



Department for  
Business, Energy  
& Industrial Strategy

**Hydrogen Appliance Demonstration Facilities  
(moveable) (Hy4Heat Work Package 8a)**

**Invitation to Tender**

Tender Reference Number: TRN: 2278/02/2020

Deadline for Tender Responses: 1 May 2020 at 2:00 pm (UK time)

**Revision A: 8th April 2020**

(extended tender deadline – see new timeline on page 6, dates of first meetings on page 26, interview dates on page 34; references to “COP26” now amended to “a major event such as COP26 - see pages, 27, 28, 30, and 32; possible contract extension to end of December 2021 – see pages 7 and 28, and revised Pricing Schedule)

**Department for Business, Energy & Industrial Strategy**

Date: 8th April 2020 (revised)

The Department for Business, Energy & Industrial Strategy (“BEIS”) wishes to appoint contractors to develop hydrogen appliance demonstration facilities under an OJEU procurement.

Enclosed are the following sections:

- Section 1 (page 5) Instructions and Information on Tendering Procedures
- Section 2 (page 10) Introduction and Background Information
- Section 3 (page 14) Specification of Requirements
- Section 4 (page 36) Other Information for Tenderers
- Section 5 (page 46) Further Information on Tender Procedure
- Section 6 (page 49) Declarations to be submitted by the Tenderer;
  - Statement of Non-Collusion
  - Form of Tender
  - Conflict of Interest
  - Standard Selection Questionnaire
  - Safe Use of Hydrogen
  - Code of Practice for Research
  - The General Data Protection Regulation Assurance Questionnaire for Contractors
- Annex A: Pricing Schedule (*see separate document*)
- Annex B: Code of Practice for Research
- Annex C: Exclusion Grounds
- Annex D: Technical Specification

Tenderers should apply by registering on the following website [www.delta-esourcing.com](http://www.delta-esourcing.com). This will ensure you receive immediate notification of updates to the ITT process and answers to questions raised by potential bidders which will be published on the Delta portal.

Please read the instructions on the tendering procedures carefully since failure to comply with them may invalidate your tender. Your tender must be received by uploading to the Delta portal by **2:00pm (UK time) on Friday 1<sup>st</sup> May 2020** clearly marked as “TENDER”.

I look forward to receiving your response.

Yours sincerely,

Steve Loades

Email: [hy4heat@arup.com](mailto:hy4heat@arup.com)

## **Privacy Notice**

This notice sets out how we 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**

We 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*

We are processing your personal data for the purposes of the tender exercise described within the remainder of this Invitation to Tender, or in the event of legal challenge to such tender exercise.

#### *Legal basis of processing*

The legal basis for processing your personal data 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. We may share your data if we are required to do so by law, for example by court order or to prevent fraud or other crime.

#### *Retention*

All tenders will be retained for a period of 6 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 is erased if there is no longer a justification for it 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](mailto: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 BEIS 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](mailto:dataprotection@beis.gov.uk).

## Section 1

### Instructions and Information on Tendering Procedures

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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## A. Indicative Timetable

The anticipated timetable for this procurement is as follows.

The Department reserves the right to vary this timetable. Any variations will be published on the Delta portal or circulated to all organisations who have registered an interest in notifications.

<b>Tender Timeline</b>	<b>Date</b>
Prior Information Notice (PIN) published in OJEU	Friday 20th September 2019
Advert (Contract Notice) and full Invitation to Tender issued	Monday 16th March 2020 Revision A 8th April 2020
Deadline for questions relating to the tender ( <i>revised</i> )	Thursday 9th April 2020
Responses to questions published ( <i>revised</i> )	Thursday 16th April 2020
Deadline for receipt of tender ( <i>revised</i> )	<b>Friday 1st May 2020 at 2:00pm (UK time)</b>
Invite suppliers for interviews ( <i>3 highest scoring from submissions</i> )	w/c 18th May 2020
All suppliers alerted of outcome	Wednesday 27th May 2020
10-day standstill	28 <sup>th</sup> May – 8th June 2020
Contract award on signature by both parties	11th June 2020
Contract start date	Monday 15th June 2020
Contract completion date	31st March 2021

The contract is for a period of 9½ months up to 31/3/21, unless terminated or extended by the Department in accordance within the terms of the contract. The Department reserves the right to extend the contract period by up to a further 9 months to the end of December 2021 in case there is a requirement to deploy to other events arising and/or to deploy the facility for a period(s) of time in support of wider stakeholder engagement (at locations/premises to be determined).

There is the potential for the demonstration facilities described in this ITT to be required for additional events within the 9½-month contract period. The costs for any additional events will be agreed using the individual rates submitted by tenderers in the Pricing Schedule.

## **B. Procedure for Submitting Tenders**

An application must be submitted in accordance with the checklist in Clause G below.

The maximum page limit for tenders is 20 A4 (excluding declarations, pricing schedule and CVs). The font type should be in Arial, minimum size 12 pt with single line spacing and minimum 2.5cm margins.

To apply for this tender please register on the following website [www.delta-esourcing.com](http://www.delta-esourcing.com). Please contact the Delta Helpdesk on 0845 270 7050 for any registration queries. Please upload your proposal before the deadline via BIP Solutions Delta Website. No hard copies of your submission are required.

For questions regarding the procurement process please upload these to the Delta portal.

Tenders will be received up to the time and date stated. Please ensure that your tender is uploaded onto the portal not later than the appointed time on the appointed date and allow plenty of time for the uploading process. The Department does not undertake to consider tenders received after that time. The Department requires tenders to remain valid for a period indicated in the specification of requirements.

The Department shall have the right to disqualify you from the procurement if you fail to fully complete your response, or do not return all of the fully completed documentation and declarations requested in this ITT. The Department shall also have the right to disqualify you if it later becomes aware of any omission or misrepresentation in your response to any question within this invitation to tender. If you require further information concerning the tender process, or the nature of the proposed contract, these should be uploaded onto the Delta portal. All questions should be submitted by 17:00 on 9<sup>th</sup> April 2020; questions submitted after this date may not be answered. Should questions arise during the tendering period, which in our judgement are of material significance, we will publish these questions on the portal with our formal reply by the end of 16<sup>th</sup> April 2020; this information will be available - unnamed - to all organisations that have expressed an interest in bidding. All contractors should then take the replies into consideration when preparing their own bids, and we will evaluate bids on the assumption that they have done so.

You will not be entitled to claim from the Department any costs or expenses that you may incur in preparing your tender whether or not your tender is successful.

## **C. Conflict of Interest**

The Department's standard terms and conditions of contract include reference to conflict of interest and require contractors and bidders to declare any potential conflict of interest to the Secretary of State. All conflicts must be declared via the Declaration form; these should also include conflicts for any research elements.

For research and analysis, conflict of interest is defined as the presence of an interest or involvement of the contractor, subcontractor (or consortium member) which could affect the actual or perceived impartiality of the research or analysis.

Where there may be a potential conflict of interest, it is suggested that the consortia or organisation designs working arrangements such that the findings cannot be influenced (or perceived to be influenced) by the organisation which is the owner of a potential conflict of interest. For example, consideration should be given to the different roles which organisations play in the research or analysis, and how these can be structured to ensure that an impartial approach to the project is maintained.

The process by which this is managed in the procurement process is as follows:

- 1. During the bidding process, organisations may contact BEIS, via the Delta portal, to discuss whether or not their proposed arrangement is likely to yield a conflict of interest.** Any responses given to individual organisations or consortia will be published on the portal (in a form which does not reveal the questioner's identity). Any organisation thinking of submitting a bid, should share their contact details with the staff member responsible for this procurement, to ensure they receive an update when any responses to questions are published.
- 2. Contractors are asked to sign and return Declaration 3 (page 52) to indicate whether or not any conflict of interest may be, or be perceived to be, an issue.** If this is the case, the contractor or consortium should give a full account of the actions or processes that it will use to ensure that conflict of interest is avoided. In any statement of mitigating actions, contractors are expected to outline how they propose to achieve a robust, impartial and credible approach to the research.
- 3. When tenders are scored, this declaration will be subject to a pass/fail score,** according to whether, on the basis of the information in the proposal and declaration, there remains a conflict of interest which may affect the impartiality of the research.

