**Specification for tender to examine the implications of accelerated electrification and net-zero emissions for the UK electricity sector**

Tender Reference Number: MH/1118

**INVITATION TO TENDER**

**Invitation to tender to examine the implications of accelerated electrification and net-zero emissions for the UK electricity sector.**

**Contents**

|  |  |
| --- | --- |
|   |  |
| Instructions for Submission of Tenders | Part A |
| Specification (including the Preamble, Background, Requirement) | Part B |
| Information to be provided by the Bidder / Supplier Questionnaire | Part C |
| Pricing Information to be provided by the Bidder | Part D |
| Conditions of Contract for Services  | Part E |

# Part A

**Specification for tender to examine the implications of accelerated electrification and net-zero emissions for the UK electricity sector.**

**INSTRUCTIONS FOR Submission of TENDERS**

1. The CCC project manager will be Mike Hemsley

Address: 7 Holbein Place, London, SW1W 8NR. Tel: 020 7591 6121

Mike.hemsley@theccc.gsi.gov.uk

Mike should be contacted with any queries on the content of the project. If Mike Hemsley is unavailable, please contact Mike Thompson (mike.thompson@theccc.gsi.gov.uk).

Further information and clarification about the tendering process can be obtained from:

Sean Taylor, e-mail: sean.taylor@theCCC.gsi.gov.uk Tel 020 7591 6093.

1. Bidders are required to submit two copies of their bid via email to finance@theccc.gsi.gov.uk also copying in sean.taylor@theCCC.gsi.gov.uk. One version should contain no pricing information. The other version must be costed and identified as **"PRICED"**. The email subject should read:

“**INVITATION TO TENDER for []”**

Bidders are also required to submit four hard copies of their bid. One of these must be costed and identified as **"PRICED"**. Bids should be submitted in a sealed envelope, marked as follows:

“**INVITATION TO TENDER for CCC []”**

Envelopes should bear no external indication of the sender's identity. All bids should be addressed to:

Business Manager

Committee on Climate Change

7 Holbein Place

London

SW1W 8NR

**Bids should be sent in time in time for receipt by 10am on December 7th 2018**

1. If required, interviews will take place in London on the **in the w/c December 10th 2018.** If you are invited for interview, you will be notified of the address and time in the letter of invitation, sent out by email.
2. In practice, we welcome suggestions from consultants around what is feasible within the available timescales and budget (£50,000-60,000 excluding VAT).

**Specification of Requirements**

**Specification for tender to examine the implications of accelerated electrification and net-zero emissions for the UK electricity sector.**

Tender Reference Number: MH/1118

Deadline for Tender Responses: Friday December 7th 2018

**Contents**

1. Introduction and summary of requirements / Preamble 5

2. Background 5

3. Aims and Objectives 6

4. Methodology 8

5. Outputs Required 15

6. Quality Assurance 15

7. Timetable 16

8. Ethics 16

9. Working Arrangements 17

10. Required Skills 17

11. Consortium Bids 17

12. Budget 18

13. Evaluation of Tenders 18

# Part B

# Introduction and summary of requirements / Preamble

The Committee on Climate Change was set up as part of the Climate Change Act. The Committee is an independent body tasked with providing advice to government on climate change issues, particularly the setting of carbon budgets for the UK.

This project, focusing on the UK electricity sector, is to assess the feasibility and cost of scenarios for early electrification of transport and heating in the UK, beginning in earnest in the 2020s and resulting in emissions close to zero in 2050.

There is a significant body of existing work examining potential scenarios for decarbonisation of the UK’s electricity and broader energy systems, including several projects undertaken for the CCC. The intention of this project is to build on those, with an increased focus on accelerated pathways and a review of the feasibility of extensive deployment of low-carbon generation by 2050. Consultants are encouraged to build on previous work to ensure the project can be delivered within budget.

# Background

The CCC has recently been requested to advise on when the UK should reach ‘net zero’ emissions in the context of the Paris Agreement and to review the UK’s existing 80% greenhouse gas emissions reduction target for 2050. The work in this proposal is expected to be supporting evidence for the CCC’s advice, due to be published in Spring 2019.

