FRAMEWORK AGREEMENT SCHEDULE 4

ORDER FORM/
WORK PACKAGE ORDER

FROM

Authority	Secretary of State for Environment, Food and Rural Affairs
Address	Defra Group Commercial 3rd Floor, Mallard House 1-2 Peasholme Green York, YO1 7PX
Contact Ref:	Phone: 07919 175101 Email: Mandy.Worsnop@defra.gov.uk
Order Number	Reference: C5584
Order Date	13 January 2023

TO

Contractor	Mott MacDonald
For attention of:	Tamzin Whelehan
Address	Mott MacDonald House 8-10 Sydenham Road Croydon CR0 2EE United Kingdom

1. SERVICES REQUIREMENTS

(1.1) Services and deliverables required: AESME Lot 9: Assessment of the effectiveness of AES in reducing the climate vulnerability of SSSIs to climate change

Aims

Climate change is placing additional pressures on protected areas, leading to specific areas of vulnerability that are context and site specific. This project will review the existing approach to prioritising interventions; selection of options and use of prescriptions within Agri-environment schemes (AES) in relation to the management of protected areas to evaluate whether they are able to address the developing pressures that climate change poses.

Background

Protected areas are and will remain at the forefront of approaches to promoting adaptation of the natural environment in the face of climate change. Protected Areas, as is the case with the wider natural world, are increasingly under threat from climate change, and the extent and cause of this increased vulnerability will differ from site to site depending on the local context.

A key objective of successive AES is to ensure that protected areas remain or return to favourable condition/favourable conservation status. This is achieved through the targeted deployment of AES agreements through spatial prioritisation, and the selection of appropriate options which aim to address adverse pressures and inappropriate management.

Previous AES M&E (LM0448) has highlighted that AES delivery does prioritise Protected Areas, however this is driven by prioritisation being given to Protected Areas *per. se.* rather than consideration of any specific climate change threats. The increasing extent and impact of climate change on the natural environment means that there is a risk that traditional approaches will not address the emerging threats that climate change poses. This project will explore the current and emerging risks associated with climate change and identify the use of AES actions to help address them. Without the work it is increasingly likely that AES will be unable to deliver the desired goals (e.g. Favourable Condition/Favourable Conservation Status) for protected areas under a rapidly changing climate.

Objective

The objective of this two-year project is to undertake an evaluation of the effectiveness of the current and potential future deployment of AES in addressing the threat posed by climate change to SSSIs.

Methodology

Year 1 – Testing the ability of AES to reduce climate vulnerability of SSSIs

The evaluation will require two components; a vulnerability assessment to determine climate risk and appropriate adaptation interventions, followed by a review of associated AES agreement and option deployment and an analysis of prescription choice and setting.

Sites within the top third highest ranking (most vulnerable sites, ≈1200), determined by the NE National Climate Change Vulnerability Model will be selected for the project. Within this sample, individual SSSIs will be selected to provide representation from different habitat types and agricultural landscapes, as well as SSSI size (ha) and geographical coverage. Sites will

be equally distributed across four Natural England area teams; Wessex, Thames/Solent, Norfolk & Suffolk and Cumbria.

This approach will ensure that SSSIs most likely to be under threat from climate change are selected, whilst ensuring AES relevance and a broad suite of ecosystems.

To complete the task the following steps are proposed

1) Engagement with Natural England area team contacts to access data on SSSI features and condition, and associated AES information.
2) Completion of a desk-based climate change vulnerability assessment for individual SSSIs
3) A review of the spatial deployment and option choices of existing AES in relation to the causes of climate vulnerability on SSSIs
4) A review of AES prescriptions to assess how they are being tailored to address the causes of climate vulnerability and to assess the evidence of their effectiveness.
5) An assessment of how future ELMs options could be deployed appropriately and their likely value in addressing climate vulnerability

Step 2: Climate change vulnerability assessment of individual SSSIs

To provide the information required to test AES delivery a climate change vulnerability assessment will be undertaken for individual SSSIs to identify a suite of appropriate adaptation interventions.

The SSSIs will be identified beforehand by area team contacts using a ground truthing exercise with local responsible officers to select those SSSIs that are most vulnerable to climate change and have active AES agreements on them as the means of delivering or maintaining favourable condition. These sites will then be handed to the selected contractor.

