



Invitation to Quote

**Invitation to Quote (ITQ) on behalf of Department for Business,
Energy and Industrial Strategy (BEIS)**

Subject: Safety of Domestic Battery Energy Storage Products

Sourcing Reference Number: CR18171

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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](#).

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	Department for Business, Energy and Industrial Strategy 1 Victoria Street, London SW1H 0ET
3.2	Buyer name	Victoria Clewer
3.3	Buyer contact details	research@uksbs.co.uk
3.4	Maximum value of the Opportunity	£55,000.00 excluding VAT
3.5	Process for the submission of clarifications and Bids	All correspondence shall be submitted within the Emptoris e-sourcing tool. Guidance Notes to support the use of Emptoris is available here. Please note submission of a Bid to any email address including the Buyer <u>will</u> result in the Bid <u>not</u> being considered.

Section 3 - Timescales		
3.6	Date of Issue of Contract Advert and location of original Advert	Thursday, 8 th November 2018 Contracts Finder
3.7	Latest date/time ITQ clarification questions shall be received through Emptoris messaging system	Friday 23 rd November 2018 14:00
3.8	Latest date/time ITQ clarification answers should be sent to all Bidders by the Buyer through Emptoris	Friday, 30 th November 2018
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	Friday, 7 th December 2018 11:00
3.10	Anticipated notification date of successful and unsuccessful Bids	Friday, 14 th December 2018
3.12	Anticipated Award date	Friday, 14 th December 2018
3.13	Anticipated Contract Start date	Monday, 17 th December 2018
3.14	Anticipated Contract End date	Thursday, 25 th April 2019
3.15	Bid Validity Period	60 Days

Section 4 – Specification

Background

The Office for Product Safety and Standards (“the Office”) was created in January 2018 by the Department for Business, Energy and Industrial Strategy (BEIS), and takes forward the work of the previous Regulatory Delivery directorate. Responsibilities of the Office include:

- Giving detailed advice on the interpretation of safety related regulations, and sits on many standard making committees.
- Responding to incidents where the safety of a consumer product is called into question.
- Offering policy advice to HMG on product safety issues.
- Enforcement of a wide range of other product standards and regulations, including WEEE, RoHS, Ivory and Conflict Mineral regulations.
- Support of businesses through an expanded “Primary Authority” scheme to act as a single point of information for a wide variety of regulations impacting business.
- The work of the former national Measurement Organisation is also within the Office, which brings a world class test and measurement capability.

This project is being recruited as part of the BEIS Office for Product Safety and Standards Strategic Research Programme (SRP), which was launched in March 2018. This programme provides high quality strategic science-based research to strengthen the evidence base for Safety and Standards policy development, delivery and enforcement, giving business the confidence to innovate and protecting consumers from unsafe products. The wide range of evidence based research supported by the SRP helps to address critical questions relating to current product safety, and/or issues that might arise due to future market developments.

In particular the programme is keen to understand the safety risks to the consumer of products that are just emerging on to the market, of which one is the new category of Domestic battery energy storage products.

Domestic battery energy storage allows the user to buy and sell electricity at times that are financially advantageous. This is particularly beneficial when used in conjunction with solar power and/or Demand Side Response (DSR). Some systems can also offer limited off-grid capability in the event of a mains power failure.

The economic value of battery energy storage increases the further down the distribution network that it is sited. Hence domestic level energy storage is interesting to the Distribution Network Operators (DNOs). The costs are becoming more attractive as battery prices fall, and the payback on investment should improve as net metering allows more variable tariffs.

Domestic battery energy storage systems using Li-ion batteries are now commercially available, but there is a concern that failure of these batteries could be a new source of domestic fire. There is considerable activity concerning the safety of batteries used at grid level (MWh), but much less attention to date given to domestic scale energy storage systems (typically 2 - 10kWh). This work will help to address this knowledge gap.

Aims and Objectives of the Project

The aim of this study is to understand best practice in the design and installation of domestic battery energy storage systems, in particular to minimize the danger of fire arising from battery or other component failure.

The objectives of this work are to give Office policy makers a clear understanding of the safety risks to consumers due to the malfunction of domestic battery energy storage systems, and suggest ways in which these risks can be mitigated.

In particular, the work should give guidance on both preventing battery failure, and protection in the rare event of battery failure. This will include considerations of mechanical packaging, operating temperature and cooling systems, cell and whole battery condition monitoring, and charge/discharge regimes.

Suggested Methodology

The contractor will undertake the following activities:

- a. Attend a formal Kick Off meeting at BEIS London office. A key output of this will be finalisation on the detailed scope of work as based on this specification.
- b. Undertake Desk analysis and 1:1 Consultations with key stakeholders to understand:
 - The characteristics of battery fires in Domestic battery energy storage units. This should consider commonly used types of batteries, and should take account of how they are used and installed in domestic energy storage units.
 - Best practice in the design of battery management systems to minimise the risk of battery failure in Domestic battery energy storage systems.
 - The design and installation of enclosures of Domestic battery energy storage units to minimise risk of fire spreading outside the enclosure.
 - The work should include consideration of the safety issues relating to balance of system parts (such as charger, inverter, protection and controls) within the energy storage unit enclosure. This should include consideration of the risks of failure of these items and the resultant safety implications. There should also be consideration of the impact that this might have on other components, such as batteries.
- c. Submission of a Draft final report to the BEIS Project Monitoring Officer. This report, indicatively 50-100 pages long, shall be of publishable quality. The aim is that this draft shall be reviewed by BEIS and returned to the contractor within 2 weeks of receipt.
- d. Hold a Stakeholder meeting to check assumptions and reactions to draft project findings. A draft Powerpoint pack to be used at the meeting should be submitted to the BEIS project Manager one week before.