The CCC’s advice is based on detailed modelling of a range of technologies and behaviours that could be deployed across the economy. Using that modelling, the CCC has developed scenarios for deployment of technologies to reduce greenhouse gas emissions to 2020,[[1]](#footnote-1) 2030,[[2]](#footnote-2) and to 2050.[[3]](#footnote-3) These are intended to demonstrate possible ways in which carbon budgets and the 2050 target could be met, estimate the economic cost of doing so, and identify barriers to delivery and consider how these could be overcome.

* The CCC’s scenarios for 2050 involve near-full decarbonisation of the power sector (e.g. to 10-20 gCO2/kWh, or potentially negative emissions if removals from biomass with CCS are attributed to the power sector). They involve extensive deployment of low-carbon generating capacity (i.e. onshore and offshore wind, solar, nuclear and carbon capture and storage fitted to gas and biomass plants), alongside significant increases in power sector flexibility (e.g. demand-side response, batteries and other storage, interconnection, flexible generation) and large amounts of back-up capacity.
* The scenarios also involve extensive electrification of surface transport, industry and buildings, and other measures to reduce greenhouse gas emissions across the transport, buildings, industry, agriculture, waste and other non-CO2 sectors.
* However, the CCC scenarios identify multiple options for decarbonising heating. Our October 2016 report, *Next Steps for UK Heat Policy*, proposed alternative pathways for low-carbon heating. This could be through electrification, by ‘greening’ the gas supply (e.g. shifting to low-carbon hydrogen), or by a mix of these alongside heat networks, and potential hybrid solutions, with the bulk of heat demand met by electricity, and peak demands met by green gas.
* Modelling by Imperial College for the Committee[[4]](#footnote-4) identified a hybrid heat pump pathway as a potential low regrets option in reducing near term emissions and enabling long-term near zero emissions from heat in UK buildings.
* Similarly, the CCC has previously used energy systems models to identify potential timescales for decarbonisation across all sectors of the economy[[5]](#footnote-5). These models consistently identify a role for early power sector decarbonisation in helping to reduce UK-wide emissions (e.g. through low-carbon heating and transport), and point to a near fully decarbonised power system by 2050. However there remain significant uncertainties:
* Future demand requirements across various degrees of electrification of heating and transport
* High uncertainty over costs of future generation and end-use technologies, and technology mix.
* Implications for networks
* Feasibility of installing the high required levels of electricity generation capacity to 2050.

The CCC is seeking to explore the implications of more rapid electrification of heat and transport on the UK electricity system (e.g. with a complete switchover to electric vehicle sales by 2030 – rather than 2040 – and with hybrid heat pumps rolled out to properties on the gas grid at scale from the 2020s – rather than from the 2030s). In particular, whether the necessary network upgrades can be made in time, whether the system can operate sufficiently flexibly and whether sufficient low-carbon and back-up capacity can be deployed in time.

Additionally the CCC is keen to identify longer-term challenges to full decarbonisation of electricity and to electrification, such as land and seabed availability, and supply chain scale. This is expected to involve a review of existing evidence (rather than new modelling), supplemented by engagement with relevant experts.

# Aims and Objectives

This project is part of the Committee’s work on long-term emissions targets. It aims to understand how more rapid electrification of heat and transport would impact the electricity system, and what limits there might be to increasing electricity system loads whilst decarbonising the electricity system, between now and 2050.

The aims of the project are:

* Set out credible scenarios for ‘earlier electrification’ and identify implications for overall system costs and requirements to 2035, with particular regard to electricity distribution networks and system management from flexible loads.
* Identify challenges and constraints to deploying the significant volumes of new electricity generation capacity needed to reach near-zero emissions by 2050 (no higher than 10 gCO2/kWh), with particular focus on wind, solar and peak electricity generation technologies.

