Invitation to Quote

Invitation to Quote (ITQ) on behalf of The Department for Business, Energy, & Industrial Strategy

Subject: Research to develop business models that will enable deployment of large scale, low carbon hydrogen production projects.

Sourcing Reference Number: CR19093

UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

Version 1.0

UKSBS
Shared Business Services

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Section 1 – About UK Shared Business Services

Putting the business into shared services

UK Shared Business Services Ltd (UK SBS) brings a commercial attitude to the public sector; helping our Contracting Authorities improve efficiency, generate savings and modernise.

It is our vision to become the leading service provider for the Contracting Authorities of shared business services in the UK public sector, continuously reducing cost and improving quality of business services for Government and the public sector.

Our broad range of expert services is shared by our Contracting Authorities. This allows Contracting Authorities the freedom to focus resources on core activities; innovating and transforming their own organisations.

Core services include Procurement, Finance, Grants Admissions, Human Resources, Payroll, ISS, and Property Asset Management all underpinned by our Service Delivery and Contact Centre teams.

UK SBS is a people rather than task focused business. It's what makes us different to the traditional transactional shared services centre. What is more, being a not-for-profit organisation owned by the Department for Business, Energy & Industrial Strategy (BEIS), UK SBS' goals are aligned with the public sector and delivering best value for the UK taxpayer.

UK Shared Business Services Ltd changed its name from RCUK Shared Services Centre Ltd in March 2013.

Our Customers

Growing from a foundation of supporting the Research Councils, 2012/13 saw Business, Energy and Industrial Strategy (BEIS) transition their procurement to UK SBS and Crown Commercial Services (CCS – previously Government Procurement Service) agree a Memorandum of Understanding with UK SBS to deliver two major procurement categories (construction and research) across Government.

UK SBS currently manages £700m expenditure for its Contracting Authorities.
Our Contracting Authorities who have access to our services and Contracts are detailed here.

Privacy Notice

This notice sets out how the Contracting Authority will use your personal data, and your rights. It is made under Articles 13 and/or 14 of the General Data Protection Regulation (GDPR).

YOUR DATA

The Contracting Authority will process the following personal data:

Names and contact details of employees involved in preparing and submitting the bid;
Names and contact details of employees proposed to be involved in delivery of the contract;
Names, contact details, age, qualifications and experience of employees whose CVs are submitted as part of the bid.

Purpose

The Contracting Authority are processing your personal data for the purposes of the tender exercise, or in the event of legal challenge to such tender exercise.

Legal basis of processing

The legal basis for processing your personal data is processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the data controller, such as the exercise of a function of the Crown, a Minister of the Crown, or a government department; the exercise of a function conferred on a person by an enactment; the exercise of a function of either House of Parliament; or the administration of justice.

Recipients

Your personal data will be shared by us with other Government Departments or public authorities where necessary as part of the tender exercise. The Contracting Authority may share your data if required to do so by law, for example by court order or to prevent fraud or other crime.

Retention

All submissions in connection with this tender exercise will be retained for a period of (7) years from the date of contract expiry, unless the contract is entered into as a deed in which case it will be kept for a period of (12) years from the date of contract expiry.

YOUR RIGHTS

You have the right to request information about how your personal data are processed, and to request a copy of that personal data.

You have the right to request that any inaccuracies in your personal data are rectified without delay.

You have the right to request that any incomplete personal data are completed, including by means of a supplementary statement.

You have the right to request that your personal data are erased if there is no longer a justification for them to be processed.

You have the right in certain circumstances (for example, where accuracy is contested) to request that the processing of your personal data is restricted.

You have the right to object to the processing of your personal data where it is processed for direct marketing purposes.

You have the right to object to the processing of your personal data.

INTERNATIONAL TRANSFERS

Your personal data will not be processed outside the European Union

COMPLAINTS

If you consider that your personal data has been misused or mishandled, you may make a complaint to the Information Commissioner, who is an independent regulator. The Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF
0303 123 1113
casework@ico.org.uk

Any complaint to the Information Commissioner is without prejudice to your right to seek redress through the courts.

CONTACT DETAILS

The data controller for your personal data is:

The Department for Business, Energy & Industrial Strategy (BEIS)

You can contact the Data Protection Officer at:

BEIS Data Protection Officer, Department for Business, Energy and Industrial Strategy, 1 Victoria Street, London SW1H 0ET. Email: dataprotection@beis.gov.uk.

Section 2 – About the Contracting Authority

Department for Business, Energy & Industrial Strategy (BEIS)

The Department for Business, Energy and Industrial Strategy (BEIS) was created as a result of a merger between the Department of Energy and Climate Change (DECC) and the Department for Business, Innovation and Skills (BIS), as part of the Machinery of Government (MoG) changes in July 2016.

The Department is responsible for:

- developing and delivering a comprehensive industrial strategy and leading the government's relationship with business;
- ensuring that the country has secure energy supplies that are reliable, affordable and clean;
- ensuring the UK remains at the leading edge of science, research and innovation; and
- tackling climate change.

