Climate Crisis: informing Scotland's actionable mitigation and adaptation response to water scarcity

Section 1: Project Overview

Introduction

The Centre of Expertise for Waters (CREW) intends to commission a **capacity building** project within CREW's **Hydrological Extreme, Coasts and Risk Management** theme to support collaboration between Scottish Government and its delivery partners[1] to inform best practice responses to water scarcity.

Background

Tackling climate change is a top priority on the Scottish Government agenda due to the extent of complex systemic changes and unknowns which pose a risk to human health and ecosystems. In the recent UK Climate Change Committee (2022) report to Scottish Parliament, there is an urgent need to inform fit for purpose strategies that can be created and implemented in Scotland without delay.

Aim and key questions

The project aim is to inform and prioritise actionable mitigation and adaptation solutions to address future water scarcity challenges in Scotland.

The project team will facilitate, via one knowledge exchange workshop, a collaborative discussion with all relevant stakeholders to define **critical knowledge needs** and **important synergies** to inform mitigation and adaptation solutions that address water scarcity in Scotland.

The **key questions** to be addressed/posed are:

1. What is the current state of knowledge regarding the past trends, current situation and future predications of water scarcity in Scotland? (*High-level overview prior to workshops; to consider relevant local, national, and international evidence and literature*)
2. What is currently being done to mitigate water scarcity in Scotland and how effective are these strategies currently (*To include a consideration of relevant strategies from different countries for comparison*)
3. In the future, will these strategies be fit for purpose under different climate change projections and the uncertainties associated?
4. What mitigation and adaptation strategies are therefore needed to address water scarcity in the short and long term in Scotland?[2] (*Short-term <5 years, long-term 5+ years*)
5. How can these proposed strategies be implemented within current policy framework in Scotland? (*To include recommendations*)

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[1] Drinking Water Quality Regulator, SEPA, NatureScot, Scottish Water, WICS, Zero Waste Scotland, Scottish Canals, Consumer Scotland, Food Standards Scotland.

[2] To include at least the consideration of:
- the role of land management practices
- Interrelationships between water scarcity solutions and water quality
- The role and effectiveness of Nature-Based Solutions
- The role of society in mitigation and adaption solutions

Envisaged project approach

Given the multiple systems (i.e., environmental, social, economic and technological), timescales, spatial scale and stakeholders (policy, regulatory, industry, researchers) involved in this project, a whole systems approach is envisaged.

- Figure 1 provides an indicative project approach with key components encompassing knowledge sharing, systems thinking, evidence critique, policy analysis and project prioritisation.
- It is envisaged that steps 1-4 in Figure 1 will encompass **one workshop.**
- While a project approach and key components is outlined in Figure 1, the review panel are open to applicants' interpretation to this approach, providing they give thorough justification.
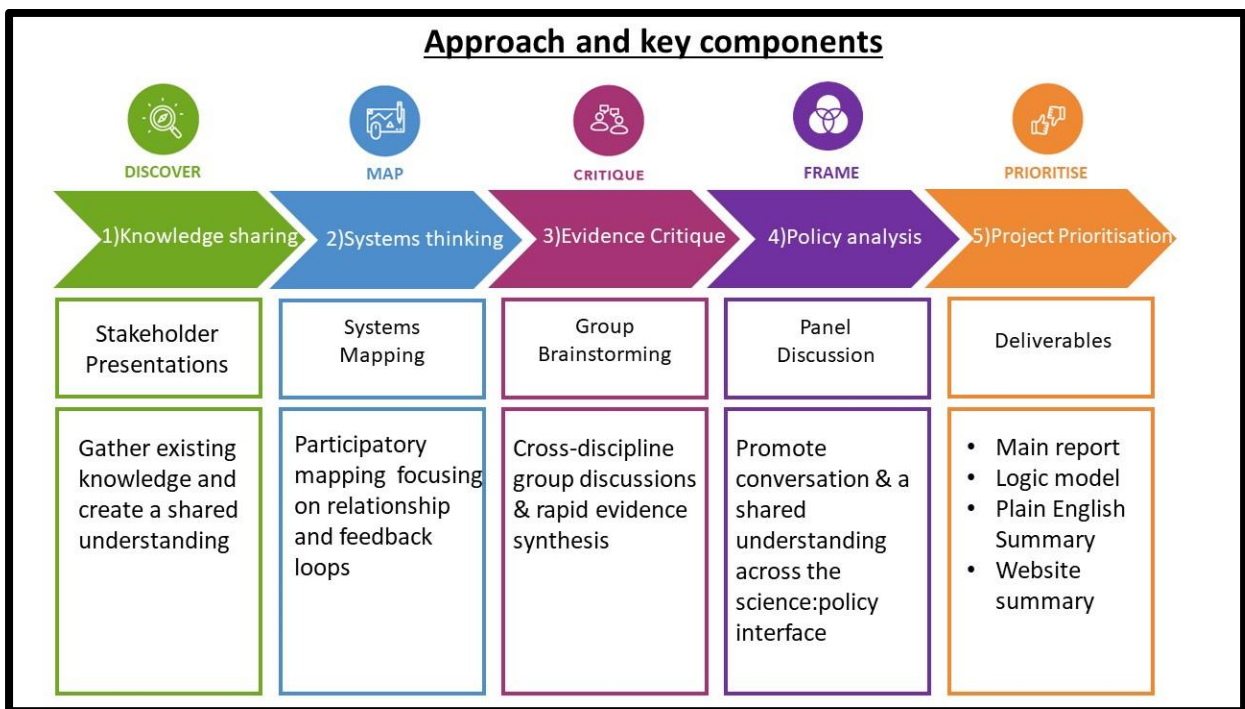