Failure to declare or avoid conflict of interest at this or a later stage may result in exclusion from the procurement competition, or in the Department exercising its right to terminate any contract awarded.

**BEIS has appointed Arup+ as the programme management contractor (PMC), who are responsible for delivering work packages 1 and 9 as part of their contract. Arup+ will also be managing the delivery of Work Packages 2 – 8 & 10 and, as part of the conditions for the PMC role, have agreed not to bid for the remaining work packages. These work packages will be delivered by other suppliers.**

The Arup+ team is a group of the following companies: Arup, Kiwa Gastec, Progressive Energy, Embers and YoEnergy.

#### **D. Evaluation of Responses**

The tender process will be conducted to ensure that bids are evaluated fairly and transparently, in accordance with agreed assessment criteria.

Further details of the assessment criteria are provided in Section 3.12.

#### **E. Terms and Conditions applying to this Invitation to Tender**

The Department's Standard Terms and Conditions of Contract will apply to this contract. These are available to download on BiP Solutions Delta website.

#### **F. Further Instructions to Contractors**

The Department reserves the right to amend the enclosed tender documents at any time prior to the deadline for receipt of tenders. Any such amendment will be numbered, dated and issued by the end of 16<sup>th</sup> April 2020. Where amendments are significant, the Department may at its discretion extend the deadline for receipt of tenders.

The Department reserves the right to withdraw this contract opportunity without notice and will not be liable for any costs incurred by contractors during any stage of the process. Contractors should also note that, in the event that a tender is considered to be fundamentally unacceptable on a key issue, regardless of its other merits, that tender may be rejected. By issuing this invitation the Department is not bound in any way and does not have to accept the lowest or any tender and reserves the right to accept a portion of any tender unless the tenderer expressly stipulates otherwise in their tender.



**G. Checklist of Documents to be Returned**

- Proposal (maximum 20 pages, Arial font minimum size 12pt with single spacing and minimum 2.5cm margins)
- Annex A: Pricing Schedule – *see separate document*
- Declaration 1: Statement of Non-Collusion
- Declaration 2: Form of Tender
- Declaration 3: Conflict of Interest
- Declaration 4: Standard Selection Questionnaire
  - Part 1 – Potential Supplier Information
  - Part 2 – Exclusion Grounds
  - Part 3 – Selection Questions
- Declaration 5: Safe Use of Hydrogen
- Declaration 6: Code of Practice for Research
- Declaration 7: The General Data Protection Regulation Assurance Questionnaire for Contractors

## **Section 2**

### **Introduction and Background Information**

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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## 1. Background

Heating is essential to our lives – it is the biggest reason we consume energy in our society and is responsible for over a third of our emissions. Meeting our 2050 net zero target means that heat in buildings will need to be almost completely decarbonised and heat in industry will need to be reduced to close to zero emissions.

There is no clear consensus on the best approach to decarbonising heat at scale. However, there are a number of options with potential to play an important role. One of these is to utilise low carbon gases such as hydrogen. Over 80% of homes and business are currently supplied by gas and the UK has one of the most comprehensive gas networks in the world with 282,000km of gas pipes feeding 22.7 million buildings.

In December 2018, the Department for Business, Energy and Industrial Strategy (BEIS) published Clean Growth: Transforming Heating which provides an overview of the key issues arising from a review of the evidence base on approaches to achieve heat decarbonisation. It sets out where BEIS believe efforts should be focused across industry, academia and the public sector over the next 2-5 years to inform development of a long-term policy framework. The Government is leading a number of innovation and practical demonstration projects to help address some of the key uncertainties.

### The Hydrogen Approach

To be able to inform any future assessment of the feasibility of the costs and benefits of undertaking a hydrogen conversion, a full understanding of issues from end-to-end (production to use) of the gas chain will be required.

The hydrogen gas chain can be split into the following stages:

- Production (including plant and CO<sub>2</sub> off-take, CO<sub>2</sub> sequestration and hydrogen storage).
- Transmission network (involving the pipework that transports the gas under a pressure of between 7 and 85 bar).
- Distribution network down to the end user's gas meter (involving pipework that transports the gas under a pressure of up to 7 bar).
- End-use (i.e. downstream of the Emergency Control Valve (ECV)).

The innovation programme, Hy4Heat, seeks to prove the safety case for the use of hydrogen for heating in GB homes and businesses, downstream of the Emergency Control Valve.

### Hy4Heat Programme

The Department for Business, Energy and Industrial Strategy (BEIS) has appointed Arup+, a group of companies led by Arup, as the Programme Management Contractor (PMC) to manage and successfully deliver Hy4Heat.

The Hy4Heat programme's aim is:

- To establish if it is technically possible and safe to replace methane with hydrogen in commercial and residential buildings and gas appliances. This will enable the Government to determine whether to proceed to a community trial.

The Hy4Heat programme's overall objective is:

- To provide the technical, performance, usability and safety evidence to de-risk the use of hydrogen for heat in buildings whilst working with others to prepare for a potential future occupied trial.

The programme's focus is on researching, developing, testing and demonstrating within the

end-use stage of the gas supply chain. This includes the gas appliance and equipment sectors as well as consumer research.

The programme is aiming to demonstrate:

- That safe, reliable, efficient and affordable end-use appliances and equipment can be developed for the lower pressure, below seven bar, domestic and commercial sectors.
- That hydrogen can be safely distributed to the end user appliances in existing buildings' pipework, downstream of the ECV.
- Initial findings of what the consumer experience of a hydrogen fuelled home will be. This includes demonstrating through unoccupied trials appliance suitability, as well as developing requirements and options for progressing to a potential community trial.

The Hy4Heat programme will be completed by the end of March 2021. It is envisaged that it will consist of ten Work Packages:

- WP1 Programme management
- WP2 Definition of a hydrogen quality standard
- WP3 Establishing an appliance and equipment testing capability
- WP4 Development of domestic hydrogen appliances
- WP5 Commercial appliances
  - a. Understanding commercial appliances
  - b. Development of commercial hydrogen appliances, boiler cascade, and ancillary components
- WP6 Understanding industrial appliances
- WP7 Assessment of suitability of hydrogen in existing buildings
- WP8 Hydrogen demonstration trials in unoccupied building
  - a. **Moveable facilities (this Invitation to Tender (ITT))**
  - b. Fixed facilities
- WP9 Preparations for a potential occupied consumer community trial
- WP10 Smart hydrogen meter development and manufacture

Arup+, as the PMC, are responsible for delivering Work Packages 1 and 9 as part of their contract. Arup+ will manage the delivery of Work Packages 2 – 8 and 10 and, as part of the conditions for the PMC role, have agreed not to bid for the remaining Work Packages that will be delivered by other suppliers.

This ITT directly supports the delivery of Work Package 8a, provision of hydrogen appliance demonstration facilities

## 2. Summary of Tender Requirements

The aim of Hy4Heat Work Package 8a is to facilitate the demonstration of the hydrogen appliances developed in Hy4Heat work packages 4 and 10 (domestic appliances and smart meters).

The tenderer is required to design, develop and deliver demonstration facilities to include three formats:

- An exhibition showroom without a hydrogen gas supply,

- A functional showroom with operational appliances (to include a hydrogen gas supply)
- Cooking demonstrations (to include a hydrogen gas supply)

There is also a requirement to solicit and record consumer feedback from those visiting the facilities.

There may be an option to include work package 5 (commercial appliances) later if they become available, but this is not to be priced in this ITT.

The following tender section sets out the detailed requirements for this Work Package.

## Section 3

### Specification of Requirements

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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## 1. Work Package 8a Aims and Objectives

Work package 8a (WP8a) will provide a number of demonstration facilities giving the means to display and demonstrate to the wider energy industry audience (beyond appliance developers and those directly involved in the Hy4Heat programme) the appliances developed to use hydrogen rather than natural gas.

