

## **Specification of Requirements**

### **Aim:**

The Department for Environment Food and Rural Affairs (the “Authority”) is seeking to appoint a contractor to:

- Identify regions of countries eligible to receive Official Development Assistance (ODA-eligible countries) in the Indo-Pacific and Sub-Saharan Africa regions where chemical contamination and greenhouse gas (GHG) sinks spatially overlap
- Identify if any of the chemical contaminants identified in these countries may be contributing to climate change, through either the direct or indirect release and/or production of GHGs, or through reducing the capacity of sinks to absorb GHGs.
- This information will be used to more effectively target interventions and capacity-building projects to achieve joint outcomes of tackling chemical contamination and climate change in developing countries.

### **Project objectives:**

1. Identify and consolidate information on locations of chemically contaminated sites, GHG sinks and areas where these spatially overlap within ODA-eligible countries in the Indo-Pacific and Sub-Saharan Africa regions.
2. Identify which of these contaminants may be contributing to climate change in these countries through either the direct or indirect release and/or production of GHGs, or through reducing the capacity of sinks to absorb them.

### **Project outputs:**

1. Data highlighting chemically contaminated sites, GHG sinks and areas of overlap in the selected regions, ideally in the form of maps.
2. A report identifying if any of these contaminants may be contributing to climate change, through either the direct or indirect release and/or production of GHGs or through reducing the capacity of sinks to absorb them.

### **Definitions:**

Chemical: A substance whether by itself or in a mixture or preparation and whether manufactured or obtained from nature, but does not include any living organism. It includes run-off or leachate from anthropogenic activities, and metals such as mercury. It does not include solid articles, such as plastics or electronics.

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Contaminant: A chemical which has been anthropogenically released to the environment; “chemically contaminated site” refers to a location where a chemical contaminant is present.

Greenhouse gas (GHG) sink: Any process, activity or mechanism which removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas from the atmosphere.

ODA-eligible countries: Countries eligible to receive Official Development Assistance as defined by the Organisation for Economic Cooperation and Development.<sup>1</sup>

### Background:

Chemical contamination and climate change are two of the greatest threats currently facing our planet. As well as being separate threats in their own right, the ability of chemical contaminants to contribute to climate change through either the direct or indirect release and/or production of GHGs, or through reducing the ability of sinks to absorb GHGs, has been demonstrated in multiple contexts. Chemical run-off causes greater release of GHGs from river systems by altering chemical and microbial composition<sup>2,3</sup>; overuse of fertilisers and poor management of livestock manure increases the release of GHGs from soil<sup>4</sup>; and pollutants which kill vegetation may cause the release of various GHGs as it decays<sup>4</sup>, as well as reducing the future ability of their associated ecosystems to store GHGs if total biomass is decreased.

Many ODA-eligible countries are at greater risk from the future impacts of climate change than higher income countries, partly due to geographical location increasing the risk of extreme weather events<sup>5</sup>, and less developed infrastructure to adapt to climate change impacts<sup>6</sup>. If interventions and capacity-building projects can be utilised to tackle both chemical pollution and climate change, this will contribute to international goals<sup>7</sup> and improve outcomes for these countries.

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<sup>1</sup> OECD (2021). DAC list of ODA recipients. Available at <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/dac-list.htm>.

<sup>2</sup> Earthwatch Europe (2020). Assessing the contribution of river pollution to climate change in Hong Kong. Available at <https://panorama.solutions/en/solution/assessing-contribution-river-pollution-climate-change-hong-kong>.

<sup>3</sup> Ho et al. (2020). Effects of land use and water quality on greenhouse gas emissions from an urban river system. *Biogeosciences Discuss* [preprint]. <https://doi.org/10.5194/bg-2020-311>.

<sup>4</sup> Denman et al. (2007). Couplings Between Changes in the Climate System and Biogeochemistry. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

<sup>5</sup> Eyring et al. (2021). Human influence on the climate system. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

<sup>6</sup> United Nations Meetings Coverage and Press Releases (2019). Unprecedented Impacts of Climate Change Disproportionately Burdening Developing Countries. Available at <https://www.un.org/press/en/2019/gaef3516>.