For example, questions under consideration include:

* Are there any increased challenges in maintaining security of supply and system operability with accelerated take-up of new (potentially flexible) heating (i.e. heat pump) and transport (i.e. electric vehicle) alongside variable renewable generation?
* Can new (potentially flexible) electric loads be added to the electricity system in the 2020s and met by low-carbon supply without significantly increasing costs of managing the electricity system?
* What are the distribution network constraints with increased electrification? Are these more challenging where electrification occurs earlier?
* Are there limits on deployment levels of key technologies to 2050 that could be binding constraints for the CCC scenarios? If so, what can be done about them?

# Methodology

This project contains four components:

* **Task 1:** Use an electricity system dispatch model with an hourly resolution to investigate the impact of rapid uptake of electric vehicles and/or hybrid heat pumps on the electricity system, where additional electricity demand is met by additional renewable energy generation, to maintain a fixed CO2 emissions.
* **Task 2:** Demonstrate the electricity network implications of increasing electrification in the 2020s compared to a base case scenario, using the scenarios in Task 1. The consultants should identify network constraints at the distribution voltage levels, and outline network upgrade requirements required by the scenarios, as well as the costs and feasibility of upgrading networks for earlier electrification.
* **Task 3:** Identify challenges and constraints to deploying the required generating capacity by 2050 for the complete decarbonisation of electricity generation alongside extensive electrification.
* **Task 4:** Summarise the findings of Tasks 1-3, and note any recommendations for policy makers. In particular, the consultants should consider the implications of the findings of tasks 1 and 2 on the RIIO ED2 price control framework.
* **Task 5:** Task 5 is a potential additional task summarising the implications of earlier electrification and any future net zero emissions target on the electricity system in Northern Ireland.

*Description of tasks*

**Task 1:** Use an electricity system dispatch model with an hourly resolution to investigate the impact of rapid uptake of electric vehicles and/or hybrid heat pumps in residential buildings on the electricity system, where additional electricity demand is met by additional renewable energy generation, to maintain fixed CO2 emissions[[6]](#footnote-6). The CCC will provide a base case electricity generation mix, and electricity and gas demands. The can provide these as hourly demand profiles over a year, or the consultant can opt to do this themselves. The bidder will also be asked to characterise (in collaboration with the CCC) the flexibility of these demands (i.e. ability to shift demand away from peak periods), developing low and high flexibility cases. Sensitivities in Task 2 should be used to test the impact of these flexibility cases on network requirements.

* **Central scenario.** Heat pump and electric vehicle uptake in line with CCC’s 5th Carbon Budget Central scenario. The CCC’s Central scenario includes 2.2m heat pumps in residential homes and 60% of vehicles sold are electric vehicles by 2030[[7]](#footnote-7).
* **Rapid EV uptake.** Same as Central scenario but 100% uptake of EVs by in the second half of the 2020s.
* **Rapid hybrid heat pump[[8]](#footnote-8) uptake.** Same as Central scenario but hybrid heat pump uptake leads to an additional 1m heat pumps by 2025, 4m by 2030 and 10m heat pumps by 2035.
* **Rapid uptake of EVs and heat pumps.** Same as Central scenario but hybrid heat pump uptake leads to an additional 1m heat pumps by 2025, 4m by 2030 and 10m heat pumps by 2035, and EV uptake reaches 100% of light vehicle transport sales in the second half of the 2020s.

This should be done for the four scenarios above, against a pre-defined generation mix[[9]](#footnote-9), as well as up to eight sensitivity runs (total, not per scenario – to be agreed upon with the CCC) on the scenario, exploring the impact of a different generation mix, or a different level of flexibility.

The modelling can be for single years, or a series of years, including 2025, 2030 and 2035.

Consultants should set out what would be required in these scenarios to ensure security of supply and system operability would be maintained. They should also calculate the incremental cost of electricity supply against the Central scenario, in order to meet flexible heat pump/EV demand. In addition, consultants would be expected to provide the outputs listed in the ‘Modelling expectations’ section.

**Task 2:** Demonstrate the electricity network implications of increasing electrification in the 2020s compared to the Central scenario, using the scenarios in Task 1. The consultants should identify network constraints at the distribution voltage levels, and outline network upgrade requirements for the scenarios, as well as the costs and feasibility of upgrading networks for earlier electrification. Sensitivities should be used to test the impact of electricity system flexibility on network requirements to 2035.