The appliances will be shown in accessible demonstration facilities comprising:

- Exhibition Displays (no hydrogen gas) – Ref. ED
- Moveable Showroom (hydrogen gas used) – Ref. MS
- Cooking Demonstration Unit (hydrogen gas used) – Ref. CDU

A range of appliances from a number of manufacturers will be made available for the demonstration facilities from the Hy4Heat programme. It is expected that the following domestic appliances will be demonstrated in the facilities:

- Domestic boilers – combination & system/regular
- Domestic cookers – hobs, oven and grill, and fully integrated appliances (hobs, oven and grill)
- Domestic gas fires – open and closed fronted
- Domestic gas meters – (although not an appliance it will be necessary to demonstrate the availability, operation and look of hydrogen gas meters)

An objective of WP8a is to create demonstration facilities that show the newly developed appliances within the context of the hydrogen decarbonisation pathway. This also provides an opportunity to seek and gather stakeholder feedback regarding:

- acceptability of appliances
- acceptance towards hydrogen.

## 2. Scope of Work

The work package is for the design, installation, operation and management of demonstration facilities, for newly developed hydrogen appliances, to be displayed at multiple industry showcase events at varying locations.

The scope includes compliance with all relevant safety requirements including those which fall under Health and Safety and other regulations.

Bidders must demonstrate:

- capability/experience of designing, creating and delivering a range of demonstration facilities including static exhibitions and moveable touring exhibitions
- the organisation and co-ordination of event activities maximising opportunities for visitors to experience the demonstrated appliances.
- capability/experience of capturing, measuring and analysing feedback from stakeholders
- a good health and safety record
- site-appropriate method statements and safe working practices
- sustainability principles aligned to that of the BEIS organisation
- staff training and adherence to safe working practices and
- specialist hydrogen expertise and/or the ability to seek hydrogen expertise and incorporate guidance where needed.

The contractor will be required to work alongside equipment suppliers to install these appliances within the facility. The installers must be competent individuals, meaning they must be registered with Gas Safe for natural gas, ideally with experience working with hydrogen gas. Some appliance manufacturers have indicated they wish to undertake this work themselves.

The contractor will also be required to provide appropriate insurance for each of the facilities. This is expected to include public liability, product liability and contents insurance for the facilities, covering integral parts (e.g. pipework and structure) and appliances from the point they arrive for installation until manufacturers remove them (see section 9.1 of Declaration 4). It should be noted that appliances will be prototypes which have been safety certified but will not have met all required certifications to be CE marked.

## 3. Activities

The following section outlines the likely range of activities expected to be undertaken by the successful company, or group of companies, under this work package. This list is indicative only and is aimed at providing suppliers with an overview of requirements.

### 3.1 Exhibition Displays (ED)

The exhibition display stand facility will display a range of newly developed hydrogen appliances but will not contain operational products, as a hydrogen gas supply will not be available.

It is envisaged that this facility will be used in exhibition centres, conferences and other industry events where the appliances can be shown in appropriate furnished settings e.g.



kitchen or lounge environments. The facility will include display information outlining the Hy4Heat programme and its contribution within the context of the anticipated hydrogen decarbonisation pathway.

Prototype appliances may be included within the installation and liaison with the manufacturing organisations will be necessary to ensure appropriate unit housing within the display is provided. The operation of the appliances could be demonstrated by supporting media such as video or other visual displays.

The facility must be easily transportable and of a size suited to meet standard exhibition spaces. It must be accessible for all visitors and be able to be modified in size and layout to accommodate a variety of appliance makes and models.

All appropriate security requirements should be considered, including accessibility during set up, installation, operation and dismantling.

The key requirements are summarised in the table below:

Design, construction and fit-out	Design of modular, scalable, exhibition display stands for use in a variety of industry conferences and exhibitions. From 12m <sup>2</sup> to 30m <sup>2</sup> . Use of digital and other visual display tools to create a well-presented modern interior: e.g. 'show home standard'. Milestones are outlined within the approval schedule provided.
	Liaison with approximately 8 to 10 appliance manufacturers and the Hy4Heat programme team to agree iterative design.
	Design refinement and sign-off by Hy4Heat programme team.
	Provision of elements to 'dress' the unit (e.g. furniture, etc.) in order to display appliances in appropriate settings. Creation of digital and other displays to assist the demonstration of the operation of the appliances - without the need for a gas supply to the facility.
	Fit-out of the display exhibition stands at multiple exhibitions (content of the display material to be specified by Hy4Heat and signed off by them before being published/displayed).
	Where possible, all materials should be sustainably sourced and recyclable; with thought given to end of life disposal.
Safety compliance and wider safety consideration	Secure storage of exhibition display stands and appliances when not in use. Compliance with all relevant health and safety requirements.
	Construction and installation compliant with requirements of conference or exhibition centres.
Insurances	As appropriate – see section 9.1 of Declaration 4.
Logistics and event management	Maintenance, cleaning and repair of display stands as required.
	Staffing for transportation, assembling, installation and dismantling of the demonstration facility. This is to include security consideration.

	Staffing of the unit – customer-facing market research (A member of the Hy4Heat team would also be present to host the facility).
	Passenger flow management, display management and schedule considerations.
	Liaison with exhibition organisers.
	Transportation of stands to and from locations, assembling and dismantling.
	Appropriate facility disposal at the end of the period of requirement.
Market research and feedback output	Design of market research approach to capture customer feedback / visitor perceptions (positive / negative) of the following: <ul style="list-style-type: none"> <li>• Assessment of aesthetic / acceptability of appliances</li> <li>• Acceptability or otherwise of hydrogen for heating and cooking.</li> </ul>
	Integration of the agreed market research approach into the facility design as appropriate.
	Analysis and report of customer feedback / market research findings (minimum 2 pages).

### 3.2 Moveable Showroom (operational hydrogen appliances) (MS)

The moveable showroom should be designed to simulate typical domestic settings and include areas where domestic boilers, cookers and gas fires can be demonstrated. The facility is not to be lived in or to have people in it overnight. A hydrogen gas supply should be included. A detailed specification is included in Annex D.

The facility must be transportable, but able to remain in position for several weeks, for example a static caravan, residential park home, portable cabin or equivalent is suggested.

It is expected that the facility would be open to stakeholders during standard retail opening hours (e.g. 9 am to 5 pm weekdays and 10 am to 4 pm weekends). However, alternative operating hours may be necessary depending on location. Locations will be specified by Hy4Heat.

It is expected that operational demonstrations will take place within the facility such as cooker demonstrations, hot water provision (combi boiler via a hot tap) and gas fire usage. It is not suggested that a wet heating system is installed due to the complexity of including water storage and cooling in a moveable unit. Appropriate services will be required to enable these demonstrations to take place (e.g. drainage, electricity supply etc.).

A suitable gas storage and supply solution must be included within the facility design that will ensure gas is available for appliance demonstration for the duration of the trial. This must include appropriate safety considerations and must comply with industry regulation and best practice. All materials in the supply and distribution systems should be compatible for use with hydrogen. All appliances and the gas supply system must be fitted by competent individuals and an independent risk assessment of the facility (particularly the hydrogen supply system) will be required. Further information is included in Annex D.

The facility must have enough ventilation to allow for the operation of multiple appliances without overheating. The facility and appliances should be operable under all reasonable weather conditions.

The facility should be able to accommodate up to 35 visitors and therefore it is suggested that it has a floor area of 40 to 60m<sup>2</sup>. However, when sizing the facility, consideration must be made regarding transportation of the facility between demonstration sites and available space at each of the locations.

