**Research specification:** To provide updated projections of future water availability for the UK

Tender Reference Number: DS/0718[2]

**Specification of Requirements**

Invitation to Tender for research: To provide updated projections of future water availability for the UK

Tender Reference Number: DS/0718[2]

Deadline for Tender Responses: 24th September 2018

**Contents**

1. Introduction and summary of requirements / Preamble 3

2. Background 3

3. Aims and Objectives 4

4 Methodology 5

5 Outputs Required 5

6 Ownership and Publication 6

7 Quality Assurance 6

8 Timetable 7

9 Challenges 7

10 Ethics 8

11 Working Arrangements 8

12 Skills and experience 8

13 Consortium Bids 8

14 Budget 9

15 Evaluation of Tenders 9

# Introduction and summary of requirements / Preamble

The Adaptation Sub-Committee (ASC) of the Committee on Climate Change (CCC) is the government’s statutory adviser on preparing for climate change. Under the Climate Change Act (2008) the ASC has two main roles.

* To provide independent, expert advice on the UK climate change risk assessment (CCRA).
* To report to Parliament on progress with implementation of the National Adaptation Programme (England only).

To do this the ASC conducts independent analysis into climate change science, economics and policy, and engages with a wide range of organisations and individuals to share evidence and analysis. The CCC and ASC’s past reports are available at <http://www.theccc.org.uk/publications/>.

To inform the ASC’s Evidence Report for the third UK CCRA, the ASC is commissioning a range of research projects that aim to improve the science and impact of the CCRA.

This project aims to provide update projections of future water availability for the UK.

# Background

The second CCRA (CCRA2) was published in 2017 and was supported by a comprehensive Evidence Report from the Adaptation Sub-Committee (ASC). Defra and the devolved administrations are in the process of drafting updated national adaptation programmes in response to the risks and opportunities set out in the report.

The third CCRA will be published by the government in January 2022, and Defra have asked the ASC to produce an accompanying Evidence Report by summer 2021.To inform this Evidence Report the ASC are commissioning six research projects, funded by Defra, the devolved administrations and the research councils (NERC, ESRC and EPSRC).

For CCRA2, a consortium of contractors led by HR Wallingford undertook an assessment to improve upon existing projections of water availability.[[1]](#footnote-1) It was designed to produce a range of metrics consistent with, or at least recognisable to, existing work undertaken by government agencies and bodies and water companies. The approach and outputs of this analysis are set out in an individual research report and are used throughout the sections of CCRA2 which focus on water availability-related risks and opportunities. The main reasons for updating these projections at this time are:

* water companies are developing new water resource management plans (WRMPs) including updated projections of deployable output and demand;
* new UK climate projections from the UKCP18 project are expected to be published in late 2018 and early 2019;
* the UK Government provided further details on the options for reforming the water abstraction management system in January 2016 following formal consultation; and
* a number of water availability-related analyses and reports have been published, most notably:
* Water resources long term planning framework (2015-2065) – Water UK, 2016.[[2]](#footnote-2)
* Preparing for a drier future – National Infrastructure Commission, 2018.[[3]](#footnote-3)
* The long term potential for deep reductions in household water demand – Artesia Consulting for Ofwat, 2018.[[4]](#footnote-4)

# Aims and Objectives

The aims of this project are to:

* Quantify future water availability (public water supply and water available for abstraction) over the 21st Century (and beyond if possible) for the UK as a whole; for England, Wales, Scotland and Northern Ireland; and for each water resource zone, for a range of climate and socioeconomic scenarios, on the basis of the current level of adaptation.
* Consider how additional adaptation could deal with any deficits identified.

# Methodology

Bids should propose an outline methodology to address the above aims. The analysis should do the following:

* Produce future water availability projections (public water supply and water available for abstraction) that cover the UK including England, Scotland, Wales and Northern Ireland, and by water resource zone within each country.
* Include and present results between now and 2100 (and beyond if possible) consistent with projected warming consistent with global temperature rises of 2oC and 4oC, using the new UK climate projections (UKCP18) where appropriate.
* Provide spatially coherent projections.
* Consider how supply and demand will vary across all sectors (public water supply, natural environment, business and industry including agriculture) together, including private water supplies.
* Include in the baseline assessment the effects of current levels of adaptation across different areas of the UK. This should include or consider analysis undertaken as part of the water resource management plans (UK-wide). The method should consider how to deal with the differing climate change allowances built in to estimates of demand, supply and headroom across different WRMPs, and their treatment of future drought frequency.
* Consider and show the effects of potential future adaptation across different areas of the UK. This should include consideration of how transformational change to industry location, structure of the economy, or energy mix could alter the future supply-demand balance.
* Undertake sensitivity analysis of the results for different assumptions related to climate, socioeconomic change and adaptation.