BEIS is a ministerial department, supported by 46 agencies and public bodies.

We have around 2,500 staff working for BEIS. Our partner organisations include 9 executive agencies employing around 14,500 staff.

http://www.beis.gov.uk

Section 3 - Working with the Contracting Authority.

In this section you will find details of your Procurement contact point and the timescales relating to this opportunity.

Section 3 – Contact details		
3.1.	Contracting Authority Name and address	The Department for Business, Energy, & Industrial Strategy, 1 Victoria Street, Westminster, London, SW1V 0ET
3.2.	Buyer name	Karl Oakley
3.3.	Buyer contact details	Research@uksbs.co.uk
3.4.	Maximum value of the Opportunity	£85,412.00 (excluding VAT)
3.5.	Process for the submission of clarifications and Bids	**All correspondence shall be submitted within the Messaging Centre of the e-sourcing. Guidance Notes to support the use of Delta eSourcing is available here. Please note submission of a Bid to any email address including the Buyer will result in the Bid not being considered.**

Section 3 - Timescales		
3.6.	Date of Issue of Contract Advert on Contracts Finder	Tuesday 5th November 2019 Contracts Finder
3.7.	Latest date / time ITQ clarification questions shall be received through Delta eSourcing messaging system	Friday 22nd November 2019 11:00
3.8.	Latest date / time ITQ clarification answers should be sent to all Bidders by the Buyer through Delta eSourcing Portal	Monday 25th November 2019
3.9.	Latest date and time ITQ Bid shall be submitted through Delta eSourcing	Monday 2nd December 2019 14:00
3.10.	Date should be available if clarifications are required	Monday 9th December
3.11.	Anticipated notification date of successful and unsuccessful Bids	Monday 16th December 2019
3.12.	Anticipated Contract Award date	Thursday 19th December 2019
3.13.	Anticipated Contract Start date	Monday 6th January 2020
3.14.	Anticipated Contract End date	Tuesday 31st March 2020
3.15.	Bid Validity Period	60 Days

Section 4 – Specification

1. Background

The Department for Business, Energy and Industrial Strategy ("BEIS") wishes to appoint a specialist supplier to identify and review a range of potential business models that could enable hydrogen production to be deployed in the UK at scale from the 2020s for use across the energy system in line with our new net zero target.

We define business models as the "system of actors, infrastructure, financing for development and operation costs, use of revenues and profits, and risk ownership required for hydrogen production infrastructure to be developed and operated". An example of a business model operating in the UK energy system is the Contracts for Difference scheme, which supports low carbon energy generation.

The project will:

- Further develop our understanding of the main challenges a business model for low carbon hydrogen production at scale would seek to address.
- Identify a range of business models that could address the challenges identified.
- Explain the interactions between different business models for hydrogen and the wider value chain, including the potential for any unintended consequences.
- Evaluate the effectiveness of different business models in addressing the challenges identified.
- Identify which business models should be subject to further, more detailed analysis and consultation.

Contractors will produce a report, including simplified financial models demonstrating the effect of their suggestions, for publication and dissemination across government in support of our ongoing workplan. We aim to consult on potential hydrogen business models during 2020.

This research project will build on the recently published hydrogen section of the carbon capture usage and storage (CCUS) business models consultation[1].

The contractor will need to demonstrate in-depth technical knowledge of:

- Barriers to deploying low carbon hydrogen at scale;
- Existing policy and market frameworks and their applicability to hydrogen;
- The challenges and opportunities presented by different hydrogen production technologies, including renewable and CCUS enabled methods;
- The energy system and the potential role hydrogen could play in decarbonising the UK economy in line with the UK's 2050 net zero target and interim carbon budgets.

[1] Carbon capture, usage and storage (CCUS): business models, July 2019 - https://www.gov.uk/government/consultations/carbon-capture-usage-and-storage-ccus-business-models

Background

Hydrogen is an energy carrier with potential to support the UK's efforts to transform and decarbonise the energy system in line with our 2050 net zero target. Solutions and technologies that offer flexibility and optionality will be highly valuable in the transition to net zero. This is why we have seen a rapid upswing of interest in the role of hydrogen in a clean energy future, both here in the UK and internationally. Hydrogen delivers gaseous energy that can be stored for long periods of time and in large volumes. It can be deployed flexibly and responsively across the energy system, and can be used in applications similar to natural gas, without emitting carbon at the point of use. Hydrogen can be produced from a range of energy inputs, including fossil fuels, electricity, biomass and waste, and can be used across multiple sectors. If hydrogen production can be wholly switched to low carbon methods, its particular characteristics position it as an important, decarbonisation option, particularly in hard-to-electrify sectors and processes. However, low carbon hydrogen is more expensive than high carbon alternatives, suggesting action will be required to address the cost differential.