The key requirements are summarised in the table below. The detailed technical requirements are included in Annex D:

Project Management and Co-ordination	Provision of a named central point of contact, responsible for overall project management.
Design, construction and fit-out	Design of moveable hydrogen appliance demonstration unit of approximately 40-60m <sup>2</sup> with a hydrogen supply system from an approved reliable source. The unit should be suitable for outdoor use and constructed using typical building material e.g. Plasterboard, steel, composite materials. The facility should have a well-presented domestic interior to 'show home standard' with the flexibility to demonstrate a number and range of hydrogen appliances (including several appliances of the same type).
	Design of secure hydrogen gas supply system (as per the technical specification Annex D). The design should ensure security of supply to the facility whilst operational and have the potential for gas storage to be between 50 and 100m from the moveable facility. Delivery to each appliance should be at 20mbar.
	Liaison with approximately 8 to 10 appliance manufacturers and the Hy4Heat programme team to agree iterative facility design.
	Design refinement and sign-off by Hy4Heat programme team.
	Procurement / lease of moveable demonstration showroom for 12 months.
	Build and fit-out of the demonstration showroom at multiple locations (to be specified by Hy4Heat). Demonstration of all appliances in line with technical specification and manufacturers' requirements.
	Provision of furniture and decoration to 'dress' the unit interior to display appliances in typical domestic settings. Additional media e.g. digital display to demonstrate the operation of the appliances for engagement purposes (all display material to be developed in collaboration with Hy4Heat and signed off by them before being published or displayed).
	Where possible, all materials should be sustainably sourced and recyclable. However, with this facility it is important that priority should be given to ensuring typical building materials are used.

Safety Compliance and wider safety consideration	Construction and installation of the facility compliant with requirements of the various locations and all relevant regulations; e.g. health and safety requirements.
	Design and build of an appropriate and safe hydrogen supply network which complies to industry standards and best practice. To include: <ul style="list-style-type: none"> <li>• Installation of hydrogen gas supply, safety devices, associated equipment and appliances</li> <li>• Safe and secure storage of hydrogen cylinders or multi cylinder pack (MCP)</li> <li>• Safe supply and delivery of hydrogen gas to the appliances.</li> </ul>
	Safe transport of hydrogen gas between demonstration locations.
	Gas detection in the event of a leak.
	Evacuation procedures.
	Safe storage of unit and hydrogen when in use and when not in use.
	Installation, operation, repair/maintenance and commissioning procedures for each location.
	Use of competent installers registered with Gas Safe for natural gas, ideally with experience working with hydrogen.
	Completion of independent risk assessments.
Insurances	As appropriate – see section 9.1 of Declaration 4.
Logistics and event management	Secure storage of unit and hydrogen when in use and when not in use.
	Maintenance, cleaning and repair of unit interior and exterior as required.
	Staffing for transportation, assembling, installation and dismantling of the facility.
	Staffing of the unit – technical safety review and sign-off.
	Staffing of the unit – display operating schedule.
	Staffing of the unit – customer-facing market research.
	Liaison with utilities and location representatives
	Draft specific method statements for exhibition / locations where the moveable unit is on display
	Transportation of unit to and from locations, assembling, installation

	and dismantling of the facility.
	Appropriate facility disposal at the end of the period of requirement
Market Research and Feedback Output	Design of market research approach to capture customer feedback. Including customer and supplier perceptions (positive / negative) of the following: <ul style="list-style-type: none"> <li>• Assessment of aesthetics / acceptability of appliances</li> <li>• Appliance usability, installation and upkeep</li> <li>• Accessibility</li> <li>• Knowledge and understanding of environmental issues</li> <li>• Acceptability or otherwise of hydrogen for heating and cooking</li> <li>• Hydrogen pathway and supply chain.</li> </ul>
	Integration of the agreed market research approach and methodologies into the facility design as appropriate.
	Analysis and report of customer feedback / market research findings (minimum 2 pages).

### 3.3 Cooking Demonstration Unit (CDU)

The cooking demonstration facility is a relatively simple hydrogen fuelled unit used to demonstrate cooking with hydrogen gas. The facility is to consist of a hydrogen fired cooker, either domestic or small commercial scale, e.g. a range style cooker, within a demonstration unit, whereby a range of simple foods can be cooked. Waste disposal, appropriate ventilation (where necessary) will be required and the facility should adhere to all relevant legislation and industry good practice.

The facility must be suitable for easy assembly and disassembly for transportation in a van or trailer to numerous locations. However, a mobile catering facility in the form of a van or converted vehicle is not required and does not meet the specification of this tender.

It is expected that the gas will be supplied from a conventional steel or light weight cylinder and the design of the facility should be developed with advice from an approved and reliable gas supply company and appliance manufacturers.

The key requirements are summarised in the table below. The detailed technical requirements are included in Annex D:

Design, construction and fit-out	Design of single appliance demonstration unit with hydrogen supply system for the purposes of chef cookery demonstration. The unit should be moveable and suitable for outdoor and indoor use.
	Incorporation of the hydrogen cylinder storage into the design in line with manufacturers' specification.
	Liaison with 2-3 appliance (hob and/or oven) manufacturers and the Hy4Heat project team to agree iterative facility design.

	Design refinement and sign-off by Hy4Heat programme team.
	Procurement / lease of demonstration facility for 12 months.
	Procurement and usage of hydrogen gas (see Annex D for specification) from an approved reliable source.
	Delivery, installation and testing of hob and oven at multiple locations (to be specified by Hy4Heat) – in line with technical specification and manufacturers' requirements.
	Where possible, all materials should be sustainably sourced and recyclable.
Safety Compliance and wider safety consideration	Construction and installation of the facility compliant with requirements of the various locations (e.g. conference or exhibition centre, etc) and all relevant regulations, e.g. health and safety requirements.
	Design and incorporate an appropriate and safe hydrogen supply which complies to industry standards and best practice. To include: <ul style="list-style-type: none"> <li>• Installation of hydrogen gas supply, safety devices, associated equipment and appliances.</li> <li>• Safe and secure storage of hydrogen cylinders</li> <li>• Safe supply and delivery of hydrogen gas to the cooking appliance</li> </ul>
	Safe transport of facility and hydrogen gas between demonstration locations.
	Gas detection in the event of a leak.
	Safe storage of unit and hydrogen when in use and when not in use.
	Installation, operation, repair/maintenance and commissioning procedures for each location.
	Use of competent installers registered with Gas Safe for natural gas, ideally with experience working with hydrogen.
	Completion of independent risk assessments.
	Appropriate hygiene and food storage consideration and compliance with appropriate regulation.
Insurances	As appropriate – see section 9.1 of Declaration 4
Logistics and event management	Secure storage of unit and hydrogen when in use and when not in use.
	Maintenance, cleaning and repair of unit.
	Staffing for transportation, assembling, installation and dismantling of the facility.

	Staffing of the unit – commissioning, technical safety review and sign-off.
	Staffing of the unit – display operating schedule, e.g. cooking demonstrations to an acceptable quality.
	Staffing of the unit – customer-facing market research.
	Evacuation procedures and general people arrangements, including for crowd management and control.
	Liaison with utilities and location representatives.
	Transportation of unit to and from locations, assembling, installation and dismantling of the facility.
	Appropriate facility disposal at the end of the period of requirement.
Market Research and Feedback output	Design of market research approach to capture customer feedback / visitor perceptions (positive / negative) of the following: <ul style="list-style-type: none"> <li>• Assessment of aesthetic / acceptability of appliances</li> <li>• Acceptability or otherwise, of hydrogen for heating and cooking.</li> </ul>
	Integration of the agreed market research approach into the facility design and staffing as appropriate.
	Analysis and report of customer feedback / market research findings (minimum 2 pages).
	Alternative demonstration positioning outside of main delegate areas (e.g. car park facility).

#### 4. Methodology / Approach

This work package has several different deliverables that require a range of different skills and expertise.

Bidders will be asked to demonstrate how they plan to deliver each element of the work, including reference to:

- Design, construction and fit-out
- Logistics and event management
- Market research
- Feedback output.

Bidders are also asked to develop a formal process for the determination of the following additional aspects:

- Success factors
- Risk planning
- Safety compliance

- Appliance developer engagement
- Coordination of development, transportation and Implementation
- Third party supplier arrangements
- Visitor Engagement Schedules and display arrangements

This work package will be dependent on forming working relationships with a number of third parties, so bidders will be expected to demonstrate how they will work with the following:

- Hydrogen appliance developers / manufacturers
- Local planning authorities
- Local utilities
- Internal colleagues (from different consortia companies if relevant)
- Other relevant agencies, organisations and individuals.