Figure 1: Suggested project approach and key components

Intended impact

There are multiple pathways for a project to achieve impact, and multiple factors that can impact the project's ability to achieve what it intends to do; both along the project lifecycle (A.IMPACT) and beyond project completion (B.IMPACT) (Figure 2).

The project deliverables (see following section) will be used by Scottish Government and its delivery partners to:

- inform mitigation and adaptation solutions to water scarcity in Scotland
- support Scotland to meet its climate change priorities
- assist in the development of new projects and priority actions in this area

In the longer term, the projects deliverables will inform the implementation of mitigation and adaptation solutions that will help protect communities and ecosystems at risk from the effects of water scarcity.
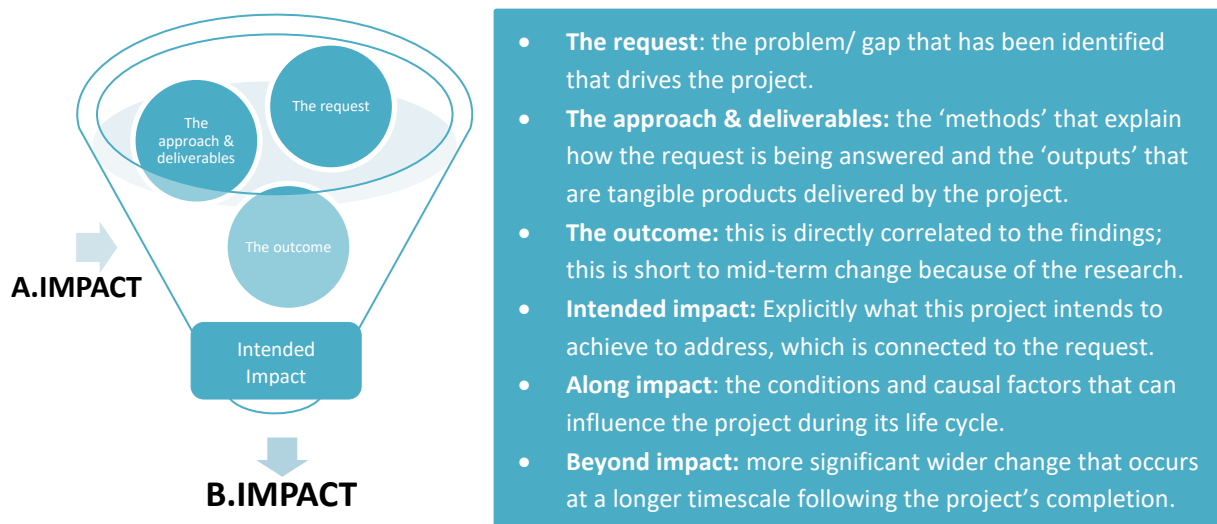

- **The request**: the problem/ gap that has been identified that drives the project.
- **The approach & deliverables:** the 'methods' that explain how the request is being answered and the 'outputs' that are tangible products delivered by the project.
- **The outcome:** this is directly correlated to the findings; this is short to mid-term change because of the research.
- **Intended impact:** Explicitly what this project intends to achieve to address, which is connected to the request.
- **Along impact**: the conditions and causal factors that can influence the project during its life cycle.
- **Beyond impact:** more significant wider change that occurs at a longer timescale following the project's completion.

Figure 2: Pathways to impact

These stakeholders are anticipated to be a key influence on this project:

- SEPA
- Scottish Government Water Policy
- Drinking Water Quality Regulator
- Water Industry Commission Scotland
- Scottish Water
- NatureScot
- Scottish Canals
- Consumer Scotland

Deliverables

The project will:

- Draw together current state of knowledge on water scarcity through addressing the 5 key project questions;
- Design and carry out pre-workshop engagement with stakeholders;
- Develop and run/facilitate[3] one knowledge exchange stakeholder workshop.[4] Example/suggested components include (Figure 1):
  - knowledge sharing;
  - systems thinking;
  - evidence critique;
  - policy analysis;
  - initial project prioritisation.
- Provide recommendations of how proposed strategies can be implemented within current policy framework in Scotland.
- Produce a logic model to outline next steps, including further research/projects needed within this area.