<sup>7</sup> United Nations Department of Economic and Social Affairs (2015). The 17 Sustainable Development Goals. Available at <https://sdgs.un.org/goals>.

### Scope:

- The Authority is interested in the primary GHGs contributing to climate change: carbon dioxide, methane, nitrous oxide and fluorinated gases.
- Objective 1:
  - The Authority are specifically interested in ODA-eligible countries in the Indo-Pacific and Sub-Saharan Africa regions.
  - The Authority are interested in all chemical contaminants present in countries for this objective, even if they are not currently suspected to be contributing to GHG release or reduced absorption.
  - The output must include land, freshwater, brackish water and coastal compartments up to 12 nautical miles from a country's shores.
  - Spatial scales on the order of 1 km<sup>2</sup> are desirable but may not be achievable based on data availability and timescales. The bidder must indicate the data granularity they will be able to achieve and if this varies between regions. Where data on the precise extent of a contaminated site or GHG sink is not available, markers indicating the point at which measurements were taken are acceptable.
- Objective 2:
  - The report must cover all contaminants identified in the first objective, even if they do not currently overlap with GHG sinks.
  - The report must cover contaminants which could be contributing to either the direct or indirect release and or/production of GHGs, for example through eutrophication.
  - It must also cover contaminants which could reduce the capacity of sinks to absorb GHGs, for example by killing vegetation.

### Approach and methodology:

The expectation is that the work will be mostly desk-based, with possible discussions with experts and data providers to fill evidence gaps. Bidders must clearly set out the proposed methods for each objective, which may include but are not limited to literature reviews and analysis of existing data. An outline timetable must be submitted in the tender, with objectives delivered sequentially or in parallel; work on Objective 2 may commence before Objective 1 is complete. All work must be completed by 31<sup>st</sup> March 2022.

The Authority appreciate that there may be uncertainty associated with some of the available data. Contractors must follow government guidance where there is uncertainty over quantitative data or data are obtained from spreadsheets<sup>8</sup>.

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<sup>8</sup> HM Treasury (2015) The Aqua Book: guidance on producing quality analysis for government. Available at <https://www.gov.uk/government/publications/the-aqua-book-guidance-on-producing-quality-analysis-for-government>.

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Additionally, there may be gaps in the available data which could prevent complete assessment in some locations. Bidders must discuss where they anticipate such gaps to be as part of their response.

### Objective 1. Identify and consolidate information on locations of chemically contaminated sites, GHG sinks and areas where these spatially overlap.

Outputs to include:

- Data highlighting locations of chemically contaminated sites, GHG sinks and areas where these spatially overlap in the regions of interest as described above. This must be in a form understandable by an informed but non-expert party. The Authority suggest that outputs may take the form of maps and/or spreadsheets, but other forms will be strongly considered.
- Data used to produce the above output, where licensing permits this.
- The bidder could consider including comparative levels of the quantity of stored GHGs, potential for GHG release/production, and levels of contaminants between sites, although data availability and timescales may be too limited.
- Where the spatial extent of sinks or contamination cannot be reliably estimated, points of measurement must be highlighted on the map instead.
- Assumptions, limitations, levels of certainty and sources of data must be clearly laid out including their validity and impacts on the outputs listed above.
- Suggested data sources must be submitted as part of the bid.

### Objective 2. Identify which of these contaminants may be contributing to climate change in these countries through either the direct or indirect release and/or production of GHGs, or through reducing the capacity of sinks to absorb them.

Outputs to include:

- A report based on the contaminants identified as present in countries from the above objective, regardless of whether they currently overlap with GHG sinks. This report must discuss:
  - Any contaminants which may be directly or indirectly causing GHG release, production and/or reducing the capacity of sinks to absorb GHGs, for example those linked to eutrophication or destruction of habitat types known to be GHG sinks.
  - Assumptions, limitations, levels of certainty and sources of data clearly laid out including their validity and impacts on the outputs listed above.

### **Expertise required:**

The successful bidder will have experience in the use of geospatial data and reviewing scientific information. It would be beneficial if this was in the subject area of GHGs and/or pollution. Good knowledge of existing available data will be required as obtaining new data will likely be beyond the timescale of this project.