## 5. Deliverables

The following listed deliverables are expected as output from delivery of WP8a:

- Three demonstration facilities (ED, MS, CDU) in line with agreed specifications.
- Delivery of the requirements detailed above through engagement with a team of suppliers with the capability to safely and comprehensively undertake the demonstration activity
- Provision of display material e.g. digital content and wall displays (content to be developed in collaboration and signed off by Hy4Heat team).
- Transportation
- Installation, dismantling and storage
- Project management, liaison with exhibitors, local authorities, etc
- Staffing of facilities
- Ancillary equipment purchases
- Hydrogen purchase supply / installation / storage/ risk assessment
- Safety compliance assessment ongoing, reporting and monitoring
- 12 months activities schedule
- Disposal of facility at end of required period
- Market research, data capture and analysis of visitor data presented in both interim and final feedback reports.

It is also expected that through delivery of WP8a there will be a wider engagement with industry and commercial suppliers; introducing the hydrogen concept and the appliances developed under the Hy4Heat programme.

## 6. Key Delivery Milestones

During the delivery programme, BEIS (and Hy4Heat as the PMC) will expect to review, comment and give formal sign-off on the design, construction and fit-out stages, as well as on the event management and feedback and output.



The contract is to be delivered against key milestones:

- Plan and detailed design
- Build and delivery
- Deployment and operation
- Report (final report and report after each event)
- Disposal.

If the contractor fails to meet the milestone deliverables to the timeline and quality set for Phase 1 and Phase 2 (as set out in item 12, below), BEIS will request the Contractor to review and reschedule the services and a revised date for the milestone(s) delivery will be agreed.

If the Contractor subsequently fails to deliver the re-scheduled services by the revised date, a 28-day notice period will begin by which the service requirements for the milestone must be satisfactorily provided.

If, at the end of the 28-day notice period the requirements for the milestone(s) have not been delivered satisfactorily, BEIS reserves the right to terminate the contract.

## **7. Events and Exhibitions**

The intention is to use the demonstration showrooms at a number of events, that may include the United Nations Climate Change Conference (COP26).

Bidders may inform on other suitable events based on their experience, however the following events have been identified as examples of the type of events that may be considered in addition to a major event:

- Future Resource Expo (16/17 September 2020, NEC Birmingham)
- Energy exhibition and conference (6 – 8 October 2020, NEC Birmingham)
- The British Invention Show (BIS) (October 2020, London (tbc))
- Low Carbon Networks & Innovation Conference October 2020, Glasgow (tbc)
- IGEM conference
- HHIC conference
- Hydrogen and Fuel Cells Conference March 2021, Birmingham (tbc).

## **8. Skills and Experience**

BEIS would like you to demonstrate that you have the experience and capabilities to undertake the project. The main contractor may wish to hire individual sub-contractors with relevant skills and experience.

Tender responses should include a summary of key experience and capabilities in the main bid response, as well as relevant CVs (e.g. main account manager).

The appropriateness of the skills and expertise of the team should match the proposed tasks being undertaken. For instance, this may include a team with expertise in the fields of exhibition design, exhibition installation, as well as expertise in conducting customer feedback / market research.

The following skills are considered particularly important for this work:

**Required**

- Experience/capability in exhibition design
- Experience/capability in showroom construction and fit-out
- Experience/capability in event management
- Experience/capability of working with hydrogen
- Experience/capability of safely delivering Hydrogen demonstration, in a safety critical environment
- Experience/capability of market feedback research, data analysis and report writing
- Experience/capability of gathering, interpreting and analysing customer feedback findings
- Experience/capability of project management

**Desirable**

- Experience/capability of working with appliance manufacturers

**9. Timetable / Work plan**

As part of the submission, the tenderer is expected to submit a delivery plan including, as a minimum:

- An organisation chart and list of key people within the successful tenderer's delivery team with an outline description of how they will be managed in order to ensure that delivery will be completed on time
- A detailed schedule of works showing when the scope will be delivered and key milestones
- The methodology that will be used to produce the deliverables and to ensure the quality of the deliverables
- An outline description of the risks to delivery and your proposed mitigation measures

Aligned with the Deliverables presented in Section 3.5 and the Milestone Payments in Section 3.11, an indicative outline time schedule is presented below:

<b>Reporting points/deliverables</b>	<b>Proposed date</b>
Contract commences	15 June 2020
Project Inception Meeting	w/c 22 June 2020
Interim Project Meeting / Presentation	w/c 13 July 2020
Prototype Appliances, as listed below, are anticipated to be available from the manufacturers before the demonstration showrooms have been constructed:	
Regular boiler x2	
Combi boiler x2	

Regular boiler	
Combi boiler	
Standard fire	
Balanced fire	
Innovative fire	
Innovative boiler	
Oven and grill	
Oven, hob & grill	
Hob	
Glass front, balanced flue	
Glass front, conventional flue	
Open front, conventional flue	
Smart Meters x2	
Submission of Feedback Reports	2 weeks after each event
Submission of Draft Report	Late February 2021
Submission of Final Report	Mid-March 2021
BEIS sign-off	End March 2021

NB. Some appliances may be available prior to the commencement of the contract. Whereas some appliances will only become available subsequent to contract commencement.

The contract duration will be 9½ months up to 31/3/21. However, there is a possibility of a contract extension of up to 9 months up to the end of December 2021 in case there is a requirement to deploy to other events arising and/or to deploy the facility for a period(s) of time in support of wider stakeholder engagement (at locations/premises to be determined).

## 10. Budget and Pricing

The budget for the design, build and disposal of the moveable facilities, and exhibiting them at a major event such as COP26 and two pre-events (test events) is capped at **£500,000** (excluding VAT). However, the overall budget for this project is up to £750,000 (which includes £250,000 that is ringfenced for exhibition fees/charges and sundry other costs, described below) (excluding VAT). This is the maximum budget.

Tenderers should provide indicative costs for the major event and the two smaller test events, each utilising all three of the display facilities (Exhibition Displays, Moveable Showroom and Cooking Demonstration Unit) together with individual rates for staff, transport, storage, etc.

There may be a requirement to go to additional events; should this be necessary, the individual rate pricings will be used as the basis for the agreement of costs for the attendance at additional events.

Sundry costs for the following aspects should be excluded from your proposal as these costs will be recovered from the £250,000 ringfenced budget (subject to prior agreement):

Chef demonstration ingredients

Hydrogen fuel

Additional printed materials

Event fees and charges.

The costing requirements for the facilities are set out in the tables below:

<b>Major event e.g. COP26</b>		
<b>Facility</b>	<b>Costing Elements</b>	<b>Variables</b>
Baseline	Project Management Design Construction / Fit-out Digital Display Insurances Logistics Installation and dismantling Hosting Safety Security Storage Market Research Travel Accommodation	1 Exhibition event in Glasgow 12 Days duration (10 weekdays and 2 days at weekend)
Exhibition Display	As baseline plus: 3 (minimum) Researchers – at least one hosting in hospitality area at all times Supervisor	Size of stand (24m <sup>2</sup> )
Moveable Showroom	As baseline plus: 3 (minimum) Researchers – at least one hosting in hospitality area at all times	Floor area of showroom facility (40m <sup>2</sup> )

	1 Senior Chef for cooking demonstration  Supervisor Security personnel	
Cooking Demonstration Unit	As baseline plus: 1 Chef for cooking demonstration Hospitality	Size of Unit (2m2)

<b>2 Pre-events (test events)</b>		
<b>Facility</b>	<b>Costing Elements</b>	<b>Variables</b>
Baseline	Project Management Design Construction / Fit-out Digital Display Insurances Logistics Installation and dismantling Hosting Safety Security Storage Market Research Travel Accommodation	2 Exhibitions in different UK locations (assume each are within 150 miles of London)  3 Days duration for each exhibition (all weekdays)
Exhibition Display	As baseline plus: 2 (minimum) Researchers – at least one hosting in hospitality area at all times Supervisor	Size of stand (24m2)
Moveable Showroom	As baseline plus: 3 (minimum) Researchers – at least one hosting in hospitality area at all times	Floor area of showroom facility (40m2)

	1 Chef for cooking demonstration Supervisor Security personnel	
Cooking Demonstration Unit	As baseline plus: 1 Chef for cooking demonstration Hospitality	Size of Unit (2m2)

**A full and detailed breakdown of costs should be provided in Annex A Pricing Schedule. This should include staff (and day rate) allocated to specific tasks.**

The Total Fee (see Annex A Pricing Schedule) for the major event for each facility combined for delivering the scope of works set out in this tender will be the commercial criterion against which bids which will be assessed and scored.