- e. Create and deliver a presentation about the project to BEIS staff at our London office.
- f. Submission of an Accepted final report, taking into account comments received on the draft final report, to the satisfaction of the BEIS Project Monitoring Officer.

Project Reporting

- A monthly progress report shall be submitted, that will form the basis of a monthly project meeting, by phone, with the Project Manager. A template will be provided for this report.
- Short mid-monthly email progress reports should be supplied, which should succinctly summarise recent and imminent work activity, and flag up any problems that might lead to delay.

Project Scope

The design of battery management systems is likely to be the focus of this work, and so should be considered in detail, whether they are integrated into the battery, or separate from it.

This work excludes detailed discussion of cell design and performance, as this is beyond the influence of product designers. But the specification of batteries, as far as it impacts safety, should be included in the report.

The work excludes detailed consideration of its location in the house, but the findings should be sufficient that it is possible for a buildings expert to understand where it is reasonable to install the product.

The work excludes any safety issues related to the AC or DC (where used) wiring that is external to the storage unit, or to any external switchgear or protection.

The work excludes any safety issues relating to imposed loading on the local electrical network safety.

The economics of these products are outside the scope of work. However, where appropriate, a rough indication of the costs of any suggested safety measures would be useful.

Re-manufactured (2nd life) batteries present additional safety issues. This is intended to be the subject of a subsequent study, and so is out of scope of this project. The intention is that the focus of this further study will be on the additional safety risks when using second life batteries.

This project should provide a sound evidence base of this subject, with the key findings summarised in an Executive Summary. There is no requirement to write a Conclusion or Recommendations section of the report.

Note on stakeholders: London Fire Brigade, Electrical Safety First and the Renewable Energy Association should be regarded as core stakeholders. In addition, it is expected that the contractor will identify some further stakeholders who can make useful input. It is expected that the contractor would indicatively engage with a minimum of 5 relevant stakeholders during the study. If wished, the Office can send a note of

introduction to all stakeholders to explain the nature of the project and the contractor's role in it.

Note on the stakeholder meeting: the Office will host the meeting at its 1 Victoria St, London office, and will send out invitations on behalf of the contractor. To ensure a good choice of dates and rooms, it is suggested that the room is reserved at least 8 weeks in advance.

Deliverables

Week1: Project Kick Off meeting

Week 14: Stakeholder Discussion Meeting

Week 18: Draft Final Report

Week 22: Final report

Week 24: Final Presentation of findings at BEIS London office

NB

The above is a suggested timeline only, tenderers are welcome to suggest alternatives that will enable the project to progress at a similar pace whilst meeting the final deliverable date.

It is important that as much of the work as is reasonably possible is completed by end March 19. Please consider this when developing the project timeline.

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. After evaluation the 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 ($5+5+6 = 16 \div 3 = 5.33$))

Pass / fail criteria

Questionnaire	Q No.	Question subject
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	FOI1.1	Freedom of Information Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	SEL3.11	Compliance to Section 54 of the Modern Slavery Act
Commercial	SEL3.12	Cyber Essentials
Commercial	SEL3.13	General Data Protection Regulations (GDPR)
Commercial	AW4.1	Contract Terms Part 1
Commercial	AW4.2	Contract Terms Part 2
Price	AW5.1	Maximum Budget
Price	AW5.5	E Invoicing
Price	AW5.6	Implementation of E-Invoicing
Quality	AW6.1	Compliance to the Specification
-	-	Invitation to Quote – received on time within e-sourcing tool

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	25%
Quality	PROJ1.1	Approach	20%
Quality	PROJ1.2	Staff to Deliver	15%
Quality	PROJ1.3	Understanding the Environment	20%
Quality	PROJ1.4	Project Plan and Timescales	15%
Quality	PROJ1.5	Risk Management	5%

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:

$$\text{Score} = \{\text{weighting percentage}\} \times \{\text{bidder's score}\} = 20\% \times 60 = 12$$

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 the final score returned may be different as there may be multiple evaluators and their individual scores will be averaged (mean) to determine your final score.

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 $(60+60+40+40) \div 4 = 50$

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: $\text{Score/Total Points} \times 50$ ($80/100 \times 50 = 40$)

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.ukpbs.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 Emptoris 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 Crown Commercial Service (previously Government Procurement Service), Telephone 0345 010 3503.
- 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 Emptoris.
- 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 Emptoris e-sourcing tool.
- 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 Emptoris.
- 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

- [Emptoris Training Guide](#)
- [Emptoris e-sourcing tool](#)
- [Contracts Finder](#)
- [Equalities Act introduction](#)
- [Bribery Act introduction](#)
- [Freedom of information Act](#)