodies such as the Horticultural Trades Association and Growing Media Association.

The research is expected to include desk-based research (rapid evidence review) and stakeholder engagement. More detail on the areas to be covered is set out in appendix 1.

Stakeholders will include, but not be limited to: Scottish Government policy teams, their agencies and non-governmental organisations with an interest in peatland and representatives from the horticulture industry.

4. Audience

The work is commissioned on behalf of the Scottish Government, and of particular interest to the peatland unit.

The results must be presented in a format and language that can be easily understood by readers across different policy areas and without an academic background. Written outputs must be well presented and written in Plain English.

5. Outputs

The primary output will be a final report in the CXC house style. The final report will cover:

1) A narrative analysis of the current state of knowledge of alternatives to horticultural peat in Scotland, including
   a) availability, suitability and environmental credentials;
   b) how the industry is working towards peat-free horticulture;
   c) knowledge of industry/science initiatives such as peat-free trials;
2) narrative analysis of the potential for a coordinated approach to grower-trials of peat alternatives in Scotland
3) narrative analysis of the feasibility of a transition to peat free alternatives, including a timeline for replacement of horticultural peat in Scotland (incorporating lead times for increased production of alternatives and considering any trials needed)
4) Conclusions, to include
   a) An outline routemap
   b) A list of potential actions that might realistically result in a successful transition to peat-free growing media in Scotland

We understand that the successful researcher will want to produce academic outputs (e.g. journal paper(s)). However, the primary output will be the above report to the Scottish Government and will follow the CXC reporting guidelines.

The ownership of the research material including the final report and any data produced as a result of the research lies with ClimateXChange on behalf of Scottish Ministers. The research may be published on the ClimateXChange website, the date and format of which will be determined by the Scottish Government and ClimateXChange. One or more drafts are likely to be required before a final version is agreed.

ClimateXChange supports the Scottish Government Open Research Guidance for RESAS, summarised as “open as possible, closed as necessary.” This means that all products will be placed in the public domain, unless there is a strong argument otherwise (for example to comply with data protection regulations). Descriptions of all projects and related products will be uploaded to the ResearchFish system.

6. Project governance

A Steering Group will be established to support delivery of the project. The steering group’s role is to guide and direct the research. It will include representatives from Scottish Government and ClimateXChange, along with the successful academic institution and researcher. External members will be considered depending on the methodology/ approach.

It is expected that the researcher will be associated directly with the SG policy team for peatland restoration who will provide support for the duration of the fellowship.

The lead contact for ClimateXChange will be the CXC climate and land use Project Manager, Sarah.Govan@ed.ac.uk who will liaise with the successful institution and the lead researcher. Regular update calls will be scheduled between the researcher, the Scottish Government and the CXC Project Manager to discuss progress and address any issues, escalating to the

researcher's Principal Investigator (PI) and or steering group for consideration where necessary.

7. Project timetable

Milestone	Completed by
Appoint successful researcher/institution	13th September
Project kick-off meeting, to confirm • Scope • Boundaries • Timetable • Secondment arrangements with the Scottish Government	Friday 4th October
CXC / Scottish Government induction	25th October
Regular discussion of progress (researcher, CXC & Scottish Government)	Fortnightly
Submission of search terms for the evidence review and stakeholder engagement plan	1st November
Completion of stakeholder workshops	20th December
Submission of draft report to the steering group	21 February
Submission of final report (including all deliverables)	31 March
Presentation of results to SG stakeholders	31 March

8. Application process

Applicants are invited to put forward proposals on how to best meet the research aims within the budget available. A full explanation of your chosen approach meeting the 'award criteria' and key tasks listed below, including any limitations, should be provided.

The research will use a range of action research and engagement methods working with government policy officials and stakeholders (including government agencies, research institutes and non-governmental organisations). Applicants should address the following key tasks in their submission:

- Induction/engaging with core Scottish Government team
- Rapid evidence review (this resource may be helpful - https://nora.nerc.ac.uk/512448/)
- Stakeholder engagement plan
- Drawing the evidence into a substantive report

The assessment panel may wish to interview potential candidates (online) in the week beginning 6th September.