In submitting full tenders, tenderers confirm in writing that the price offered will be held for a minimum of 13 weeks from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

BEIS will retain 10% of the total budget for final payment upon completion and sign-off to the programme board's satisfaction of the final programme report.

## 11. Payment

Payments will be linked to the completion of key deliverables. The proposed fee percentage for completion of these deliverables can be found in the table below.

Other costs incurred for attending meetings etc. should be itemised and included within the fixed fee.

Ref.	Expected Phased Milestones	Date	Amount paid on completion
1	Concept Design Approved for all three show rooms (Phase 1) <i>(design of mobile showroom, cooking demonstration unit and exhibition stands)</i>	7 weeks after start of contract	Total milestone value
2	Production of Exhibition Materials (Phase 2) a. Shell only <i>(construction of mobile showroom, cooking demonstration unit and exhibition stands)</i> b. Complete facility <i>(construction of mobile showroom,</i>	12 weeks after start of contract  14 weeks after start of contract	50% of price for Phase 2 construction  100% of price for Phase 2

	<i>cooking demonstration unit and exhibition stands</i> c. Display material <i>(information to be displayed, hand-outs, digital material, external messaging, etc. after sign-off by Hy4Heat team)</i>	as required for each event	construction  Total milestone value
3	Delivery to Exhibition Locations (Phase 3) <i>(transporting costs)</i>	as required for each event	Total milestone value
4	Installation at Exhibition Locations (Phase 4) <i>(installing facilities, fitting appliances, connecting to hydrogen supply, etc., testing, safety, insurances)</i>	as required for each event	Total milestone value
5	Road Show Delivery (Phase 5) <i>(travel, accommodation, managing/hosting, general staffing/hospitality, cooking demonstrations, hydrogen supply, researchers, security, safety)</i>	as required for each event	Total milestone value
6	Removal of Facilities after Events (Phase 6) <i>(dismantling all facilities and removal to interim storage or to next event)</i>	as required for each event	Total milestone value
7	Feedback Reports (Phase 7) <i>(compiling reports for each event)</i>	14 days after each event	Total milestone value
8	Disposal (Phase 8) <i>(sustainable disposal of mobile showroom, cooking demonstration unit and exhibition stands)</i>	Mid-March 2021	Total milestone value
9	Final Report (Phase 9) <i>(overall report covering feedback from all exhibitions)</i>	31 <sup>st</sup> March 2021	Total milestone value

Contractors may invoice, subject to the successful delivery of the agreed milestones. This can be adjusted and agreed with the contractor based on the tender response. Please advise in your tender response how this breakdown reflects your usual payment processes. BEIS requires two weeks for sign-off of any milestone, prior to invoices being submitted.

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.

## 12. Evaluation Criteria

Tenderers are invited to submit full tenders of no more than 20 A4 pages, (in Arial 12pt), excluding declarations and a maximum of five CVs. The cost criterion will be marked by BEIS staff only.

**Conflict of interest:** pass/fail. See page 7 of the ITT for further information

### Evaluation Criteria

Criterion		Description	Weighting
0	Conflict of interest	Identification of any aspects resulting in a conflict of interest	Pass/Fail
1	Skills and expertise	Capability/experience/demonstration of relevant skills and supply a strong team of individuals with the capability to fulfil this project's objectives and required outputs.	10
		Demonstrate any relevant capability on previous project(s)	10
2	Understanding of requirements	Demonstrate clear understanding of the tender requirements	15
3	Project approach and design	Effective proposed approach to deliver the project's objectives. High level design concepts for each of the specified facilities. High quality standard commensurate with a major event standard such as COP26. Provide organisation structure and CVs of key roles associated.	15
4a	Management of delivery	Effective quality, relevance and breadth of management oversight including, planning, risk management / identification, effective working arrangements (including having adequate insurances in place – see section 9.1 in Declaration 4), information handling and quality assurance.	15
4b		Demonstrable approach to sustainability*	10
5	Price	Price: The "Grand Total Fee" (see Annex A Pricing Schedule) for the major event such as COP26 and 2 pre-events for three facilities combined will be the commercial criterion against which bids which will be	25



		assessed and scored.	
<b>TOTAL</b>			<b>100</b>
6	Interviews	Only for those progressing through to interview (see item 3 below)	30

\*As part of BEIS commitment to sustainability all parties tendering for the WP8a ITT will be evaluated on the inclusion of a demonstrable approach to sustainability (criterion 4b).

Sustainability may include some, though not necessarily all of the following aspects of the project's delivery:

#### Diverse Supply Chains

- Facilitating access for Small and Medium-sized Enterprises (SMEs) and Voluntary, Community and Social Enterprises (VCSEs)
- Facilitating access to business opportunities for businesses owned or led by under-represented groups

#### Skills and Employment

- Improved employability and skills

#### Environmental Sustainability in support of the 25 Year Environmental Plan (25YEP)

- Environmental impacts are reduced
- Air pollution is reduced

#### Inclusion and wellbeing

- Improved gender pay balance
- Increased representation of people with disabilities in the workforce
- Increased Black, Asian and Minority Ethnic (BAME) representation in the workforce
- Improved staff wellbeing
- More cohesive communities

#### Safe and Secure Supply Chains

- Cyber security
- Modern slavery risks are reduced

Your response should include clear explanation of:

- a. What you will do?
- b. How will you do it?
- c. and How will you monitor and measure it?

### 13. Interviews

Following initial evaluation of the tender returns, the three highest scoring suppliers (plus any other bidders if their score is within 5 marks of the third place) will be called for interview. For the interviews, suppliers must bring the personnel that will be directly involved with the

carrying out of the contract and presentations must be by visual means, not paper hand-outs.

The successful bidders will be notified that they have been selected for interview on 13<sup>th</sup> May 2020. The interviews will take place during week commencing 18<sup>th</sup> May 2020 and will last for a maximum of one hour. Tenderers should bring a maximum of 5 people and all of these individuals must be key people that will be working on the project.

The interview will be assessed on the following format:

- Aesthetic presentation of the tenderer's proposed approach, including how they propose to plan, organise and run different events (max 15 minutes); (*weighting 15*).
- There will be two follow-up questions and you will have 5 minutes to answer each question.
- Response to a pre-seen scenario. This will be provided to suppliers when they are notified of their successful progression to the interview stage. (10 minutes); (*weighting 10*).
- There will be one follow-up question and you will have 5 minutes to answer.
- Describe, over and above the contractual and legal requirements, how your organisation would perform the contract in a way that reduces environmental impacts, and how you would monitor and measure this? (5 minutes); (*weighting 5*).
- There will be no follow up questions on this section.

#### 14. Evaluation Scoring Methodology

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 for criteria 0 to 5, described above, will be 100. Should any contractor score 1 in any of the criteria, they will be excluded from the tender competition. The maximum marks for those bidders that proceed to interview stage will be 130.

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.

### Scoring for Pricing Evaluation

There will be a maximum of 25 marks for the “Price” evaluation.

The lowest priced bid (for the total of the three scenarios combined) will receive the full 25 marks; all other bids will then be marked as set out below.

#### Proportionate Pricing scoring example

For example, if 25 marks are available and the cheapest bid for the three indicative example scenarios combined is £100,000, then:

Supplier	Price	Marks
1 (lowest bid)	£100,000	25
2	£130,000	$100/130 * 25 = 19.2$
3	£160,000	$100/160 * 25 = 15.6$

## Section 4

### Other Information for Tenderers

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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## 1. Ownership and Publication

BEIS is committed to openness and transparency. All outputs listed in section 3 (with the exception of project updates and reports) should be accessible, non-disclosive and suitable for publication and further use.

