**Specification for Surveying the evidence landscape for UK-focused spatial climate risk assessment**

Tender Reference Number: KW-0123

**Specification of Requirements**

Invitation to Tender for **Surveying the evidence landscape for UK-focused spatial climate risk assessment**

Tender Reference Number: KW-0123

Deadline for Tender Responses: **25th January 2023**

**Contents**

1. Background

2. Aims and Objectives

3. Methodology

4. Outputs Required

5. Ownership and Publication

6. Quality Assurance

7. Timetable

8. Challenges

9. Ethics

10. Working Arrangements

11. Required Skills

12. Consortium Bids

13. Budget

14. Evaluation of Tenders

# Background

**The Climate Change Committee**

The Climate Change Committee (CCC) was set up as part of the Climate Change Act. The CCC is an independent body that advises both on reducing emissions in the UK and adapting to the climate changes in the UK.

The CCC’s full range of past reports are available here:

[http://www.theccc.org.uk/reports/.](http://www.theccc.org.uk/reports/.%C2%A0%20HYPERLINK%20%22http%3A/www.theccc.org.uk/reports/.%C2%A0)

**The UK Climate Change Risk Assessment**

Under the Climate Change Act 2008 (section 57), an assessment of the risks facing the UK from the current and predicted impact of climate change is required every 5 years. The CCC is responsible for providing independent advice to the UK Government to inform that assessment.

The Committee has recently provided its advice to the UK Government on the risks and opportunities facing the UK from current and future climate change as part of the third Climate Change Risk Assessment (CCRA3) – this was summarised in its Independent Assessment of UK Climate Risk which was published in summer 2021.

The fourth UK Climate Change Risk Assessment (CCRA4) is due for completion by June 2026. CCRA4 will assess climate change risks to the UK using a more spatially defined approach than previous CCRAs, giving an assessment of the spatial distribution of climate risks across the UK and a more localised view of adaptation needs.

In order to assess climate risks at a spatial scale in CCRA4, the CCC are seeking to identify existing spatial modelling tools, initiatives and datasets that can be used to assess the spatial distribution of climate risks across the economy and the natural environment.

# Aims and Objectives

The aim of this project is to review the current landscape of spatial modelling of climate risks to the UK. This project will seek to identify existing models capable of UK-wide spatially explicit climate risk assessment within different sectors and ongoing modelling initiatives producing spatially explicit outputs relevant to UK climate risk assessment.

The purpose of this exercise is to understand what tools and existing simulations could be used to inform spatial risk assessment in CCRA4.

The key tasks in this project will be:

1. **Models:** Conducting a review of existing modelling capabilities for spatially explicit risk assessment (for the UK) within different sectors relevant to adaptation.

1. **Datasets:** Compiling and documenting the range of UK physical climate and socioeconomic development spatial datasets that could be used in analyses for CCRA4.

1. **Initiatives:** Identifying ongoing or planned research initiatives, which are aiming to produce spatially explicit evidence relevant for assessing UK climate risk over the next few years.
2. **Advice on common data standards (optional):** CCRA4 will seek to utilise the quantitative evidence base identified in this project to inform the assessment. Advice is requested on how to choose common data formats for CCRA spatial evidence that are well aligned with current practice in the community.

# Methodology

**Task 1: Models** - Identifying existing models capable of spatially explicit risk assessment

This task will seek to identify and document the range of existing models and modelling systems which are currently in use and capable of spatially explicit risk assessment for the UK. We expect this task to be delivered thorough both literature review and extensive stakeholder consultation which may include surveys.

Key requirements:

* It is essential that this review covers modelling capabilities in academia, public research institutions, Government, arms’ length public bodies (e.g. the Environment Agency), consultants and other private sector entities. Responses must set out the proposed method to be used to identify suitable models.
* The models considered and reviewed with this task need to be, at a minimum, capable of producing projections of quantitative climate risk metrics for a spatially explicit disaggregation of UK regions – which should be at least as granular as high-level English regions (e.g., NUTS1 levels) and the UK’s devolved administrations represented as single units. Models disaggregating to NUTS2 levels or beyond are particularly of interest.
* The review should consider relevant modelling capabilities within the following sectors as a minimum (other categories not covered below would also be welcome):
	+ Infrastructure (power, transport, telecommunications, water system, etc)
	+ The built environment (housing, flood defences, coastal erosion, etc)
	+ Health and communities (overheating impacts, vector-borne diseases etc)
	+ The natural environment (ecosystems, nature, agriculture, forestry, fishing etc)
* Given the potentially large number of models to be reviewed, bidders should state how they would prioritise the selection of suitable models for this task. The approach to prioritisation will be agreed with the successful bidder in the project kick-off meeting.
* For each model considered this task should report back on the following characteristics as a minimum: spatial coverage, spatial resolution, temporal resolution, endogenous inputs required (including socio-economic scenarios), output metrics, output data formats, how climate data/socioeconomic data is used, modelling approach, time periods available for analysis, etc. We would expect an agreed set of criteria and template to be agreed at the project inception meeting.