Events/meetings:

- 1-3 meetings with CREW to support co-construction of an intended impact framework;
- 1 in-person workshops or similar;
- Project Steering Group meetings *(throughout the project lifecycle)*

The deliverables will be presented via:

1. Interim post-workshop report of up to 15 pages, excluding annexes and the bibliography and including:
   a. Project and workshop background, aims and objectives;
   b. Participant pre workshop survey results;
   c. Outcomes of workshop(s) including components 1-4 of Figure 1.
2. Final report of up to 25 pages, excluding annexes[5] and the bibliography, and including:
   a. Project background, aims and objectives;
   b. Literature and policy summaries;
   c. Recommendations;
   d. Cover image(s) with associated photo credits.
3. Logic Model[6]
4. Plain English summary of the findings and recommendations (*up to 2 pages of text*)
5. Website summary *(200 words)*

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[3] Workshop facilitation can be sub-contracted.
[4] To include outreach/engagement from research scientists, policy, and industry experts as well as representatives of the wider community (e.g., National Park authorities and local authorities etc.)
[5] The final report annex will include the interim post-workshop report.
[6] To include the creation of a logic model to draw together current state of knowledge and provide recommendations to inform further research/projects within this area. The final logic model should be presented in an accessible format (e.g., pdf or similar).

Section 2: Further information for applicants

Project management

Day-to-day communication will be between the research/review team (the contractor) and a CREW Project Manager and is likely to involve short catchups as agreed.

Project steering group

A CREW project steering group (PSG) generally include representatives of Scottish Government and its delivery partners plus a CREW representative.

Anticipated timescale

- The project will commence in **mid-August 2023.**
- The project workshop will be held **in October 2023.**
- An interim post-workshop report will be provided by **the start of December 2023.**
- All project deliverables will be signed off by the CREW Director by **end of February 2024.**

Funding

The maximum amount of funding available exclusive of VAT (where applicable) is **£60,000.**

This includes an associated costs (excluding sub-contractor) budget of **£5,000** to cover

- One stakeholder workshop (including room, catering and equipment hire);
- travel and subsistence.

Submitting a proposal

Please send a completed application form addressing the project requirements. A copy of expectations and the award criteria are provided below for reference.

Proposals need to be submitted to – Centres of Expertise (procurement@crew.ac.uk) for evaluation by **15:00 on Monday 3rd July 2023**. We aim to notify the successful bidder by **the end of July** and we may request a pre-contract meeting.

Please contact procurement@crew.ac.uk if you would like any clarification on any of the above by **Monday 26th June 2023.** You should highlight any potential conflicts of interest in your proposal. For queries about what may constitute a potential conflict of interest please contact the CREW Deputy Manager (Nikki.Dodd@hutton.ac.uk).

Expectations

No.	Criteria	Descriptor
1	Duration	The proposed duration will align closely to the details provided in the anticipated timescales section of the specification.
2	Staff time and effort	The proposed allocation of staff time and effort is appropriate and includes all deliverables. The proposal must also provide a commitment that named staff members will be available to work on the contract if the bid is successful.
3	Project costs	The estimated breakdown of project costs is realistic and inclusive of all deliverables.

Award criteria

No.	Criteria	Descriptor
1	Understanding the project ask and policy background	The proposal should include an introduction which demonstrates a clear understanding of the project requirements. This should include an understanding of the policy background and the supporting role of this project; the need for this research; the project aim; and how the proposal will address this aim.
2	Proposed methodology	The proposal should demonstrate a high quality and workable methodology, including: • how the evidence will be identified, reviewed and assessed • consulting relevant stakeholders and/or experts where appropriate to address the key questions and produce the deliverables in the timescales required. It should explain the suitability, robustness and limitations of the proposed methodology.
3	Milestones	The project milestones are logical, practical and include all deliverables.
4	Project Management	The staff, resources and expertise are appropriate for conducting the proposed project. The proposal should name the project lead and outline their project management experience.
5	General and specific topic expertise and experience	The proposal should provide details of individual staff members who will work on this project and demonstrate how they will meet the project requirements, specifically: - general research experience and expertise; - specific experience and expertise on the topic of water scarcity.
6	General communication and deliverables	The proposal should describe the approach to producing the deliverables, which will be published on the CREW website. It should detail who will take lead responsibility for report-writing and overall report quality. It should provide examples of previous stakeholder engagement workshops and reports in which they have been involved.
7	Quality assurance	The proposal should provide details of quality assurance procedures to demonstrate how the contract will be continuously delivered to a high standard. It should specifically address issues of quality control at different stages of the project, including evidence gathering, analysis and report writing. It should include a timetable for delivery of tasks, project milestones and allocation of staff and staff time against each task, covering the duration of the contract.
8	Risk	The proposal should 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, focused particularly on risk to completion on time.