The exceptions to this are where:

- 1) the intellectual property rights to an output (or part of an output) are owned by someone other than the contractor. Tenderers should state in their tender if this is the case and indicate whether the third party copyrighted materials can be redacted;
- 2) data is commercial in confidence; and
- 3) a non-anonymised dataset is required for the project.

If these exceptions apply to any part of the outputs, tenderers should indicate this in their proposal alongside any approaches to resolving these.

Unless the above exceptions have been stated in a proposal, all outputs from a project will be assumed to be owned by BEIS. The outputs, raw data and tools developed in the research cannot therefore be used by contractors for purposes other than our work.

BEIS standard terms and conditions require that BEIS retain the Intellectual Property (IP) from all models and software paid for by BEIS:

- Where the contractor is using or building on top of existing IP, such as modules that interface with the model, or proprietary datasets, this must be explicitly stated in the tender response.
- Where open source code or models are to be used within this model, please make clear under which licence this open source software is released.
- The Open Government Licence should be used wherever possible:

<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/>

### Non-Disclosure

All outputs must be provided to BEIS in a format that is non-disclosive (i.e. no individuals or individual organisations are identifiable from the data or analysis, directly or indirectly), unless the specification states otherwise or the individual / organisation has given their permission. The contractor is responsible for ensuring that the data is supplied in this form alongside a report on the checks made. A minimum standard for checking includes cell counts within sub-groups for all outputs and analysis. The contractor will be asked to agree their approach to checking for disclosure with BEIS during the course of the contract, before the checks are carried out. Where data or analysis is found to be disclosive during checking, the contractor will be required to suggest an approach or approaches to aggregate the analysis and to agree this with BEIS.

### Storage and Transfer

The contractor will need to ensure that all appropriate regulations are adhered to regarding safe storage and transfer, compliant with BEIS requirements for the data processing and storage of restricted data.

## 2. Quality Assurance

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.

Tenderers should include a quality assurance plan that they will apply to all of the Work Packages.

To demonstrate relevant experience in producing high quality reporting, the tenderer must:

- Specify who will be responsible for quality assurance. This must be undertaken before information is issued to Hy4Heat for review and onward circulation to BEIS. More information can be found in the working arrangements in section 5 below.
- Specify the specific responsibilities of the contractor's project manager / director.

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.

The successful bidder will be responsible for any work they or their sub-contractors supply and should therefore provide assurance that all work in the contract is undertaken in accordance with the Code of Practice.

BEIS reserves the right to request an audit of projects against the BEIS Code of Practice for Research and the commitments made in the tender documents and subsequent contract. Your response could be automatically rejected if the project will not be performed under quality assurance measures that fully meet the Code's requirements.

Other useful sources of guidance and advice that will help bids and the resulting work be of the highest quality include:

- The Government Social Research Code, in particular those that relate to GSR Products: <http://www.civilservice.gov.uk/networks/gsr/gsr-code>
- The Green Book: appraisal and evaluation in central government. <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>
- Quality in Qualitative Evaluation: A Framework for assessing research evidence provides a Framework for appraising the quality of qualitative evaluations.
- Rapid Evidence Assessment (REA): <http://www.civilservice.gov.uk/networks/gsr/resources-and-guidance/rapid-evidence-assessment/what-is>. This toolkit will help researchers to identify whether a Rapid Evidence Assessment is best for their needs, and help with the process of planning and carrying out a review

Where relevant, all bids should refer to these pieces of guidance and advice and how they will be used.

The Contractor will be expected to produce high quality reports that meet the following criteria:

General:

- They answer the research questions clearly, in plain English
- They are clearly structured so that information presented in each section of each report is clear
- Connections between sections are clear
- Executive summaries are no more than two sides and set out the findings clearly and their relevance to BEIS policies
- All sections have clear introductions and conclusions (including findings being written concisely upfront)

Use of good quality English:

- They are thoroughly peer reviewed for writing quality
- No jargon is used, and all terms are defined and referenced clearly
- All acronyms are written out in full the first time that they are mentioned in each section of each report
- No grammar and phrasing errors are present
- No typos / typographical errors are present
- They contain concise and non-wordy sentences and paragraphs
- They are concise reports that are not too long and do not have vast annexes

#### Visualisations:

- All visualisations are labelled
- All axes are labelled, including with appropriate units
- Clear and appropriate use of visualisations (large enough size, data can be read clearly without reference to the raw data, and there are not too many visualisations presented at once)
- All visualisations are clearly explained and discussed
- A range of different types of visualisations are used to provide more interesting and innovative ways of presenting the results

#### Data quality:

Any limitations in the research approach need to be clearly stated and justified

- Further research should be stated to build upon the limitations that cannot be addressed in the research
- Where the findings are stronger and more robust and where they are not needs to be stated clearly
- They must use appropriate and consistent units
- All numerical units should include the range of uncertainty / error margin

### **3. 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 will be taken into consideration within the evaluation of applicants' proposals.

We expect contractors to adhere to the following GSR Principles:

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

#### 4. Data Protection

The Contractor will be compliant with the Data Protection Legislation, as defined in the terms and conditions applying to this Invitation to Tender. A guide to The General Data Protection Regulation published by the Information Commissioner's Office can be found on its website.

The only processing that the Contractor is authorised to do is listed in Annex 1 by BEIS, "the Authority" and may not be determined by the Contractor.

##### **Annex 1: Processing, Personal Data and Data Subjects**

(1) The contact details of the Authority's Data Protection Officer are:

BEIS Data Protection Officer  
Department for Business, Energy and Industrial Strategy  
1 Victoria Street  
London  
SW1H 0ET

Email: [dataprotection@beis.gov.uk](mailto:dataprotection@beis.gov.uk)

(2) The contact details of the Contractor's Data Protection Officer (or if not applicable, details of the person responsible for data protection in the organisation) are: [To be completed by the Contractor]

(3) The Contractor shall comply with any further written instructions with respect to processing by the Authority.

(4) Any such further instructions shall be incorporated into this Annex 1.

Description	Details
Subject matter of the processing	<p>The processing of names and business contact details of staff of both the Authority and the Contractor will be necessary to deliver the services exchanged during the course of the Contract, and to undertake contract and performance management.</p> <p>The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.</p>
Duration of the processing	<p>Processing will take place from 1<sup>st</sup> June 2020 for the duration of the Contract. The contract will be for 10 months ending on 31<sup>st</sup> March 2021 but may be extended by up to 9 months.</p>
Nature and purposes of the processing	<p>The nature of processing will include the storage and use of names and business contact details of staff of both the Authority and the Contractor (and postal codes of third parties where feedback is obtained) as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.</p>



Type of Personal Data	Names, business telephone numbers and email addresses, office location and position of staff of both the Authority and the Contractor (and postal codes of third parties where feedback is obtained) as necessary to deliver the services and to undertake contract and performance management. The Contract itself will include the names and business contact details of staff of both the Authority and the Contractor involved in managing the Contract.
Categories of Data Subject	Staff of the Authority and the Contractor (including volunteers, agents and temporary workers), including where those employees are named within the Contract itself or involved within contract management.
Plan for return and destruction of the data once the processing is complete  UNLESS requirement under European Union or European member state law to preserve that type of data	The Contractor will provide the Authority with a complete and uncorrupted version of the Personal Data in electronic form (or such other format as reasonably required by the Authority) and erase from any computers, storage devices and storage media that are to be retained by the Contractor after the expiry of the Contract -The Contractor will certify to the Authority that it has completed such deletion.  Where Personal Data is contained within the Contract documentation, this will be retained in line with the Department's privacy notice found within the Invitation to Tender.

## 5. Consortium Bids / Conflicts of Interest

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 in the Annex. 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.