* The bidder would be expected to select a minimum of three of the more rapid electrification scenarios in task one and identify the distribution network constraints implied by these scenarios. The CCC is open to ideas on the appropriate approach the consultants use to do this, recognising that this may require network modelling, but that current electricity system models are limited in the granularity of their representations of networks[[10]](#footnote-10).
* The bidder should identify the electricity distribution network constraints implied by the scenarios and outline potential upgrade requirements. Consultants should consider upgrade options such as direct network reinforcement, but also consider alternative options such as battery storage, and demand-side response that could avoid the need for these upgrades.
	+ For example, the installation of hybrid heat pumps need not imply any immediate upgrades, but local grid capacity could constrain the uptake of hybrid heat pumps within an area, or the usage profile of the heat pump component of the hybrid heat pump (versus using the gas boiler), until grid capacity is upgraded.
	+ Constraints, such as the rapid uptake of new electric loads within specific geographies, or and across the distribution voltage levels should be considered, and solutions proposed (where possible).
* Consultants should outline the costs and feasibility of delivering the network upgrades identified in this task over the period to 2035.
* Sensitivities should be used to test the impact of electricity system flexibility on network requirements and costs to 2035.

**Task 3:** Task 3 is partly independent from tasks 1 and 2. Consultants should consider challenges and constraints to the decarbonisation of electricity generation and level of electrification that can be achieved by 2050. For key technologies, this should consider limits on deployment rates, land/seabed and environmental constraints and supply chains of deploying large volumes of generation capacity over this period.

Previous modelling for the CCC has identified[[11]](#footnote-11) the need for over 100 GW of wind generation, 100 GW of solar generation and 100 GW of back-up electricity generation capacity required by 2050. Consultants should consider:

* What are the options to moderate these large capacity requirements?
* What deployment rates would be required for these technologies between 2030 and 2050? What are the implications for supply chains?
* What are the potential land/seabed constraints for offshore wind and solar technologies?
	+ What is a realistic level of solar capacity that could be technically deployed in the UK by 2050? How would building-integrated PV affect this? How might developments in solar technology avoid or utilise generation of excess solar around midday periods?
	+ What are the land/seabed and environmental limits on offshore wind deployment? Is there enough space around UK waters to deploy this level of offshore wind?
		- What are the key environmental considerations?
		- What about radar issues and shipping routes?
		- How might floating wind affect this?
* What would need to happen to be confident that these deployment levels can be achieved and emissions reduced close to zero by 2050?

No new modelling is required for this task. Rather the approach should be to explore the challenges in meeting deployment levels in existing 2050 scenarios based on existing evidence, supplemented by discussions with relevant experts to ensure this reflects the latest understanding and the UK’s experience as these industries have scaled up.

**Task 4:** Consultants should summarise the findings of Tasks 1-3, and note any recommendations for policy makers. In particular, the consultants should consider the implications of the findings of tasks 1 and 2 on the RIIO ED2 price control framework.

**Task 5:** Task 5 is a potential additional task summarising the implications of earlier electrification and long-term emissions reductions on the electricity system. Consultants are asked to offer details and costs on how the modelling in Task 1 may be extended to include Northern Ireland. Additionally, bidders are asked to come forward with approaches – either quantitative or qualitative - that can illustrate the implications of a net zero emissions target on the Northern Irish electricity system. The CCC may or may not choose to go ahead with this task.

Consultants are asked to price Task 5 separately to the main proposal. Specifically the contract letter should stipulate the costs for the tasks 1-4 and have wording such as ‘this contract could potential be extended to include a further task subject to the outputs delivered against the Authority’s specification’.