The assessment will be based on published evidence including site information from SSSI monitoring, condition and threats; where possible this should be augmented by input and verification from personnel responsible for the management and monitoring of individual sites within the four area teams.

A range of evidence sources are available to support the assessment including, the NE and RSPB climate change adaptation manual. In addition to providing a basis for the assessment of the climate change threats the manual provides a summary of prospective adaptation approaches. In addition to published information, the sub-metrics within the national vulnerability model (fragmentation, topographic heterogeneity) should also be used to identify potential causes of climate vulnerability for individual sites. This will also be provided.

When undertaking the assessment, individual site citations should be considered to ensure that a holistic view of site vulnerability is developed. Whilst, to provide cross-site consistency it is proposed that the assessment adopts a feature-based approach similar to that developed and tested on NE NNRs (Duffield et al 2020). In this case the list of monitored features for each SSSI could be used. Within this, the designated habitats should form the core data. Assemblages and species should also be considered where information is available to enable an assessment of climate risk and the identification of appropriate adaptation responses.

A general overview of likely vulnerability can be obtained from the published literature on climate risks and impacts (Box below). For each site the assessment will need to be tailored

using additional information including; condition assessment, SSSI threat register, site monitoring reports and adhoc site specific reports, to produce a tailored assessment of the climate change risk and appropriate adaptation interventions for each site.

The assessment should consider both direct and indirect impacts of climate change on the site, focusing on a 2ºC warming scenario and timescale up to 2080, but also assessing risks for 4ºC. Adaptation responses should be identified that operate both within the SSSI and in the surrounding landscape where appropriate

Supporting information

- Climate Change Risk Assessment (CCRA)
- RIDE Climate Change Impacts Report Cards
- Adaptation Manual, Natural England & RSPB
- National Biodiversity Climate Change Vulnerability Model (NBCCVM). NERR054
- Research on the assessment of risks & opportunities for species in England as a result of climate change NECR175
- Climate change theme plan (IPENSTP014)
- Climate change vulnerability and the state of adaptation on England's National Nature Reserves

The desk-based assessment should then be ground-truthed by engagement with the Natural England area team staff familiar with those SSSIs. A contact for each area-team will be identified to support this engagement.

Step 3: Review the spatial targeting and option choices of AES in relation to the causes of climate vulnerability on SSSIs

Using data held on AE agreements an analysis of agreement and option deployment within and surrounding the selected SSSIs will be undertaken to determine the degree to which option choice and their spatial configuration considers and addresses the vulnerability identified in Step 1.

Step 4: Review AES prescriptions and options to assess how they are being tailored to address the causes of climate vulnerability

Building on step 2 an in-depth analysis of the prescriptions of the deployed options will be undertaken.

It is envisaged that the work will use currently accessible datasets and not require field-based validation. In addition to understanding and experience of climate impacts, vulnerability and adaptation, knowledge of the regulatory regime, reporting and monitoring of SSSIs and experience of accessing and interrogating AES spatial and agreement level data will be essential. The project will also require active engagement with NE staff with knowledge of the individual sites.

Consideration should be given to what counterfactuals would be appropriate.

Step 5: Review of ELMS in addressing climate vulnerability

Using the evidence gathered in the preceding steps on the spatial deployment of agreements and options and the choice of prescriptions, provide an assessment of extent to which climate vulnerability is being addressed, improvements that could be made and any limitations to what could be achieved.

Year 2 – Testing the ability of AES to deliver long-term adaptation for SSSIs

A subset of the sites analysed in the first year of the study across the four Natural England area teams will be selected for a more in-depth analysis.

Development of longer-term adaptation goals

The focus of the work in year one is on identifying and addressing the causes of climate change vulnerability. Irrespective of interventions that promote resilience and reduce vulnerability climate change is going to result in inevitable change to the natural environment and protected areas. Building on the vulnerability assessment, and using a wider set of supporting data, an assessment will be undertaken of the likely future change to a selected subset of individual SSSIs.

To achieve this, bids will need to consider what data is required to project patterns of change, for example; fine-scale climate projections and their use to model indicators such as water levels and soil moisture deficit; changing climate envelopes and/or microclimate, modelled changes to Ellenburg values, and the interaction with indirect drivers (e.g.site management, anthropogenic pressures) specific to each site.

Bids should set out how they would approach the assessment of change including the datasets, approaches to modelling, specific climate change indicators to be examined e.g. soil moisture deficit, and the level and extent of ground truthing.