The 'Further Ambition' scenario from the Committee on Climate Change's (CCC) Net Zero report envisages up to 270TWh of low carbon hydrogen being produced and used in the UK by 2050. In this scenario, the CCC projects that over 80 per cent of low carbon hydrogen will come from production methods that require CCUS. These methods include methane reformation and biomass gasification.[2] The current market for hydrogen in the UK is small. Production estimates range from 10- 27TWh.[3] Only a fraction of current production is low carbon and the same is true internationally. The main production methods are methane reformation and industrial processes which release hydrogen as a by-product. Neither method currently uses CCUS. Demand for hydrogen is mainly from outside the energy system. The petrochemicals industry is the largest user of hydrogen, either as a feedstock (e.g. for fertilizer production) or for processing other fuels (e.g. in refining). A small amount of hydrogen is produced from electrolysis, primarily for use in transport.

The Government is committed to exploring the option of hydrogen as a flexible and strategic decarbonised energy carrier for the UK, alongside electricity and other decarbonised gases. We are currently funding up to £108m in innovation projects across the hydrogen value chain. In August 2019, we also announced our intention to launch the £100m Low Carbon Hydrogen Production Fund to realise commercial demonstration and deployment of low carbon hydrogen production at scale.

[2] Committee on Climate Change, Net Zero Technical Report, May 2019, https://www.theccc.org.uk/publication/net-zero-technical-report/

[3] Energy Research Partnership, Role of hydrogen in the UK Energy System, October 2016: http://erpuk.org/wpcontent/uploads/2016/10/ERP-Hydrogen-report-Oct-2016.pdf;

CCUS Advisory Group, Investment Frameworks for the Development of CCUS in the UK: CAG Final Report, July 2019, http://www.ccsassociation.org/ccus-advisory-group

We know from the development of other low carbon technologies that innovation is most effective when accompanied by supportive policy. For hydrogen, this means tackling a number of factors which mean, in spite of government funding, there remains a limited commercial case for investing in low carbon hydrogen production facilities. Effective business models are therefore a necessary complement to stimulate sustained private sector investment and expand the hydrogen economy to support our efforts in meeting net zero.

Our understanding of potential business models for low carbon hydrogen production is limited, as there is a small evidence base on this subject. This consultancy work will expand the evidence base by developing and assessing proposals on potential business models that could enable deployment of low carbon hydrogen at scale. This consultancy work will help us to meet our workplan to consult on specific business models during 2020.

2. Aims and Objectives of the Project

The purpose of this work is to help Government understand and compare potential business models that could enable low carbon hydrogen production to be deployed at scale from the 2020s for use across the energy system in line with our new net zero target.

The work will build on the hydrogen section of the CCUS business models consultation which was published in July 2019. The consultation has informed the design of this research project and will need to be considered when contractors are carrying out the work. The consultation outlined the main challenges a business model for hydrogen production would need to overcome, and suggested a range of potential approaches which could address those challenges. The consultation invited opinions on these challenges and potential remedial approaches but did not identify or evaluate any specific business models.

The objectives for this research project are to:

- Further develop our understanding of the main challenges a business model for low carbon hydrogen production at scale would seek to address.
- Identify a range of business models that could address the challenges identified.
- Explain the interactions between different business models for hydrogen and the wider value chain, including the potential for any unintended consequences.
- Evaluate the effectiveness of different business models in addressing the challenges identified.
- Identify which business models should be subject to further, more detailed analysis and consultation.

3. Suggested Methodology

Expectation

Contractors will produce a report, including simplified financial models demonstrating the effect of their suggestions, for publication and dissemination across government in

support of our ongoing workplan. We aim to consult on potential hydrogen business models during 2020.

Overarching considerations

This work should focus on the deployment of new low carbon hydrogen production facilities across production technologies. We define "low carbon hydrogen" as having above 95% capture rates, using 100% renewable input fuel or being derived from waste/industrial processes with carbon capture. This low carbon hydrogen could then be used across the energy system. We deem the following issues out of scope for this work.

- Support for existing hydrogen production facilities – which are considered under the industrial carbon capture business model.
- Cross chain risks with the CCUS value chain – which is the focus of CCUS business models work, though consideration should be given to the links with CCUS business models when evaluating potential hydrogen business models. .
- Support mechanisms that involve additional revenue generation from enhanced oil recovery

Work Packages

The successful contractor will deliver the following Work Packages:

Work package 1: Barriers to deployment and operation of low carbon hydrogen production facilities in the UK and global lessons learned.

Objective: Characterise the challenges and risks that prevent investment in, and operation of, low carbon hydrogen production facilities in the UK. The work package should agree priorities for the business model assessment and explain interdependencies with the wider hydrogen value chain. The work should be informed, in part, by the CCUS business models consultation published in July 2019.

The research questions are:

1.1. What are challenges and risks faced by potential owners, developers and operators of low carbon hydrogen production facilities based on the scope and principles set out in the consultation?

- This analysis should draw on lessons learned domestically and overseas for planned and operational hydrogen production facilites.
- The contractor should also provide a view on the quality of the existing evidence base, and a recommendation on what further research would improve the evidence base.

1.2. What impact do these challenges have on the commercial case for private sector investment in hydrogen production facilities?

- Where impact cannot be quantified an assessment of the different challenges should be outlined.