**Modelling expectations**

The scenarios we require will characterise the power sector in a low-carbon energy system. This requires a robust modelling framework and robust assumptions within this, some of which CCC will provide:

* For the core scenarios (Task 1), CCC will provide assumptions over the level of demand, including sub-components expected to have a different profile and responsiveness (industrial load, residential heating, electric vehicle demand, district heating etc) CCC will also provide assumed fuel prices, technology costs and carbon prices.
* Consultants should be prepared to propose assumptions (to be agreed with CCC) over siting of low-carbon capacity, levels of consumer flexibility (i.e. demand-side response) and the characteristics of the European grid.
* Consultants are expected to use their own assumptions (or published Government assumptions) for the operation of the system, e.g. including plant efficiencies/availability, risk of unexpected outages, predictability of wind output and correlation across sites. Where consultants provide their own assumptions, they should be documented and well justified (see section 6, ‘Quality Assurance’).

For task 1, consultants should produce scenarios that robustly model the dispatch of the system and meet the Government’s reliability standard for the GB electricity market (a Loss of Load Expectation of 3 hours/year, as set out in the Electricity Market Reform Delivery Plan), and the ‘N-1’ requirement for the gas system (in the appropriate scenarios).

* **System modelling should:**
* be undertaken on an hourly or half-hourly basis
* approximate optimised system dispatch under expected market rules
* suitably reflect the technical needs of balancing the grid from second to second, including maintaining grid frequency and providing system inertia; and reflect the technical limitations of the available capacity (e.g. the time taken to ramp to full capacity, reduced efficiencies when ramping up and down more regularly)
* have a robust representation of demand and outputs of intermittent technologies on an hourly/half-hourly basis, allowing for differences in different locations and the correlation of output across locations and with demand; also be able to reflect that wind and weather conditions vary from year to year; and be able to represent opportunities for demand-side response
* reflect correlation of both demand and supply with interconnected markets (e.g. to what extent low wind in the UK corresponds to low wind in Ireland and North-west Europe, affecting potential interconnector flows), and
* reflect that fuel prices fluctuate within a year
* include all components of system cost – capital, generation, carbon, operation and maintenance, transmission and distribution, etc
* **Outputs should include the following:**
* Capacity and generation by technology type, distinguishing between new build and existing plant (i.e. currently on the system in 2017).
* Hourly demand by fuel type
* CO2 emissions and emissions intensity. As far as possible the sources of CO2 emissions should be disaggregated, for example, between generating technologies and for plant running at baseload, mid-merit, peaking or as reserve and response.
* Total annual system cost, split between sub-components such as (annualised) costs of capacity, O&M, fuel, carbon, transmission, distribution, interconnection, storage
* Ideally, full hourly or half-hourly results at a high granularity would be provided alongside summary results.
* Hourly electricity prices for 2025, 2030 and 2035 (for a minimum of one of these years)

# Outputs Required

The deliverables from this assignment will be:

* A report setting out the findings of Tasks 1-4, i.e.:
	+ System costs and emissions for all core scenarios
	+ Network upgrade requirements of [three] key scenarios, with particular acknowledgement of where the key constraints might lie
	+ Costs of network upgrade requirements, with consideration of non-build options as alternative solutions.
	+ Opportunities for electricity system flexibility to help avoid network upgrades and integrate variable renewables into the energy system.
	+ Implications of the network findings for the next RIIO ED2 price control period
	+ Summary of potential deployment limits for key power sector technologies between 2030 and 2050.
* A set of Excel spreadsheets containing all quantitative data produced in Tasks 1-4, and any detailed analysis used to calculate the outputs.
* A copy of the modelling documentation
* Presentations for interim and final meetings
* A Quality Assurance log (see section 6)

In addition to these formal reporting points, the CCC would expect to have regular discussions to ensure the work is progressing as expected and focuses on key issues of interest to the Committee.

# Quality Assurance

This project must comply with the ‘CCC – Quality Assurance of Evidence and Analysis’ guidance 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,
* Provide an assumptions log of the key assumptions used in the analysis
* 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)

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 research staff to attend interviews or listen in to telephone surveys as part of the quality assurance process.