The results of this analysis plus an understanding of the contribution that individual sites make to the wider network will be used to develop a long-term adaptation plan. It is proposed that the Resist-Accept-Direct framework is used to inform the development of the plan.

Supporting information

Resist-Accept-Direct Framework

Using the understanding of projected change and considering the broader context (both network and local circumstances) the framework will be used to identify the range of potential outcomes, appropriate interventions, the scale they need to operate over, the time frame and the required decision points to develop a long-term adaptation plan.

As with the previous steps engagement with relevant NE staff and wider stakeholders will be required to inform and ground-truth the plan.

Evaluation of the ability of AES to deliver long term adaptation

Informed by current AES, an evaluation will then be undertaken for each case study area to evaluate the role that AES can play in delivering the actions in the long-term adaptation plan.

An assessment of how future E.L.M. schemes could be developed appropriately and their likely value in addressing climate vulnerability

Using the evidence from years 1 and 2 identify key recommendations for how future E.L.M schemes can better address climate change impacts on SSSIs, e.g. how the different elements of the scheme can ensure long term and coordinated interventions, how option prescriptions could be developed to better address vulnerabilities and environmental change.

Identify key AES options and delivery mechanisms which have been most impactful at addressing climate change vulnerability of SSSIs, across different habitats, agricultural landscapes, sizes and regions and therefore should be prioritised in E.L.M schemes.

Identify and highlight how AES can support and interact with other policy and delivery mechanisms, e.g. Net Gain, Net Zero and where gaps exist in the delivery landscape.

Requirements

Year 1. Tenders are sought to undertake a sample of 40 SSSIs for the initial analysis, representing SSSIs from different habitat types and agricultural landscapes, as well as, of different sizes (ha) and providing geographical coverage, chosen in consultation with the steering group. Quotes are also sought for additional tranches of multiples of 12, which may be required to provide a representative sample of the c1,200 SSSIs.

Year 2. Tenders are sought to undertake an initial sample of 8 case studies (either individual SSSIs or clusters), selected based on the first year's results and agreed in consultation with the steering group. With quotes sought for additional tranches of multiples of 4.

The approach taken in Yr 2 will be informed by the results of the Yr 1 study. The method and numbers proposed will need to be confirmed at a project planning meeting at the start of Yr 2.

A suggested methodology has been proposed, however bids to explore alternative approaches to addressing the questions posed would also be welcome.

Within the project there would be a desire to explore the use of remote sensing to cross reference and authenticate desk-based assessments of climate impacts (for example drought stress, flooding, saline intrusion) and hence vulnerability.

Project Management

The project will be overseen by a project steering group with representation from Natural England, Defra and the contractor(s). The Natural England project officer will be Dean Mason.

The successful contractor(s) must also appoint a project leader, who will be responsible for the management and delivery of the project and will act as the liaison point with the Natural England project officer.

The contractor's project leader will be responsible for:

- maintaining regular contact with the NE Project Manager and working closely with NE staff as necessary.
- providing a short progress report for circulation to the steering group once a month,
- holding steering group meetings at appropriate points during the project to inform: project design and focus, data collection, analysis and interpretation, the presentation of results, conclusions and recommendations (to be agreed at project initiation). Some meetings can be held online, although the initial, interim and final meetings should ideally be face-to-face. (In general, it would be preferable to hold more frequent shorter meetings to enable the contractor and Natural England to work together as effectively as possible and deal with any issues as soon as they arise)
- the organisation of steering group meetings, secretariat, production of a record of the meetings and its circulation to the steering group.

A project plan will be required to measure progress, setting out project milestones, related outputs and their intended delivery dates. Interim claims and payments will be linked to these project milestones and the related outputs will be used as evidence that a milestone has been met. The milestones should include, as a minimum, steering group meetings, selection of sites, completion of vulnerability assessments, completion of review of spatial deployment,

completion of the review of prescriptions and the submission of an interim report and of the final report. This project plan should be drafted by the successful contractor(s) for approval by the steering group.

A project initiation meeting between the steering group and the successful contractor(s) will be required at the start of the project. At this meeting the requirements for agreement data provision, the frequency and timing of steering meetings and the project plan and milestones will be agreed. The venue can be determined to suit the contractor, however an on-line meeting would be acceptable.

This contract runs across two financial years:

Year 1 – 23rd January 2023 to 31st March 2023; and

Year 2 – from 1st April 2023 to 31st March 2024.