1.3. What business models are being explored in other countries that could be applicable in the UK to help meet our policy objectives? What main challenges are those models seeking to address and how does the model aim to address them?

1.4. What do the outcomes from 1.2 and 1.3 mean for delivering new low carbon hydrogen production facilites in the UK?

Review point

There will be review points during the course of the project to:

- Agree on the key challenges and risks.
- Agree the principles of what a hydrogen business model would seek to achieve (e.g. technology neutrality)
- Identify key interdependencies with other parts of the hydrogen value chain and agree the extent to which they should be in scope of the Work Package 2 (e.g. storage, distribution, end use)

Work package 2: Define and evaluate the range of possible business models.

Objective: Identify the range of potential business models that would enable the development and operation of low carbon hydrogen production in the UK at scale, including how and the extent to which they will address the challenges identified in Work Package 1, including a quantitative demonstration of their effect. We expect that between 5-10 business models will be assessed.

<u>The research questions are:</u>

2.1. What business models could enable investment in, and operation of, low carbon hydrogen production facilities in the UK?

2.2. What are the key features, including cost-effectiveness, potential administration options, liabilities and suitability for first-of-a-kind and enduring regimes that fundamentally differentiate individual/groups of models from each other (e.g. capital financing model, risk ownership, revenue model, ownership model etc)?

2.3. How well could the different models address the barriers and risks identified in Work Package 1?

- Why are certain models more effective at addressing the challenges than others? What is the financial impact of each of the models? What level of uncertainty exists and how can this be reduced?
- How do the models operate with respect to unlocking deployment of different production methods?
- What criteria should be used to assess the models? For example, how does each model intereact with the wider value chain and what is the potential for unintended consequences? How feasible are they to implement? How compatible are they with lead options for other CCUS business models?

Essential standards for work packages

Work Package 1

- Discussions should be held with key stakeholders in industrial clusters who are developing proposals for low carbon hydrogen. Further discussions should be had with hydrogen producers (across a range of production methods) and with experts from industry and academia. BEIS can support with identifying relevant stakeholders.

- Develop 3-5 case studies that illustrate barriers to deployment and operation of low carbon hydrogen production facilities. This information will be used to improve the evidence base and understanding to support the delivery of work package 2.

Work Package 2

- Identify around 10 potentially suitable hydrogen business models, including hybrid approaches and those identified as part of the CCUS Advisory Group report[4]. From this long-list, identify a short-list of potential models. The criteria for selecting these short-list should be outlined with a clear explaination why each model has been chosen supported by evidence and analysis.

Both work packages, where applicable:

- Multi Criteria Decision Analysis, and models that support this to compare non-monetisable criteria
- Analysis of the uncertainty for the parameters in the business models together with an analysis of the benefit in reducing those uncertainties enabling the ability to rank the models
- Mandated use of model log books together with a requirement for evidence of assurance
- Presentation of outputs in a clear, accessible manner that enables effective dissemination of information beyond only the final report (such as slides, notes, diagrams and charts)

If applicable:	**Insert numbers:**
Total number of Participants (experimental design)	
Total number of Interviews (survey)	
Total number of Interviews (qualitative)	10- 20
Total number of Focus Groups	
Total number of Case Studies	3-5

Methodology

This document sets out a suggested methodology, but we welcome tenderers to propose the methodology that they think will best meet the overall aims and objectives of the project. The proposed methodology will be one of the criteria that tenders are evaluated against.

Suggested Methodology - Work Package 1: Barriers to deployment and operation of low carbon hydrogen production facilities in the UK and global lessons learned.

We propose a literature review of domestic and international studies that identify barriers and risks to deployment and operation of low carbon hydrogen production

[4] Investment frameworks for development of ccus in the uk, CCUS Advisory Group, July 2019 - http://www.ccsassociation.org/ccus-advisory-group

facilities and outline what business models have been introduced to mitigate these barriers and risks. The structure of this review will be informed, in part, by the themes that we have identified from industry responses to the hydrogen chapter in the CCUS business models consultation.

We also expect that the contractor will provide expert insight, not necessarily specific to hydrogen, to appraise the content of the literature review, for example offering suggestions on ommissions.

We recommend that the contractor holds discussions with the authors of relevant studies (if applicable), to understand the evidence on hydrogen production challenges, risks and business models and their applicability to the UK. This will inform a recommendation as to whether (and what) further primary research is required. Primary research could include structured interviews or discussions with project developers that may provide further insights. We would expect to see a clear rationale as to why primary research is required.

Contractors will be expected to consider the reliability of the evidence sources used in line with BEIS quality assessment criteria when conducting the literature review. Contractors should highlight where evidence builds on existing information published by government. We expect that contractors will work closely with BEIS to help ensure work is of high rigour and value e.g. sharing database of literature sources, ensuring new evidence is highlighted and gaps are appropriately signposted.

Question 1.1 should be answered including explicit consideration as to whether the challenges and risks differ across a range of potential deployment scenarios.

Question 1.2 should be answered using multi criteria decision analysis. This should fulfil the BEIS quality assurance framework.