# Timetable

The proposed timetable will run as follows.

|  |  |
| --- | --- |
| **Date** | **Action** |
| 15th November 2018 (Thursday) | Circulate ITT |
| December 7th  | Deadline for response to ITT |
| December 13th or 17th | Interviews. Bidders are asked to keep Thursday December 13th and Monday December 17th free for interviews.  |
| w/c January 7th 2019  | Kick-off meeting |
| w/c February 11th | Interim meeting |
| 8-March (Fri) | Draft report |
| w/c 25 March | Final project meeting (present and discuss results and findings) |
| 29-Mar (Fri) | CCC comments on draft report |
| 5-April (Fri) | Final report |

# 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.

# 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

Recognising the multiple areas of expertise required for this project, bids from consortia are welcomed.

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 £50,000-60,000 excluding VAT.

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 Department 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

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** | 10% |
| 6 | **METHOD, ABILITY AND TECHNICAL CAPACITY**  | 20% |
| 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 |

**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 three suppliers with the highest marks from the written proposals. Interviews are provisionally expected to be held on Thursday December 13th or Monday December 17th – bidders are asked to try to keep these dates free. 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.

# Part C

**SUPPLIER INFORMATION**

Please complete the following information:-

All information supplied will be treated as **Strictly Private and Confidential**. The information will be reviewed by the Evaluation Panel only and will not be divulged to other parties during the de-briefing stage, or at any other time.

|  |  |
| --- | --- |
| Supplier InformationConcerning the provision of **Specification for tender to examine the implications of accelerated electrification and net-zero emissions for the UK electricity sector** |  |
| **Name of Company:** |  |
| **Address:** |  |
|  |  |
|  |  |
|  |  |
| **Contact Name:** |  | **Telephone Number:**(Including STD Code) |  |
| **Contact Title:** |  | **Facsimile Number:**(Including STD Code) |  |
| **Email and website Address:** |  |
| **Signed:** |  | **Dated:** |  |

|  |
| --- |
| **SECTION C1 : ORGANISATION, MANDATORY AND FINANCIAL INFORMATION** |
| **Note: Where a consortium bid is proposed, please present the information for each consortium member individually.** |
| GENERAL INFORMATION **Please enclose details of your organisation’s internal structure. A diagram would be helpful to support your answer.**  |
| 1. **Is your organisation: (Please tick a box)**
 |
|  |  |  |  |
|  | i) a public limited company; |  | Registration No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |
|  | ii) a limited company; |  | Registration No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |
|  | iii) a sole trader; |  |  |
|  |  |  |  |
|  | iii) a partnership; |  |  |
|  |  |  |  |
|  | iii) other, please specify; |  |  |
|  |  |  |  |
|  |  |  |  |

|  |
| --- |
| **SECTION C2: MANDATORY INFORMATION REQUIREMENTS** |
| Note: The information required in this section is a mandatory requirement for this quotation. Failure to provide the information may result in your bid being eliminated. Where a consortium bid is proposed, please present the information for each consortium member individually. |
| **FINANCIAL REQUIREMENTS**1. **Please note we will request from the proposed winner a set of the last year’s audited accounts (if these accounts are required under the law of the state in which your organisation is established) for your own organisation and the holding and/or ultimate parent and your organisation’s subsidiaries (if applicable). If you cannot provide the last year’s audited accounts, please provide a copy of your most recent business plan, budget or similar document.**

**OR** **If the audited accounts are available online, please provide details of the web page address where the accounts are held so that the Authority can access the information.**  **Web address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (your organisation)**  **Web address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (holding / ultimate parent company)**  |

|  |
| --- |
| **SECTION C3: Evaluation Criteria and weighting**  |
| **RELEVANT EXPERIENCE / DEMONSTRATION OF CABABILITY - 20%****1. Please describe the relevant principal areas of business activity of your organisation and the number of years you have been involved in this activity. Describe in detail, giving dates of your current and previous experience of comparable projects you have been awarded by public and private sector Clients and undertaken by your organisation in the past 5 years.** |
|  |
| **MANAGING YOUR RELATIONSHIP WITH THE CCC – 10%****2. Please describe how your organisation will manage its relationship with the CCC, including attendance at meeting and/or provision of progress reports and how communication between all levels of staff will be maintained.** |
|  |
| **QUALITY ASSURING THE SERVICES YOU PROVIDE – 10%****3. Please provide a brief plan of how you would monitor and maintain the quality of the services delivered (e.g. relevant Key Performance Indicators, risk management arrangements), including a statement of how you would ensure the key dates and deliverables are met. Please indicate whether in your opinion our timescales can be achieved.** |
|  |
| **MANAGEMENT STRUCTURE – 10%****4. Please briefly describe your proposed management and organisational structure for providing the services.**  |
|  |
| **PROJECT TEAM – SKILLS AND KNOWLEDGE – 20%****5. Please provide details of the full project team, including a team structure, with an outline of roles and responsibilities and copies of proposed project team CV’s. Please also confirm whether project team members would be full time or part time on this contract and if part time, please specify time contributed to this project.** |
|  |