Natural England has secured budget for the first year of this contract and pursuing budget for the second year. The continuance of the contract beyond 31st March 2023 is dependent on successfully securing the required funding for later phases.

There will be the option for Natural England to terminate the contract after successful completion of Year 1 activities ("Break Point 1") on 31st March 2023.

Natural England will decide whether to continue onto stage two after giving consideration of progress to date and in particular to whether the contract adequately reinforces Natural England's requirements and will successfully inform Year 2 activities.

If Natural England decides to terminate the contract at the end of March 2023, the amount due will be paid to the Contractor, for all agreed work provided to Natural England and that meets requirements by 31st March 2023.

After 31st March 2023 Natural England will not be liable for any payments that are greater than the Contractor's quoted costs as set out in the pricing schedule for Year 1, unless agreed beforehand.

Invoices against project milestone should be submitted to the NE project officer by email.

Timetable

In order to assist the NE project manager to observe the progress please include sufficient milestones within the project/specification that will demonstrate the progress of the research. The following sets out a proposed timetable and suggested key milestones

Year 1 – 2022-3	
Jan 2023	Project Inception meeting, start of project, agree overall project delivery plan for year 1
Mid Feb 2023	Completion of vulnerability assessments and identification of adaptation measures
Early March 2023	Completion of analysis of the spatial deployment of agreements and options
Mid March 2023	Draft Year 1 Report Submitted, Project Steering Group Meeting as required

Late March 2023	Final Year 1 Report Submitted
Year 2 – 2023-4	
April 2023	Agree year 2 project delivery plan
May 2023	Finalise site selection and commence in-depth analysis
February 2024	Draft final report submitted
March 2024	Final Report Submitted 2 Page project summary completed Datasets finalised and supplied to Natural England Webinar of project findings given

In addition, this project will be paid by achievement of milestones. However, not all milestones need to be associated with payment; and it may be appropriate to include additional milestones that are not related to payment but are used to indicate progress within the project. The frequency of milestone payments should be determined by the contractor; however, we request that they are appropriate and not at a frequency greater than monthly.

Outputs

The outputs of this tender are:

- an end of year report, building on the interim report, including the results of the analysis of the spatial deployment of options and review of prescriptions, a comprehensive review of the effectiveness (strengths/weaknesses/gaps) of current AES delivery, to be provided by 15 Mar 2023
- a year two interim report presenting the long-term adaptation plans from the case studies by 15 Oct 2024.
- a draft final report covering all objectives and tasks of the two-year project, to be provided by 15th Jan 2024. The report should include broader consideration of issues surrounding AES delivery such as eligibility, duration and level of funding.
- a comprehensive, externally peer-reviewed (see below) final written report suitable for publication as a Defra science report by 15 Mar 2024.

The main output of the project will be the written report. Ancillary to this: -

- a 2-page (A4) Summary Report(s) will be required presenting the results and policy relevance, to fit a template to be provided.
- we shall also require the contractors to give a presentation of the project findings to key NE and partner staff.
- As well as a final report, the contractor should consider the potential to produce a scientific paper or papers describing key outcomes of the project, in conjunction with the steering group.

The final report will be available as a public document via the Defra Science Website.

All data and metadata collected during the survey, including any hard copies of field sheets and EMD workers and associated spreadsheets populated with data will be provided to Natural England at the completion of the project.

Peer reviews

The contractor will be responsible for arranging peer-review of the final report by 2 appropriate reviewers, to be agreed with the Project Steering Group.

For carrying out the peer review Natural England will provide:

- A form for peer reviewers to complete to guide them through key questions
- A declaration for reviewers to sign regarding the use of confidential information and any conflicts of interest.

There should be a minimum of two peer reviewers and they must be independent of organisations working on the project. A cost for peer review should be itemised in the tender. This should take into account staff time to organise the peer review, staff time to edit reports in light of the reviews (subject to steering group agreement) and cover costs for reviewers if required.

Property rights, publication and confidentiality

All data resulting from this project, project documents and other materials will be the property of Natural England.

Natural England and Defra intend to publish the final project report as a Defra science report. The published report will be made available on the Natural England and Defra Science websites. It is likely to be shared directly with partners as part of regular liaison over the progress of Agri-Environment Scheme and wider RDPE Delivery.