Question 1.3 should be answered using short (1-2 page) case studies to describe the business models successfully used to deliver hydrogen production infrastructure in other countries. We will not provide a selection criteria for the case studies used, however contractors should make clear the similarities and relevance that the case studies have to deploying hydrogen in the UK. We welcome expert guidance on the most suitable case studies.

Suggested Methodology - Work Package 2: Define the range of possible business models.

We envisage that much of the existing literature covered in Work Package 1 would be used to inform Work Package 2. This work package is likely to require a combination of further literature review, expert opinion and systematic assessment against a number of features of potential business models, for example on first-of-a-kind vs enduring regime, ownership of delivery, ownership of risk and liabilities, financing models (such as fully funded or split between government and the private sector) and revenue flows. The outcome of this approach will be (1) the identification of a long list business models for delivery and operation of low carbon hydrogen production facilities, (2) clear assessment criteria to evaluate these models and (3) a short-list of potential models for the UK.

Each business model should include details of the nature and duration of Government's involvement. This could include options that have no government support.

Question 2.1 should include some short (1 page) case studies, including lessons learned, from other mature technologies that have faced similar challenges, and on business models successfully used to deliver other major infrastructure (such as offshore wind deployment) in the UK, that have transferable insights and lessons learned for this project.

Question 2.2 should enable straightforward comparison of the structure and functioning of different models, for example, by summarising the information in a table. Consideration should also be given to how certain we can be about the effectiveness of each business model.

Question 2.3 will be conducted using Multi Criteria Decision Analysis which will be agreed with BEIS. This will be informed, in part, by the hydrogen chapter in the CCUS business models consultation. This work indicated that CCUS business models should have the following characteristics:

- Be market based and incentivise CCUS to provide value to the economy.
- Drive decarbonisation and be compatible with market operation and existing market frameworks.
- Instil confidence among investors and should attract innovation and new entrants to the market.
- Be cost efficient – providing value for money for taxpayers and bill payers, driving cost reductions and attracting new investment.
- Deliver appropriate and fair cost sharing between the Government and CCUS developers, being mindful of impacts on taxpayers and bill payers.
- Be an appropriate allocation of risk between the Government and CCUS developers, that evolves as the CCUS industry matures.
- Should have the potential to become subsidy free.

Models should also be designed to overcome the key challenges in the hydrogen chapter of the CCUS business model consultation and by the contractor's response to Question 1.1-1.4. The hydrogen specific challenges detailed in the consultation are:

- Addressing the additional cost of hydrogen compared with high carbon alternatives.
- Ensuring that hydrogen production facilities are an investable proposition as demand grows and changes over time i.e. ensuring that the models meet the challenges of first-of-a-kind projects and are suitable as an enduring regime.
- Ensuring hydrogen is deployed where it makes the greatest contribution to our decarbonisation goals, rather than where it commands the highest market price.
- How to take account of the avoided carbon price.

A clear explanation of how and why models meet the agreed assessment criteria should be provided (e.g. model addresses cost gap by 'x' with 'y' degree of uncertainty); this explanation should include comparisons (model 'a' addresses cost gap because 'reason' whereas model 'b' does not because 'reason'). Qualitative evidence to demonstrate the effectiveness of models should be drawn on where applicable.

We would expect contractors to develop simple financial models which demonstrate the impact of each business model and allow a quantitative comparison between models. This assessment would need to follow the BEIS Quality Assurance standards. The development of a financial model will need to use a model assurance log and any quantitative material produced as part of this work will be handed over to BEIS.

We would expect the successful bidder to have a qualitative researcher in the project team to control bias, complementing internal bias control measures including a peer review with BEIS analysts and industry experts. Any surveys completed as part of the work will be shared with survey control for comment and will follow BEIS social research best practice guidelines.

4. Deliverables

Outputs

The final outputs from the work will be:

- a standalone, quality assured final report, including a discussion and recommendations section, ready for publication and dissemination that addresses the objectives for the work.
- Simple financial models for each business model to demonstrate the effect of the report's recommendations
- Full details of the project methodology and assumptions, including associated quality assurance documentation for all qualitative and quantitative analysis
- Supplementary annexes, including transcripts of any calls made to stakeholders that have contributed to the development of the report.

The report will include the assessment of barriers to deployment, and section identifying, characterising and assessing different business models. All assumptions should be justified or referenced. The report will need to fully address the research questions set out in the project methodology in the Invitation To Quote questions document.

The conclusions should be forward looking, synthesising findings from both work packages, and recommendations should outline the scope for further analysis (including the value of addressing uncertainties) of a selection of models.

Financial models should be accessible outside of the main report, and records of discussions (for example, with authors of evidence considered in the work) should be included as separate annexes.

Contract operation and expectations

We expect that the contractors will lead the design, development and delivery of the report, though the project will need to involve teams across government which will be coordinated by the BEIS project leader, with input from contractors.

The project will have an internal steering group of officials from across government and the contractor, who will be responsible for the overall quality of the outputs.

Contractors will be expected to:

- consider the reliability of the evidence sources used in line used in line with BEIS quality assessment criteria.
- use their expertise and judgement as to the exact range of issues explored as part of the proposed review points included in the project.