9. Eligibility

Applicants must demonstrate they meet the following eligibility criteria for the research associate and the hosting organisation.

i. Organisational

- existing in-house capacity to carry out research that extends and enhances other research happening in the UK
- the capability and skills to independently undertake and lead a research programme

ii. Individual

- have completed your PhD at a UK research organisation
- have at least 12 months active postdoctoral experience (at full-time rate) measured from passing your viva voce to the competition closing date
- be eligible to work in the UK for the period of the research
- experience of stakeholder engagement research

10. Submitting a proposal and award criteria

Deadline for submissions – 12 noon on **Thursday 5th September 2024**. Submissions should address the following criteria, which will form the basis for assessment

Price	20%
Quality	80%

Quality criteria	Descriptor	Weight
Research expertise	Detail the knowledge, experience, expertise and capability that is required for this research, including as a minimum: • The researcher • The individual (proposed Principal Investigator or Supervisor) who will be supporting the researcher • Evidence should be provided of previous research and knowledge exchange work relevant to the research requirement (including working hyperlinks) with an emphasis on policy-focussed research and communication. • A statement demonstrating institutional capacity and CVs of relevant staff should be provided, along with the number of person days proposed.	25%
Research methodology	Detail your approach to a high quality and workable research methodology that will deliver the outputs in the required timescale, including as a minimum: • How the evidence will be identified, reviewed and assessed • How the proposed analytical steps will address the research objectives • The suitability, robustness and limitations of the methodology • Ethical procedures that will be followed	25%

Quality criteria	Descriptor	Weight
The need for this research	Demonstrate your understanding of the requirements, including as a minimum: • The policy environment and the supporting role of research • The cross-sectoral nature of the project • The need for this research • The research aim, and how the proposal will address this need	15%
Quality assurance	Provide details of quality assurance procedures to demonstrate how the research will be continuously delivered to a high standard, including as a minimum: • issues of quality control at different stages of the project, including initiation, stakeholder engagement, analysis and report writing • Provide a risk assessment matrix detailing any risks identified in relation to the delivery of this contract, and proposed mitigation measures to minimise their probability and impact	15%

Your submission should be a single document of no more than 8 pages (excluding CVs) in PDF format with the file name in the following format name of submitting organisation –IQ23-2024 PDRO peat-free horticulture.

File size should not exceed 5MB.

You should highlight any potential conflicts of interest in your proposal.

The costs of proposals for this project are expected to be no more than £90,000 (excluding VAT). However, ClimateXChange would welcome proposals for less than this amount. We welcome consortium bids.

Proposals need to be submitted to lee.callaghan@ed.ac.uk and cc'd to sarah.govan@ed.ac.uk for evaluation by **noon on Thursday 5th September 2024**.

Depending on the quality of proposals received, CXC may chose not to appoint any contractor.

11. Clarification questions

We will respond to any clarification questions received while the project call is open and publish them on the CXC website on the Work with us page.

12. Terms and conditions

The institution/organisation of the successful applicant shall be required to enter into a contract for services/research with the University of Edinburgh whose terms shall govern the post-doctoral research opportunity (the "Contract").

The payment terms for the Contract will be expressly linked to the Project timetable and will be subject to milestone delivery. The contract for ClimateXChange (between University of Edinburgh and Scottish Government) is scheduled to end in March 2025.

13. Travel policy

In line with the Scottish Government travel strategy and the University of Edinburgh Sustainable Travel Policy, we expect contractors to use low-carbon travel options for any in-person meetings, and to only travel when necessary.

ClimateXChange

22nd August 2024

14. Appendix 1

Detail on issues the research will be expected to cover:

- alternatives to peat and their potential for use in Scottish horticulture, using knowledge gained from stakeholder discussion as well as literature review;
- risks and benefits of alternatives, including those relating to plant health;
- current and past trials for peat alternatives, considering options available and appraising how well they work (for specific or universal uses) as well as considering other aspects including transport, storage, cost;
- emissions associated with different growing media to help assess the comparative sustainability of alternatives also taking into account information on other environmental aspects (Responsible Sourcing Scheme might inform the latter);
- gaps in knowledge to help inform stakeholder engagement and collaborative enquiry
- supply chains for peat alternatives – can supply meet demand now and in the future, including an evaluation of how much growing media is actually used in Scotland (disaggregated from rest of UK) and for what purposes;
- supply chains for peat-containing products and parts of those chains where peat may be needed (e.g. propagation) or hard to replace (imported plant material for selling or growing on);
- past experiences of growing media usage and trials with horticulture industry representatives.
- Potential for a structure for co-ordinating grower trials within Scotland (Working Group, who should lead – SG/industry/trade body?) for greater efficiency, collaboration and trial uniformity (comparability).