This methodology should be based on a number of defined steps, with further detail setting out what specifically will be done at each step.

**Other issues for consideration**

The project will also need to take into account the CCRA method (an updated version to be published in Autumn 2018), making sure that results are presented in a fully consistent way with the ASC’s [urgency scoring framework](https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-climate-change-risk-assessment-2017/ccra-chapters/approach-and-context/). Bids should set out how the results of this project will feed into the ASC’s assessment of urgency for addressing climate change risks and opportunities.

Bids should set out how the project will use the information and data provided by the key projections and scenarios of water supply and demand used by policy makers; including the latest version of water company water resource management plans. The review should include an assessment of the limitations and assumptions underpinning each source of evidence.

Bids should also set out what metrics will be produced and how this will be done.

The method should consider existing as well as new projections, including climate projections from UKCP18, and seek to find a way of combining these datasets.

This project should be undertaken in close collaboration with four other projects that will be commissioned simultaneously with this one, specifically:

* Climate driven *threshold effects* in the natural environment
* To understand how *behaviour change* can influence climate change risks and opportunities
* A consistent set of *socioeconomic dimensions* for the CCRA3 Evidence Report research projects
* *Interacting risks*

The socioeconomic dimensions driving the project analysis must, in the first instance, be taken from another project commissioned by the ASC entitled “A consistent set of socioeconomic dimensions for the CCRA3 Evidence Report research projects”. If a wider range of socioeconomic dimensions are required then the successful bidder should liaise with the ASC and the socioeconomic dimensions project staff to develop those required dimensions.

# Outputs Required

Contractors must produce a report setting out the findings of the research and include supporting appendices including all underlying data used to produce the results. The report should include an executive summary.

The final report should include:

* a method statement, including details of how climate, hydrology and water availability projections will be approached, to be reviewed and agreed with the ASC and an expert stakeholder group (see timescales);
* an appraisal of the robustness of the data sources and assumptions used, any weaknesses in the data or assumptions and the implications of these for the interpretation of the findings.
* an annex detailing how the consultants have addressed each of the review comments;
* editable graphical representations, such as infographics, maps or charts that describe the results, with visuals optimised for use on social media. The ASC wants access to the editable versions and to the text included, for example to allow for translated versions to be prepared; and
* any supporting data and annexes detailing the method or providing supplementary results.

The final report will be published on the ASC’s website in January/February 2020.

# Ownership and Publication

The results of the analysis and all outputs produced will be owned by and published at the discretion of the Adaptation Sub-Committee.

All research publications arising from the contract must include a statement on how the supporting data and any other relevant research materials can be accessed.

# Quality Assurance

All research tasks and modelling must be quality assured and documented. Contractors should:

* Include a quality assurance (QA) plan that they will apply to all of the research tasks.
* Specify who will take lead responsibility for ensuring quality assurance and ensure that this responsibility rests with an individual not directly involved in the research, analysis or model development.
* Provide a QA log to demonstrate the QA undertaken, including who undertook the QA and the scope, type and level of QA that has been undertaken (e.g. a log entry only stating ‘the data was checked’ will not be sufficient).

Sign-off for the quality assurance must be done by someone of sufficient seniority within the contractor organisation to be able take responsibility for the work done. Acceptance of the work by the CCC will take this into consideration. The CCC reserves the right to refuse to sign off outputs which do not meet the required standard specified in this invitation to tender.

The successful bidder will be responsible for any work supplied by sub-contractors and should therefore provide assurance that all work in the contract is undertaken in accordance with the quality assurance expectation agreed at the beginning of the project.

For primary research, contractors should be willing to facilitate CCC staff to attend interviews or listen in to telephone surveys as part of the quality assurance process.

The consultant must demonstrate their ability to produce deliverables of quality, in particular following best practice regarding analysis and presentation of results.