Draft outputs should be shared with BEIS throughout the project. We welcome proposals from tenderers on the most appropriate review points but we suggest:

- After completion of Work Package 1.
- After business models have been identified and assessed for work package 2.
- After the finance models have been developed for work package 2.
- Upon receipt of the draft final report.

Analysis

Contractors should set out full details of all of their preferred method/s of analysis for any data collected, as well as any analysis of existing data – and explain how these will be used to answer the research questions. This should cover qualitative and/or quantitative analysis techniques, where relevant to the research methods.

In the case of qualitative analysis, it is expected that the approach be sufficiently detailed and robust to give a clear understanding of how data will be collected, analysed and presented. This might include, for example, a detailed method explaining how key themes are identified and developed, whether analysis will be undertaken within and/or across cases, and how the analysis will be managed across individuals, if applicable. Any quality assurance undertaken within the analysis process should be explained.

For quantitative analysis, contractors are expected to outline any techniques they expect to use, and statistical significance testing. Contractors should specify and describe how they will treat any missing values or non-responses, and the way in which they will decide

how to treat outliers to collected data within analysis. The rationale behind these decisions should be documented alongside the final report, and any data not used in analysis should still be included in the raw data file supplied to BEIS.

In explaining their approaches to analysis, the contractor should illustrate how these will ensure a credible and impartial outcome and set out any limitations or bias.

Contractors will need to demonstrate that they will meet BEIS standards for quality assurance, which are outlined below.

Quality Assurance (QA)

This project must comply with the BEIS Code of Practice for Research (Annex B) and bidders must set out their approach to quality assurance in their response to this ITT **with a QA plan**.

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 BEIS will take this into consideration. BEIS reserves the right to refuse to sign off outputs, which do not meet the required standard specified in this invitation to tender. We may consider commissioning an external peer review as part of the project.

All model inputs must be quality assured and documented. Contractors should include a quality assurance plan that they will apply to all of the research tasks.

- This QA plan should be no longer than [1 or 2] sides of A4 paper.
- The following link contains an externally accessible version of the Modelling QA guidance, and the QA log
    - https://www.gov.uk/government/collections/quality-assurance-tools-and-guidance-in-decc
- The QA log should be filled during the project and submitted at project completion to demonstrate the QA undertaken
- When model inputs are submitted to BEIS, during the project or at completion, they should be accompanied by confirmation by a senior (partner or equivalent) of the contracting organisation, that the assurance has taken place in accordance with approaches outlined in the QA plan agreed with BEIS.

Ownership and publication

BEIS will own any intellectual property rights to utilise the data, including any financial models or analytical outputs from the report. The department anticipates that the data will be used to inform policy development. BEIS is committed to openness and transparency, the report will be published at an appropriate time following associated policy development.

Working Arrangements

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

Skills and experience

A range of different experience and expertise are required for this study. Contractors should clearly set out the experience and expertise provided by each member of the proposed project team to meet the requirements.

The following skills are considered particularly important for this work:

- Experience project managing a study of this nature and size.
- Experience undertaking business model assessments, with transferable knowledge to hydrogen.
- Understanding of low carbon hydrogen in the energy system, encompassing a wide range of deployment scenarios.
- Understanding of financial modelling.

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.

1. 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, including monetary activity, 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 for example, via a consortium agreement. However, please note the Department 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.
- The Department 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 the Department so that it can make a further assessment by applying the selection criteria to the new information provided.

Terms and Conditions

Bidders are to note that any requested modifications to the Contracting Authority Terms and Conditions on the grounds of statutory and legal matters only, shall be raised as a formal clarification during the permitted clarification period.

Section 5 – Evaluation model

The evaluation model below shall be used for this ITQ, which will be determined to two decimal places.

Where a question is 'for information only' it will not be scored.

The evaluation team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required.

The evaluation and if required team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required. After evaluation and if required moderation scores will be finalised by performing a calculation to identify (at question level) the mean average of all evaluators (Example – a question is scored by three evaluators and judged as scoring 5, 5 and 6. These scores will be added together and divided by the number of evaluators to produce the final score of 5.33 (5+5+6 =16÷3 = 5.33)

Pass / Fail criteria		
Questionnaire	**Q No.**	**Question subject**
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	SEL1.3	Compliance to Section 54 of the Modern Slavery Act
Commercial	SEL2.10	Cyber Essentials
Commercial	SEL2.12	General Data Protection Regulations (GDPR) Act and the Data Protection Act 2018
Commercial	FOI1.1	Freedom of Information
Commercial	FOI1.2	Freedom of Information Act Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	AW4.1	Compliance to the Contract Terms
Commercial	AW4.2	Changes to the Contract Terms
Price	AW5.1	Maximum Budget
Quality	AW6.1	Compliance to the Specification
Quality	AW6.2	Variable Bids
Quality	PROJ1.5	Capacity
-	-	Invitation to Quote – received on time within e-sourcing tool
	In the event of a Bidder failing to meet the requirements of a Mandatory pass / fail criteria, the Contracting Authority reserves the right to disqualify the Bidder and not consider evaluation of any of the Award stage scoring methodology or Mandatory pass / fail criteria.	

