

# Planning for water scarcity: building resilience and managing water for efficient irrigation

## Section 1: Project Overview

### Introduction

The Centre of Expertise for Waters (CREW) intends to commission a **capacity building project** aligned with CREW's Hydrological Extremes, Coasts and Risk Management theme and aims to increase the agricultural sectors' resilience to water scarcity.

### Background & knowledge gap

Scotland's climate is changing. It is likely that there will be changes in seasonal precipitation patterns that may increase the frequency and severity of water scarcity conditions, including droughts. CREW recently published a report on the [Future Predictions of Water Scarcity in Scotland: Impacts to Distilleries and Agricultural Abstractors](#). This outlined the increased risk of water scarcity to agriculture and highlighted the need for 'a clear pathway to options that can be implemented by a variety of businesses and are flexible enough to respond to differences between and within sectors.

Current Scottish Government Environmental Policy (e.g. [Scottish National Adaptation Plan 2024-2029](#)) aims to increase our adaptability and resilience to climate change. While it is recognised that Scottish growers' need to prepare for water scarcity and manage their water efficiently, there is a lack of practical advice as to how to prepare, what practical measures should be taken and how. Guidance that does exist is generalised at a UK level and lacks Scottish specific information and context. Therefore, there is a need for Scottish relevant and practical advice for irrigators, produced by experts, on what practical steps to take and how to implement measures to successively plan for, increase resilience to and manage water scarcity. Furthermore, the project will support the 2021-2027 [River Basin Management Plan](#) objectives which relate to reducing our negative impact on natural watercourses during droughts.

### Aim and objectives

The aim of this project is to produce practical guidance for Scottish farmers and growers on how to effectively plan for water scarcity and manage water efficiently for irrigation, to increase resilience to water scarcity.

This guidance should advise **in practical terms** how to:

1. Calculate the value of water to the business
2. Assess drought risk and how resilient the farm is to water scarcity
3. Understand the limitations of different sources of water such as rivers and groundwater
4. Increase resilience to short-term water scarcity (e.g., creating water storage)
5. Manage water and irrigate efficiently, including general irrigation best practice advice
6. Irrigation technologies that are most suitable for different farmers and growers

Additionally, the guidance should highlight considerations and good practices for long term resilience to water scarcity, such as importance of soil management.

Researcher expertise in **practical water management** in regards water scarcity and experience in **successfully producing practical guidance** for the **target audience** is essential for this project. The research team should consult relevant literature (including grey) and gain sector specific information from experts.

A graphic artist should be consulted at an early stage of the project to support and advise on the practical guidance document structure, style, design, images, colours, and assist with the production of visuals.

## Intended impacts

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 1).

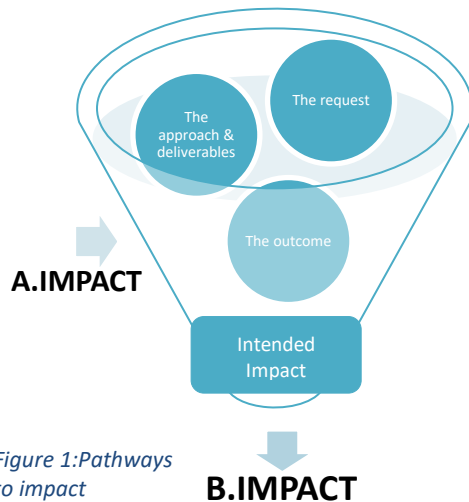


Figure 1: Pathways to impact

- **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.

**Along Impact (A.Impact):** These stakeholders are anticipated to support this project: SEPA, NFUS, NatureScot and Scottish Government.

**Beyond Impact (B.Impact):** The intended audience for the project deliverables includes Scottish businesses who use irrigation, primarily farmers and growers. The project deliverables (see following section) will be utilised to support the intended audience to become more resilient to climate change and reduce their impact on the water environment during droughts.

## Deliverables

- A practical guidance document, for Scottish farmers and growers. The document should:
  - Encompass the project aim and all objectives.
  - Use a writing style and language familiar to the target audience
  - Use attractive visuals to communicate key messages<sup>1</sup>

Please note: The intended format of the guidance document including intended guidance structure, style, design, images, colours, and ideas for visuals, should be presented to the project steering group early in the project for discussion.

- A plain English project summary (up to 5 pages)
- Website summary (200 words)

## Meetings

- (3-4) Project Steering Group meetings online (throughout the project lifecycle<sup>2</sup>)

<sup>1</sup> A graphic artist should be consulted at an early stage of the project to support and advise on the practical guidance document structure, style, design, images, colours, and assist with the production of visuals.

<sup>2</sup> Please note, CREW requests a brief written update c. two weeks prior to project steering group meetings.

## 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 small group including representatives of Scottish Government and its delivery partners plus a CREW representative, will meet with the preferred bidder for a pre-contract meeting and provide feedback on the bidder's proposed approach.

### Anticipated timescale

- A precontract meeting will be held **wb. 12th May 2025**.
- The project will commence on **Monday 19<sup>th</sup> May 2025** depending on contract processing and signage.
- The intended format of the guidance document including intended guidance structure, style, design, images, colours, and ideas for visuals, should be presented to the project steering group at the first Project Steering Group Meeting **in June 2025**.
- A first draft of the practical guidance document in its intended format, including draft visuals, should be submitted in **October 2025**.
- The final draft of the practical guidance document, plain English summary and website summary should be submitted no later than **Friday 9<sup>th</sup> January 2026**.
- Project outputs signed off by the CREW Director by **Friday 6<sup>th</sup> February 2026**.

### Funding

The maximum amount of funding available **exclusive of VAT** (where applicable) is **£88,000**.

This budget includes associated costs for the hire of a graphic artist.

### Submitting a proposal

Please send a completed application form using the most recent version (the link to this form is available on the CREW Call for Proposal webpage ([Call for Proposals | CREW | Scotland's Centre of Expertise for Waters](#)) addressing the project requirements.

A copy of expectations and the award criteria are provided below for reference.

Proposals need to be submitted to [Procurement@crew.ac.uk](mailto:Procurement@crew.ac.uk) for evaluation **by noon on Tuesday 15<sup>th</sup> April 2025**. We aim to notify the successful bidder by **wb.28<sup>th</sup> April 2025**.

Please contact [Procurement@crew.ac.uk](mailto:Procurement@crew.ac.uk) if you would like any clarification on any of the above by **Tuesday 8th April 2025**.

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](mailto: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 provides a commitment that named staff members will be available to work on the contract if the bid is successful. For any unnamed staff, appropriate risk identification and mitigation measures are provided.
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: <ul style="list-style-type: none"> <li>- general research experience and expertise;</li> <li>- <b>specific expertise in practical water management in regards water scarcity and experience in successfully producing guidance for the target audience is essential. Graphic artist expertise to support the design and production of the practical guidance is also essential.</b></li> </ul>
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 previously published <b>practical guidance documents</b> 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.

## **Annex A. Relevant reports, studies and policies**

- [Future Predictions of Water Scarcity in Scotland: Impacts to Distilleries and Agricultural Abstractors](#)
- Various guidance documents provided by the [UKIA](#)
- Farm Advisory Service publications e.g. - [Using Technology to Defend Against Water Scarcity in Scotland | Helping farmers in Scotland | Farm Advisory Service \(fas.scot\)](#)
- [Scottish National Adaptation Plan 2024-2029](#)
- [River Basin Management Plan](#)