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| **SECTION C4: METHOD, ABILITY AND TECHNICAL CAPACITY – 10%** |
| **Note: The purpose of the Method Statement is to enable us to evaluate your understanding of our requirements and the quality of your proposals for meeting them.** |
| **UNDERSTANDING OF REQUIREMENTS – 10%****1. Please provide a detailed statement of your understanding of the CCC’s requirements for this contract.** |
|  |
| **RISK AND CHALLENGES – 10%****2. What do you consider are the specific challenges for this project over the life of the contract and how do you propose to overcome these?** |
|  |
| SECTION C5: SIGNATURE AND DATE |
| I hereby declare that the information provided herein is complete and accurate: |
| Signature: |  |  | Date: |  |  |  |
| Name (PRINT): |  |  |  |  |  |  |
| Job Title: |  |  |  |  |  |  |
|  |

# Part D

**Pricing Information to be provided by bidder**

Please provide a pricing schedule for the following:

1. Consultancy Charge per day - Please indicate here staff level (i.e. junior consultant, partner etc.), rate per day, the number of days the individual would be allocated to the contract and the number of hours worked per day.
2. Any other costs – (please specify).
3. Any discounts offered.
4. Total cost of the Contract.

Notes:

1. Please note that all Travel and Subsistence will be as per the Civil Service Standard i.e. standard class.
2. V.A.T. will be separately indicated
3. All priced bids must be in pounds sterling and any subsequent invoices resulting from a successful bid must also be in pounds sterling.

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#  Part E

**CCC CONDITIONS OF CONTRACT FOR SERVICES**

Please see the attachment referring to the Committee on Climate Change standard terms and conditions. Potential bidders are requested that they must *make clear* any issues they have with these standard terms and conditions as part of their bid by Friday 30th November.

1. See CCC (2008) *Building a low-carbon economy*, and CCC’s annual progress reports [↑](#footnote-ref-1)
2. See CCC (2015) *The Fifth Carbon Budget* [↑](#footnote-ref-2)
3. See CCC (2016) *UK Climate Action following the Paris Agreement* [↑](#footnote-ref-3)
4. Imperial College (2018) Alternative heat decarbonisation pathways [↑](#footnote-ref-4)
5. See: CCC (2015) *The Fifth Carbon Budget,* CCC (2015) *Power Sector Scenarios for the Fifth Carbon Budget*, CCC (2013) *The Fourth Carbon Budget Review*. [↑](#footnote-ref-5)
6. The CCC has a preference for so-called ‘integrated’ system models that can provide an accurate representation of the impacts on the gas network of hybrid heat pump demands during peak periods, but will accept off-model interpretations of this. [↑](#footnote-ref-6)
7. See CCC (2016) Fifth Carbon Budget Dataset. Available at: <https://www.theccc.org.uk/publication/fifth-carbon-budget-dataset/> [↑](#footnote-ref-7)
8. A hybrid heat pump is a heat pump installed alongside a gas boiler. [↑](#footnote-ref-8)
9. See power sector scenarios in CCC (2018) Progress Report to Parliament. [↑](#footnote-ref-9)
10. I.e. Consultants should aim to offer a better representation of networks than a ‘rural/urban’ split for distribution level electricity networks. [↑](#footnote-ref-10)
11. See, for example, Imperial College (2018) Alternative UK heat decarbonisation pathways. [↑](#footnote-ref-11)