Scoring criteria

Evaluation Justification Statement

In consideration of this particular requirement the Contracting Authority has decided to evaluate Potential Providers by adopting the weightings/scoring mechanism detailed within this ITQ. The Contracting Authority considers these weightings to be in line with existing best practice for a requirement of this type.

Questionnaire	Q No.	Question subject	Maximum Marks
Price	AW5.2	Price	20%
Quality	PROJ1.1	Approach / Methodology	35%
Quality	PROJ1.2	Staff to Deliver	25%
Quality	PROJ1.3	Understanding the Project Environment	20%

Evaluation of criteria

Non-Price elements

Each question will be judged on a score from 0 to 100, which shall be subjected to a multiplier to reflect the percentage of the evaluation criteria allocated to that question.

Where an evaluation criterion is worth 20% then the 0-100 score achieved will be multiplied by 20**%**.
Example if a Bidder scores 60 from the available 100 points this will equate to 12% by using the following calculation:
Score = {weighting percentage} x {bidder's score} = 20% x 60 = 12

The same logic will be applied to groups of questions which equate to a single evaluation criterion.

The 0-100 score shall be based on (unless otherwise stated within the question):

0	The Question is not answered, or the response is completely unacceptable.
10	Extremely poor response – they have completely missed the point of the question.
20	Very poor response and not wholly acceptable. Requires major revision to the response to make it acceptable. Only partially answers the requirement, with major deficiencies and little relevant detail proposed.
40	Poor response only partially satisfying the selection question requirements with deficiencies apparent. Some useful evidence provided but response falls well short of expectations. Low probability of being a capable supplier.
60	Response is acceptable but remains basic and could have been expanded upon. Response is sufficient but does not inspire.
80	Good response which describes their capabilities in detail which provides high levels of assurance consistent with a quality provider. The response includes a full description of techniques and measurements currently employed.
100	Response is exceptional and clearly demonstrates they are capable of meeting the requirement. No significant weaknesses noted. The response is compelling in its description of techniques and measurements currently employed, providing full assurance consistent with a quality provider.

All questions will be scored based on the above mechanism. Please be aware that there may be multiple evaluators. If so, their individual scores will be averaged (mean) to determine your final score as follows:

Example
Evaluator 1 scored your bid as 60
Evaluator 2 scored your bid as 60
Evaluator 3 scored your bid as 40
Evaluator 4 scored your bid as 40
Your final score will (60+60+40+40) ÷ 4 = 50

Price elements will be judged on the following criteria.

The lowest price for a response which meets the pass criteria shall score 100.
All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.

For example - Bid 1 £100,000 scores 100.
Bid 2 £120,000 differential of £20,000 or 20% remove 20% from price scores 80
Bid 3 £150,000 differential £50,000 remove 50% from price scores 50.
Bid 4 £175,000 differential £75,000 remove 75% from price scores 25.
Bid 5 £200,000 differential £100,000 remove 100% from price scores 0.
Bid 6 £300,000 differential £200,000 remove 100% from price scores 0.
Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50.

In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: Score/Total Points multiplied by 50 (80/100 x 50 = 40)

The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire.**

Guidance on completion of the questionnaire is available at http://www.uksbs.co.uk/services/procure/Pages/supplier.aspx

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

Section 7 – General Information

What makes a good bid – some simple do's ☺

DO:

7.1 Do comply with Procurement document instructions. Failure to do so may lead to disqualification.

7.2 Do provide the Bid on time, and in the required format. Remember that the date/time given for a response is the last date that it can be accepted; we are legally bound to disqualify late submissions. Responses received after the date indicated in the ITQ shall not be considered by the Contracting Authority, unless the Bidder can justify that the reason for the delay, is solely attributable to the Contracting Authority

7.3 Do ensure you have read all the training materials to utilise e-sourcing tool prior to responding to this Bid. If you send your Bid by email or post it will be rejected.

7.4 Do use Microsoft Word, PowerPoint Excel 97-03 or compatible formats, or PDF unless agreed in writing by the Buyer. If you use another file format without our written permission, we may reject your Bid.

7.5 Do ensure you utilise the Delta eSourcing messaging system to raise any clarifications to our ITQ. You should note that we will release the answer to the question to all Bidders and where we suspect the question contains confidential information, we may modify the content of the question to protect the anonymity of the Bidder or their proposed solution

7.6 Do answer the question, it is not enough simply to cross-reference to a 'policy', web page or another part of your Bid, the evaluation team have limited time to assess bids and if they can't find the answer, they can't score it.

7.7 Do consider who the Contracting Authority is and what they want – a generic answer does not necessarily meet every Contracting Authority's needs.

7.8 Do reference your documents correctly, specifically where supporting documentation is requested e.g. referencing the question/s they apply to.