Natural England encourages widespread publication, and welcomes the use of appropriate trade press, peer-reviewed journals and sector-specific journals, but it is a requirement that all plans to communicate outcomes, including publications and oral presentations, from funded research are agreed with the project manager (who will ensure Natural England and Defra QA requirements are met) before publication or presentation.

The Contractor(s) will be responsible for ensuring the quality of the work, the presentation of the final report and any other material to be published.

Outcomes

The project will have implications for all landowners eligible for AES to support the management and deliver favourable condition of protected areas. No external funding is being sought.

The project will enhance both NE and Defra understanding of the role of AES in responding to the threat posed by climate change to the protected area network. In addition to the strengthening of the evidence base, engagement with area teams during the course of the project will build skills and understanding on the likely impact of climate change on protected areas, actions that would help address these impacts and how AES agreements can be used to deliver these actions.

Evidence for Defra Environmental Land Management teams

The Environmental Land Management Evidence and Analysis team would like to use the evidence from this project in the following ways:

1. To achieve improved scores from the Climate Change Committee (CCC) in their Progress Report on Adaptation, there must be evidence of the impact actions are having on managing climate change risks to the schemes' other public good outcomes (i.e. risks to natural carbon stores, terrestrial and freshwater habitats and soils). This project will be used to improve the evidence base on the effectiveness of the deployed interventions in addressing climate change risks and vulnerabilities in protected areas and identify recommendations.
2. In addition, this project will also provide evidence on the current ability of AES to be tailored appropriately to respond and address local climate change risks i.e., around option choice, prescriptions and spatial targeting to address climate vulnerability and manage longer term climate driven change. This will provide important evidence and recommendations which can be shared with policy teams to inform future development of E.L.M schemes.

(1.2) Commencement Date: 23 January 2023

(1.3) Completion Date: 31 March 2024

2. PERFORMANCE OF THE SERVICES

(2.1) Key Personnel of the Contractor to be involved in the Supply of the Services

See supplier bid documents

(2.2) Performance Standards

As advised in the framework agreement

(2.3) Location(s) at which Services are to be provided:

Mott MacDonald House, 8-10 Sydenham Road, Croydon, CR0 2EE

(2.4) Standards:

(2.5) Contract Monitoring Arrangements

For the avoidance of doubt the services required are being provided under Framework Agreement 22707

Notwithstanding any other term to the contrary in the Framework Agreement or Call-Off Contract and whether the cause of action for any claim arises under or in connection with this Call-Off Contract in contract or in tort, in negligence or for breach of statutory duty, under indemnity or otherwise, in relation to any and all causes of action as aforesaid the total liability of the Provider in the aggregate for all claims shall be limited to three times the level of the awarded contract. This cap does not cover those liabilities listed in G1.1 of the Call-Off Contract.

3. PRICE AND PAYMENTS

(3.1) Contract Price payable by the Authority excluding VAT, payment profile and method of payment (e.g. Government Procurement Card (GPC) or BACS))

FY 22/23 = [redacted]

FY 23/24 = [redacted] Total = £124,619 For full pricing schedule see Appendix 1 Payable by BACS
(3.2) Invoicing and Payment The Supplier shall issue electronic invoices in arrears following completion of appropriate milestones.
4. Invoicing Requirements
All invoices should be sent to the Natural England Project Officer.

BY APPROVING THIS ORDER FORM THE CONTRACTOR AGREES to enter a legally binding contract with the Authority to provide to the Authority and natural England the Services specified in this Order Form, incorporating the rights and obligations in the Call-Off Contract that are set out in the Framework Agreement entered into by the Contractor and Defra on 28 September 2020.

Signed for and on behalf of the Supplier:
[redacted]
Signed for and on behalf of Defra Group Commercial:
[redacted]

Appendix 1 – Pricing Schedule

Activity	Cost (£)
Year 1	[redacted]
Climate change vulnerability assessment and associated workshops	
Review of AES options and prescriptions	
Review of ELMS and completion of Year 1 Report	
Year 2	
Climate change risk assessment and associated workshops	
Long term adaptation action plan	
AES mapping of options and prescriptions	
Recommendations to improve contribution to ELMS to address vulnerability and associated reporting	
Final reporting and webinar	
Final report peer review	
Total (Exclusive of VAT)	**124,618.87**

Appendix 2 – Mott MacDonald bid

E01_Mott MacDonald_Approach

E02_Mott MacDonald_Ability to

C5126_Assessment of AES on SSSI's Prici