The main outputs from the task will be spreadsheets setting out the assessment of each model, as well as a written report summarising the merits and limitations of suitable models.

**Task 2: Datasets –** Identifying existing datasets that may be used to inform spatially explicit risk assessment

This task will seek to identify existing UK physical climate and socioeconomic development spatial datasets that could be used in analyses for CCRA4. This task will help to inform the framing of CCRA4 in terms of physical hazards and socio-economic parameters. We expect this task to be delivered primarily through literature review, however stakeholder consultation will also likely be required, which may include surveys.

Key requirements:

* The review should identify existing UK physical climate (hazard) and socioeconomic development spatial datasets.
* This includes datasets that are freely available in the public domain and those (including within the private sector) that have more restricted access
* The review should consider relevant datasets within the sectors identified in Task 1 as well as cross-sectoral datasets that are relevant for assessing aspects of vulnerability relevant across sectors.
* We are particularly interested in spatial socio-economic datasets covering aspects of exposure and vulnerability to climate change, and their uneven distributional effects across society. These are both datasets related to people’s vulnerability to climate impacts (e.g. income distribution) and also ‘economic geography’ datasets that have useful data on the distribution of asset exposure to climate impacts across the UK (e.g. climate vulnerable infrastructure locations).
* Datasets should be spatially granular with more spatially refined datasets being of most interest.
* Given the potentially large numbers of datasets to be reviewed, bidders should state how they would prioritise the selection of suitable datasets for this task. The approach to prioritisation will be agreed with the successful bidder in the project kick-off meeting.
* For each dataset considered this task should report back on the following characteristics as a minimum: ownership, data source(s), methodology, time period covered by the dataset (and frequency of time intervals), data format, geographical locations covered and scale of disaggregation, assumptions and limitations of the data. We would expect an agreed set of criteria and template to be agreed at the project inception meeting.
* In addition to the above it is vital that access conditions to the summarised datasets are clearly reported. Where these datasets are publicly available – a link to where the raw data can be downloaded should be provided.

The main outputs from this task will be spreadsheets setting out the assessment of each dataset, as well as a written report summarising the merits and limitations of the datasets.

**Task 3: Initiatives -** Identifying relevant spatially explicit climate research that could inform or accompany CCRA4

This task will seek to identify ongoing or planned research initiatives, which are aiming to produce spatially explicit evidence relevant for assessing UK climate risk. This will identify spatially explicit research that could inform analysis for CCRA4, or could complement the set of CCRA4 outputs. This includes research that is underway or planned for completion by 2027 or earlier.

Key requirements:

* This task will require a stakeholder engagement to identify ongoing spatially explicit research projects that may be used to inform or accompany CCRA4.
* This will also include a review of the planned research landscape to identify projects/programmes at an earlier stage of development that will be completed by 2027 at the latest.
* Initiatives across all the sectors named in Task 1 should be included in the assessment.
* For each research project considered this task should report back on the following characteristics as a minimum: lead and participating organisations/people, project timeframe, scope including geographical locations covered and scale of disaggregation, methodology, expected outputs, relevance for CCRA4, and limitations of the research. We would expect an agreed set of criteria and template to be agreed at the project inception meeting.

The main outputs from this task will be spreadsheets setting out the parameters of each research project, as well as a written report summarising the research identified and its merits and limitations for informing or accompanying CCRA4.

**Task 4 (optional): Advice on data formats -** Providing advice on how CCRA4 could set data standards to best align to the existing spatial research landscape.

**This is an optional task which should be costed separately if contractors intend to deliver this task (see section 13).**

CCRA4 seeks to utilise the evolving and growing spatial research landscape to directly inform its assessment of climate risks. To achieve this, clear data format guidance will be required to encourage data submitted to a future CCRA4 spatial evidence call will in a consistent format and enable ease of analysis within the CCRA project and subsequent use by others. This data format guidance will need to be cognisant of existing data formats used within the research landscape to reduce burden on organisations that may choose to submit their data.

This task should produce specific evidence-based recommendations on how this data format guidance should be constructed. This should be based on the assessment of activities in the current UK spatial research landscape in tasks 1 – 3.

The kinds of recommendations that would be useful include:

* Recommendations for standardised file formats at either cross-sectoral or sector specific areas.
* Recommendations on common metadata standards to appropriately document the data including input assumptions on climate and socioeconomic drivers, treatment of adaptation.
* Recommendations on cost-effective and efficient ways to host data submitted from across the research landscape for access during the CCRA4 assessment and subsequently.