**Deliverables and timetable:**

Bidders must submit a proposed project delivery plan including interim deliverables and milestone dates. An estimated timeline is below:

Milestone	Deliverable	Deadline
1.	Attend initial meeting.	January 2021.
2.	Project milestones TBC.	
3.	Progress meeting.	Early February 2022.
4.	Progress meeting including draft report(s).	March 2022.
5.	Project completion including final reports.	Late March 2022.

**Financial arrangement:**

Payment will be in line with project milestones agreed with the successful bidder following award of the contract.

**Evaluation of bids:**

Bidders must submit their response using Defra Bravo. Bidders must provide a total price for delivery of the services excluding VAT. Bidders must provide a clear and detailed breakdown of these costs, including the day rate and number of days per team member, expenses and any other associated costs. 30% of the total score will be awarded for price, and 70% against the technical requirements, as detailed below.

1. Experience, capability, resources and team (30%) – Max 2000 words
  - Describe your capability and experience in delivering projects comparable to this specification.
  - Describe any resources you have access to which are relevant to delivery of the project, such as licensed databases.
  - Provide details of the proposed project team, their individual areas of expertise relevant to the project and their proposed roles including who will be the main point of contact.
  - CVs may be provided separate to the maximum word count.

Evaluation criteria:

- Recent experience and capability of delivering comparable projects, in the UK or internationally.

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- Relevant accreditations, awards, memberships or similar that demonstrate ability to deliver a high-quality project.
- Relevant non-human resources to deliver the project.
- The proposed team has recent relevant experience and capability to deliver their roles within the project.

### 2. Approach and methodology (60%) – Max 4000 words

- Briefly outline your understanding of the requirements of the project.
- Address how you will deliver each output above, specifically describing your methodology for each output as well as any other outputs you plan to include. Explain how you will ensure quality and account for uncertainty.
- Set out a timetable for the project with proposed interim deliverables and milestones, ideally in the form of a Gantt chart. Include any proposed interim payment points.

#### Evaluation criteria:

- An understanding of the context of the project.
- A clear approach to each of the outcomes described above with specific methodology for each output.
- Knowledge of available data including a description of the data you will use.
- Awareness of the requirement for quality data and a plan for accounting for uncertainty.
- An achievable timeline with deliverables and milestones.

### 3. Risk management and mitigation (10%) – Max 1000 words

- Provide a risk and mitigation plan.

#### Evaluation criteria:

- Scope of consideration of risks.
- Rationale for assignment of risk levels.
- Appropriateness of mitigation methods.

### **Scoring Criteria – Technical Evaluation (70%):**

The Technical Evaluation will be given one of the below scores out of 100 as follows:

- 100: Evidence of the ability to exceed the requirements giving additional benefit.
- 70: Good evidence of the ability to fully meet the requirement.
- 50: Sufficient evidence provided of the ability to fulfil basic requirements.
- 20: Significant lack of detail to evidence the ability to fulfil the requirement.
- 0: Unable to fulfil the requirement.

### **Scoring Criteria – Commercial Evaluation (30%):**

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The price evaluation will be scored as follows:

- The maximum marks available for the commercial part of the Tender will be 30% and will be awarded to the Bidder which submits the lowest price.
- The remaining Bidders will receive marks on a pro rata basis from the lowest to the highest price.
- The total price submitted by Bidders as part of the Commercial Questionnaire will be used for this evaluation.
- The calculation used is the following:
- $\text{Score} = (\text{Lowest tender price}) / (\text{Tender price}) \times 30\%$  (maximum available marks)
- For example, if three tenders are received and Bidder A has quoted £2,000 as their total price, Bidder B has quoted £5,000 and Bidder C has quoted £6,000 then the calculation will be as follows:
  - Bidder A Score =  $\text{£}2000 / \text{£}2000 \times 30\%$  (Maximum available marks) = 30%
  - Bidder B Score =  $\text{£}2000 / \text{£}5000 \times 30\%$  (Maximum available marks) = 12%
  - Bidder C Score =  $\text{£}2000 / \text{£}6000 \times 30\%$  (Maximum available marks) = 10%

### **Deadline and contact details:**

The closing date for tenders to be submitted is XXX at 12:00pm. A decision on the winning tender will be made by XXX. The successful bidder will be notified as soon as possible once the decision is made.

Contact for information relating to this Project Specification:

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