# Timetable

An indicative timeline for deliverables is presented below. The contractors can propose modifications to the timeline to better suit their analysis if appropriate, though the final submission date must remain the same. Any proposed modifications should be set out in the bid and will require approval from the ASC secretariat.

| **Phase** | **Deliverable** | **Date** |
| --- | --- | --- |
| Bidding | Bids received | 24th September 2018 |
|  | Interviews conducted | w/c 8th October 2018 |
|  | Contract awarded | 12th October 2018 |
|  | Kick-off meeting with ASC | w/c 15th October 2018 |
| Project development | Method development - Draft Method Document | w/c 5th November 2018 |
|  | Method development - Final Method Document | w/c 26th November 2018 |
|  | Analysis undertaken | December 2018 to September 2019 |
| Reporting | Data and initial draft report for comments by ASC | 11th October 2019 |
|  | Draft report with QA-ed data submitted for review by ASC, CCRA authors, stakeholder group and academic peer review | 25th October 2019 |
|  | Final draft report submitted for review by ASC following peer review | 14th December 2019 |
|  | Final report submitted – project completed | 25th January 2020 |

# In order to ensure smooth and rapid progress the project plan should allow for regular interactions and meetings where necessary between the contractors and the ASC project team. We would ask bidders to set out when would be appropriate to meet during the project (after the initial kick-off meeting), given the timetable above. We would expect this to include at least five face-to face meetings between the contractor and the ASC secretariat, and at least five face-to-face meetings with CCRA authors and other project teams.

In addition, the ASC will put together a stakeholder group of representatives of the funding organisations and wider customers of the CCRA (government departments, agencies and adaptation practitioners). Bids should price in attendance of the project team and taking minutes at three meetings of this group; one to discuss the method; one to show the interim results, and one other to be agreed. The ASC will lead on chairing the meetings and putting agendas together.

# Challenges

The specific challenges that the ASC envisage with this project include:

* Accessing relevant datasets and information, including those that are not yet available.
* Addressing challenges of overlapping and potentially conflicting datasets and projections, and potentially choosing between them.
* Aggregating projections of future flows and water demands to produce credible water availability scenarios.
* Ensuring that a consistent methodology can be applied across all geographic areas.
* Making sensible assumptions about projecting forward current planned adaptation, and assessing how far additional adaptation could manage the risk.

Bids should also set out other risks and challenges to successfully undertaking this work.

# Ethics

All applicants will need to identify and propose arrangements for initial scrutiny and on-going monitoring of ethical issues. The appropriate handling of ethical issues is part of the tender assessment exercise and proposals will be evaluated on this as part of the ‘addressing challenges and risks’ criterion.

We expect contractors to adhere to the following GSR Principles:

* Sound application and conduct of social research methods and appropriate dissemination and utilisation of findings
* Participation based on valid consent
* Enabling participation
* Avoidance of personal harm
* Non-disclosure of identity and personal information

# Working Arrangements

The successful contractor will be expected to identify one named point of contract through whom all enquiries can be filtered. An ASC project manager will be assigned to the project and will be the central point of contact.

# Skills and experience

The ASC would like you to demonstrate that you have the experience and capabilities to undertake the project. Your tender response should include a summary of each proposed team member’s experience and capabilities.

Contractors should propose named members of the project team, and include the tasks and responsibilities of each team member. This should be clearly linked to the work programme, indicating the grade/ seniority of staff and number of days allocated to specific tasks.

Contractors should identify the individual(s) who will be responsible for managing the project.

# Consortium Bids

In the case of a consortium tender, only one submission covering all of the partners is required but consortia are advised to make clear the proposed role that each partner will play in performing the contract as per the requirements of the technical specification. We expect the bidder to indicate who in the consortium will be the lead contact for this project, and the organisation and governance associated with the consortia.

Contractors must provide details as to how they will manage any sub-contractors and what percentage of the tendered activity (in terms of monetary value) will be sub-contracted.

If a consortium is not proposing to form a corporate entity, full details of alternative proposed arrangements should be provided. However, please note CCC reserves the right to require a successful consortium to form a single legal entity in accordance with Regulation 28 of the Public Contracts Regulations 2006.