# Outputs Required

The outputs of the work should include:

* **Spreadsheets**, containing the results of Tasks 1, 2 and 3 (and 4 if applicable)
* **A short report,** setting out the scope of work, assumptions, methodology and findings for Tasks 1, 2 and 3 (and 4 if applicable).

Where excel workbooks are used these should be shared, fully unlocked and linked to rest of the excel workbook deliverable above, allowing future capability to update assumptions.

We envisage that bidders may need to make use of pre-existing knowledge to enable delivery and welcome this. However, this should not limit the transparency of approaches used in this project and all outputs should be provided in a publishable format. In the event of any limitations on sharing (e.g. in wider sharing beyond the CCC), these should be specified as part of the tender.

In addition to the above, we also expect interim deliverables to be required, including slide packs for the purposes of milestone meetings.

# Ownership and Publication

The key deliverables will be handed over to the CCC, who may choose to publish these as supporting evidence on their website. Spreadsheets should be open access and unrestricted, to enable full QA of results and assumptions.

# Quality Assurance

This project must comply with the ‘CCC – Quality Assurance of Evidence and Analysis’ guidance1 and bidders must set out their approach to quality assurance in their response to this ITT.

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 and modelling,
* 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 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),
* Allow for a meeting with CCC staff to run through QA performed.

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.

# Timetable

The proposed timetable for the project is set out in the following table.

|  |  |
| --- | --- |
| **Date**   | **Action**   |
| w/c 6th February 2023   | Kick-off meeting   |
| w/c 27th March 2023   | First interim presentation/report on progress across all tasks. |
| w/c 15th May 2023   | Latest date for delivery of final report, analytical outputs and assumptions log   |

We welcome alternative proposals for what is a credible timetable for this work, with the expectation that the large majority of the budget for this project will need to be spent this financial year.

In addition to the formal reporting points, the CCC would expect to have regular scheduled discussions (meetings or calls) to ensure the work is progressing as expected. It is expected a more detailed timeline would be proposed in bids documents and agreed with the CCC at the kick-off meeting.

# Challenges

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

* Establishing an analytical methodology and approach which enables high quality insights to be delivered in short timeframes.
* Ensuring the scenarios and wider project findings are robust given the wider state of scientific literature.
* Ensuring that the project findings can be integrated effectively and coherently with the previous work in this area.

Bids should set out how these risks will be managed alongside any

other risks and challenges to successfully undertaking this work.

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

# 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 Principals:

1. Sound application and conduct of social research methods and appropriate dissemination and utilisation of findings
2. Participation based on valid consent
3. Enabling participation
4. Avoidance of personal harm
5. 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. A CCC project manager will be assigned to the project and will be the central point of contact.

# 11 Skills and experience

CCC 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 members 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 around £70,000 to £100,000 excluding VAT, for Tasks 1, 2 and 3. Task 4 is an optional task which should be costed separately in submitted bids if contractors intend to complete this task.

Contractors should provide a full and detailed breakdown of costs (including options where appropriate). This should include staff (and day rate) allocated to specific tasks.

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 Committee on Climate Change 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 20 pages, excluding declarations and CV’s. Tenders will be evaluated by at least three CCC staff.

CCC 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 CABABILITY | 20% |
| 2 | MANAGING YOUR RELATIONSHIP WITH THE CCC | 10% |
| 3 | QUALITY ASSURING THE SERVICES YOU PROVIDE | 10% |
| 4 | MANAGEMENT STRUCTURE | 10% |
| 5 | PROJECT TEAM – SKILLS AND KNOWLEDGE | 20% |
| 6 | METHOD, ABILITY AND TECHNICAL CAPACITY – 10% | 10% |
| 7 | UNDERSTANDING OF REQUIREMENTS | 10% |
| 8 | 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 |

**Scoring for Pricing Evaluation**

Price will be marked using proportionate pricing. Please see the example below.

Marking proportionate to the lowest price.

Price will be scored as set out below.

There will be a maximum of e.g. 20 marks

The lowest priced bid will receive the full 20 marks, all other bids will then be marked as set out below.

Proportionate Pricing scoring example

If 20% = 20 marks

|  |  |  |
| --- | --- | --- |
| Supplier | Price | Marks |
| 1 (lowest bid) | £70,000 | 20 |
| 2 | £80,000 | 70/80 \* 20 = 17.5 |
| 3 | £90,000 | 70/90 \* 20 = 15.5 |

**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 (ex-VAT) 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, CCC will shortlist the top suppliers with the highest marks from the written proposals. Interviews are provisionally expected to be held in the week of 30TH January 2023. If this date changes, CCC will notify applicants.

The areas to be covered in the interview, and markings allocated to each topic area 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 in the unsuccessful letters or emails.