7.9 Do provide clear, concise and ideally generic contact details; telephone numbers, e-mails and fax details.

7.10 Do complete all questions in the questionnaire or we may reject your Bid.

7.11 Do ensure that the Response and any documents accompanying it are in the English Language, the Contracting Authority reserve the right to disqualify any full or part responses that are not in English.

7.12 Do check and recheck your Bid before dispatch.

What makes a good bid – some simple do not's ☹

DO NOT

7.13 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.

7.14 Do not attach 'glossy' brochures that have not been requested, they will not be read unless we have asked for them. Only send what has been requested and only send supplementary information if we have offered the opportunity so to do.

7.15 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.

7.16 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Contracting Authority to discuss your Bid. If your Bid requires clarification the Buyer will contact you. All information secured outside of formal Buyer communications shall have no Legal standing or worth and should not be relied upon.

7.17 Do not contact any UK SBS staff or the Contracting Authority staff without the Buyers written permission or we may reject your Bid.

7.18 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.

7.19 Do not offer UK SBS or the Contracting Authority staff any inducement or we will reject your Bid.

7.20 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.

7.21 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.

7.22 Do not exceed word counts, the additional words will not be considered.

7.23 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.

7.24 Do not unless explicitly requested by the Contracting Authority either in the procurement documents or via a formal clarification from the Contracting Authority send your response by any way other than via e-sourcing tool. Responses received by any other method than requested will not be considered for the opportunity.

Some additional guidance notes

7.25 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool must be submitted to Delta eSourcing, Telephone 0845 270 7050

7.26 Bidders will be specifically advised where attachments are permissible to support a question response within the e-sourcing tool. Where they are not permissible any attachments submitted will not be considered as part of the evaluation process.

7.27 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.

7.28 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.

7.29 We do not guarantee to award any Contract as a result of this procurement

7.30 All documents issued or received in relation to this procurement shall be the property of the Contracting Authority / UKSBS.

7.31 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through the Delta eSourcing Portal.

7.32 If you are a Consortium you must provide details of the Consortiums structure.

7.33 Bidders will be expected to comply with the Freedom of Information Act 2000, or your Bid will be rejected.

7.34 Bidders should note the Government's transparency agenda requires your Bid and any Contract entered into to be published on a designated, publicly searchable web site. By submitting a response to this ITQ Bidders are agreeing that their Bid and Contract may be made public

7.35 Your bid will be valid for 60 days or your Bid will be rejected.

7.36 Bidders may only amend the contract terms during the clarification period only, only if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract terms without such grounds and the Contracting Authority fail to accept your legal or statutory reason is reasonably justified, we may reject your Bid.

7.37 We will let you know the outcome of your Bid evaluation and where requested will provide a written debrief of the relative strengths and weaknesses of your Bid.

7.38 If you fail mandatory pass / fail criteria we will reject your Bid.

7.39 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Delta eSourcing Portal.

7.40 Bidders should note that if they are successful with their proposal the Contracting Authority reserves the right to ask additional compliancy checks prior to the award of

any Contract. In the event of a Bidder failing to meet one of the compliancy checks the Contracting Authority may decline to proceed with the award of the Contract to the successful Bidder.

7.41 All timescales are set using a 24-hour clock and are based on British Summer Time or Greenwich Mean Time, depending on which applies at the point when Date and Time Bids shall be submitted through the Delta eSourcing Portal.

7.42 All Central Government Departments and their Executive Agencies and Non-Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further, the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement - including ensuring value for money and related aspects of good procurement practice.

For these purposes, the Contracting Authority may disclose within Government any of the Bidders documentation/information (including any that the Bidder considers to be confidential and/or commercially sensitive such as specific bid information) submitted by the Bidder to the Contracting Authority during this Procurement. The information will not be disclosed outside Government. Bidders taking part in this ITQ consent to these terms as part of the competition process.

7.43 The Government introduced its new Government Security Classifications (GSC) classification scheme on the 2nd April 2014 to replace the current Government Protective Marking System (GPMS). A key aspect of this is the reduction in the number of security classifications used. All Bidders are encouraged to make themselves aware of the changes and identify any potential impacts in their Bid, as the protective marking and applicable protection of any material passed to, or generated by, you during the procurement process or pursuant to any Contract awarded to you as a result of this tender process will be subject to the new GSC. The link below to the Gov.uk website provides information on the new GSC:

https://www.gov.uk/government/publications/government-security-classifications

The Contracting Authority reserves the right to amend any security related term or condition of the draft contract accompanying this ITQ to reflect any changes introduced by the GSC. In particular where this ITQ is accompanied by any instructions on safeguarding classified information (e.g. a Security Aspects Letter) as a result of any changes stemming from the new GSC, whether in respect of the applicable protective marking scheme, specific protective markings given, the aspects to which any protective marking applies or otherwise. This may relate to the instructions on safeguarding classified information (e.g. a Security Aspects Letter) as they apply to the procurement as they apply to the procurement process and/or any contracts awarded to you as a result of the procurement process.

USEFUL INFORMATION LINKS

- Contracts Finder
- Equalities Act introduction
- Bribery Act introduction
- Freedom of information Act