CCC recognises that arrangements in relation to consortia may (within limits) be subject to future change. Potential Providers should therefore respond in the light of the arrangements as currently envisaged. Potential Providers are reminded that any future proposed change in relation to consortia must be notified to CCC so that it can make a further assessment by applying the selection criteria to the new information provided.

# Budget

**The budget for this project is up to £80K excluding VAT (£100,000 including VAT); 40% of the payments for this project need to be made in the financial year 2018/2019 and 60% in the financial year 2019/2020.**

Contractors should provide a full and detailed breakdown of costs (including options where appropriate). This MUST include the funding allocated by each task as well as by person. Please include the number of days in the unpriced bid.

Cost will be a criterion against which bids which will be assessed.

Payments will be linked to delivery of key milestones. The indicative milestones and phasing of payments can be adjusted and agreed with the contractor and Project Manager. Please advise in your tender response how this breakdown reflects your usual payment processes.

In submitting full tenders, contractors confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The CCC aims to pay all correctly submitted invoices as soon as possible with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

# Evaluation of Tenders

Contractors are invited to submit full tenders of no more than 35 pages, excluding declarations. Tenders will be evaluated by at least three reviewers.

The ASC will select the bidder that scores highest against the criteria and weighting listed below, see the ITT for further information.

**EVALUATION CRITERIA AND SCORING METHODOLOGY**

|  |  |  |
| --- | --- | --- |
| **Criterion** | **Description** | **Weighting** |
| 1 | **RELEVANT EXPERIENCE / DEMONSTRATION OF CAPABILITY OF THE PROPOSED PROJECT TEAM** | 30% |
| 2 | **QUALITY ASSURING THE SERVICES YOU PROVIDE** | 5% |
| 3 | **MANAGEMENT STRUCTURE AND MANAGING RELATIONSHIP WITH THE CCC** | 10% |
| 4 | **METHOD** | 35% |
| 5 | **UNDERSTANDING OF REQUIREMENTS** | 10% |
| 6 | **RISK AND CHALLENGES** | 10% |
|  |  |  |
|  | | 100% |

**Scoring Method**

Tenders will be scored against each of the criteria above, according to the extent to which they meet the requirements of the tender. The meaning of each score is outlined in the table below.

The total score will be calculated by applying the weighting set against each criterion, outlined above; the maximum number of marks possible will be 100. Should any contractor score 1 in any of the criteria, they will be excluded from the tender competition.

|  |  |
| --- | --- |
| **Score** | **Description** |
| 1 | Not Satisfactory: Proposal contains significant shortcomings and does not meet the required standard |
| 2 | Partially Satisfactory: Proposal partially meets the required standard, with one or more moderate weaknesses or gaps |
| 3 | Satisfactory: Proposal mostly meets the required standard, with one or more minor weaknesses or gaps. |
| 4 | Good: Proposal meets the required standard, with moderate levels of assurance |
| 5 | Excellent: Proposal fully meets the required standard with high levels of assurance |

**Structure of Tenders**

Contractors are strongly advised to structure their tender submissions to cover each of the criteria above and supply a price schedule specifying the daily rates you will charge for each level of your staff.

**Evaluation for Interviews, if held**

CCC reserves the right to award the contract based on applicants’ written evaluation only if one candidate emerges from the evaluation stage as significantly stronger than the others.

Should interviews go ahead, they are provisionally expected to be held on the week commencing 8th October 2018. If this date changes, the ASC will notify applicants.

The areas to be covered in the interview will be sent to the shortlisted supplier prior to interview.

Further details of interviews will be sent to successful applicants on selection.

**Feedback**

Feedback will be given by email.

1. CCRA2: Updated projections for water availability for the UK Final Report. <https://www.theccc.org.uk/publication/climate-change-risk-assessment-ii-updated-projections-for-water-availability-for-the-uk/> [↑](#footnote-ref-1)
2. <https://www.water.org.uk/water-resources-long-term-planning-framework> [↑](#footnote-ref-2)
3. <https://www.nic.org.uk/publications/preparing-for-a-drier-future-englands-water-infrastructure-needs/> [↑](#footnote-ref-3)
4. <https://www.ofwat.gov.uk/publication/long-term-potential-deep-reductions-household-water-demand-report-artesia-consulting/> [↑](#footnote-ref-4)