## 6. Working Arrangements

### Introduction

This section sets out the matters related to working arrangements and management of this project which form part of the Hy4Heat Programme. Notwithstanding the high-level requirements defined in this section, the successful tenderer will be required to comply with BEIS' representative's overall project management processes and procedures, which will be communicated at the start of the commission.

**Note:** The management of the contract and the delivery of the work will be conducted through the Programme Management Contractor for Hy4Heat acting on behalf of BEIS.

The successful tenderer will be expected to prepare an organisation chart, identifying one named point of contact through whom all enquiries can be filtered.

An Arup+ Work Package Manager, reporting to a BEIS Project Manager, will be assigned to the project and will be the central point of contact for all contractor's enquiries.

The Arup+ Work Package Manager will perform the role of contract manager on behalf of BEIS.

## 7. Project Control

The successful tenderers will be required to comply with the project control system in place for the Hy4Heat programme, with particular reference to the following elements:

### I. Risk

The successful tenderer shall be expected to prepare and maintain a risk register and to contribute as appropriate to the risk management activities carried out by the Hy4Heat Programme. The Delivery Plan shall include an outline description of how risks will be identified and managed by the successful tenderer, and mitigation actions implemented.

Risks and issues should be communicated to the Work Package Manager as soon as reasonably practicable (and included in the monthly/weekly progress report and/or meeting), together with mitigation actions/plans.

The successful tenderer will be deemed to have included in the contract price an allowance for implementing all mitigation measures in connection with all risks for which they are responsible. Those mitigation measures are to be such as will ensure that the risks do not become realities.

### II. Change Control

The successful tenderer will comply with the change control process in use in the Hy4Heat Programme (which shall be communicated by the Work Package Manager upon award of the contract), and with the contract variation procedures described in the contract.

Request for change will be submitted to the Work Package Manager as soon as possible, using the relevant change request template and uploading this on the Project Team Site as appropriate. Change requests shall include an assessment of impact on time, resources and cost, as well as description of proposed action/plan for implementation.

All change requests raised will be subjected to review by the Work Package Manager and decision by the relevant governance body (e.g. Project Board). This will depend on the level of authority required for the change. Approval or rejection of change will be officially communicated to the contractor by the Work Package Manager and recorded in the programme change log.

## **8. Communication and Document Management**

### **I. Communication**

Ways, methods and frequency of communication between the successful tenderer and the Work Package Manager, shall be agreed at the contract kick off meeting.

All communication with BEIS and all external communications (press release, interviews, hands-out and similar), related to this contract or any part of the works shall be submitted to the Programme for acceptance (via the Work Package Manager) prior to issue or release.

All documents and correspondence produced in connection with this contact or any part of the work shall be subjected to the requirements of the Freedom of Information (FOI – Freedom of Information Act 2000), as well as the General Data Protection Regulation (GDPR).

English shall be used for all correspondence, plans, reports, and notes. All documents, plans, and technical reports must express their quantities using the International System of Units (SI).

The successful tenderer shall comply with the communication protocol in use on the Hy4Heat Programme, which shall be communicated by the Work Package Manager upon award of contract.

### **II. Document Management**

The successful tenderer shall use the Hy4Heat Project Team Site (Office 365 SharePoint), for the submittal, circulation, filing and storage of all project documentation. The responsibility for security, access control, availability of this platform lies with the Employer. All correspondence between the successful tenderer and the Work Package Manager shall be filed by the latter using the Arup Mail Manager system (system access is restricted to Arup employees only).

In addition, the successful tenderer shall use the Arup document numbering tool and process in use: all documents uploaded on the Project Team Site must have an assigned unique document number.

The Work Package Manager, via the Hy4Heat Project Management Office (PMO), shall organise access to both the Hy4Heat team site and document numbering tool for all relevant parties, as well as provide guidance on use of the platform and technical assistance as required.

The successful tenderer shall comply with the document quality management procedures in use in the Programme, which shall be communicated by the Work Package Manager upon award of the contract.

The Employer uses Microsoft Office suite. All Microsoft files submitted by the Contractor shall be readable by Office 2016 or earlier version.

### **III. Protection of Information**

The successful tenderer shall be expected to confirm that they understand BEIS' information security requirements and shall be responsible for complying with them. These include compliance with the Data Protection Act (DPA) 2018 and General Data Protection Regulation (GDPR) 2018, requiring that any information collected, processed and transferred as part of the Hy4Heat Programme, and in particular personal information, must be held and transferred securely. Tenderers must provide assurances of compliance with the DPA and set out in their proposals details of the practices and systems they have in place for handling data securely including transmission between the field and head office

and then to BEIS. Contractors will have responsibility for ensuring that they and any subcontractor who processes or handles information on behalf of BEIS is conducted securely. The sorts of issues which must be addressed satisfactorily and described in contractors' submissions include:

- Procedures for storing both physical and system data
- Data back-up procedures
- Procedures for the destruction of physical and system data;
- How data is protected
- Data encryption software used;
- Use of laptops and electronic removable media; details of person/s responsible for data security
- Policies for unauthorised staff access or misuse of confidential/personal data
- Policies for staff awareness and training of DPA
- Physical security of premises
- How research respondents will be made aware of all potential uses of their data.

The successful tenderer shall be expected to agree to be subjected to audits at the Employer's request for the duration of the contract.

## **9. Commercial management and invoicing**

Notwithstanding the specific contractual requirements in terms of commercial management, the successful tenderer will be required to submit on a monthly basis (or at different frequency as agreed with the Work Package Manager), an updated cost report including, as a minimum, the following information:

Baseline budget (i.e. contract sum)

- Total estimated planned spent in period
- Total spent to date
- Any variance
- Estimate of cost at completion
- Summary in invoiced in period total
- invoiced to date.

Invoicing shall be linked to an invoicing schedule to be agreed with the Work Package Manager upon appointment. Invoicing will be based on the time and material costs incurred by the contractor for the month in arrears. Deviations to the forecasted invoicing schedules (20+%) will need to be agreed with the work package manager in advance of the expected variance in the month in question.

Payment of invoices shall be subjected to:

- Two weeks' notice from the supplier to the Work Package Manager prior to invoicing to allow for checking and sign-off (including by the BEIS Project Manager)
- the Work Package Manager's review and approval of the payment application (including weekly time sheets) submitted by the contractor
- the Work Package Manager's recommendation of payment to the BEIS Project Manager
- The BEIS Project Manager's approval of payment recommendation.

## **10. Structure of Tenders**

Tenderers are strongly advised to structure their tender submissions to cover each of the criteria above. Complete the price schedule attached at Annex A (separate document), specifying the daily rates (ex-VAT) you will charge for each level of your staff.

Tenderers should ensure that a breakdown of tasks is provided and identify which team members will be working on each task.

Tenders to be submitted in an electronic format:

- 1 full proposal
- ≤ 20 pages, excluding declarations and CVs
- A4, minimum margins 2.5 cm, minimum single line spacing
- Arial font, minimum 12 pt

## **11. Bid Clarification**

The Department 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.

BEIS may invite all suppliers for bid clarification if they feel bid clarification should be carried out.

## **12. Feedback**

Feedback will be given to unsuccessful bidders via letters or email. This will be followed by a 10-day standstill period as detailed in the Indicative Timetable (Section 1).

## Section 5

### Further Information on Tender Procedure

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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## 1. Definitions

Please note that references to the "Department" throughout these documents mean The Secretary of State for Business, Energy and Industrial Strategy acting through his/her representatives in the Department for Business Energy & Industrial Strategy.

The Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations 2004 ("EIR") apply to the Department. You should be aware of the Department's obligations and responsibilities under FOIA or EIR to disclose, on written request, recorded information held by the Department. Information provided in connection with this procurement exercise, or with any contract that may be awarded as a result of this exercise, may therefore have to be disclosed by the Department in response to such a request, unless the Department decides that one of the statutory exemptions under the FOIA or the exceptions in the EIR applies. If you wish to designate information supplied as part of this response as confidential, or if you believe that its disclosure would be prejudicial to any person's commercial interests, you must provide clear and specific detail as to the precise information involved and explain (in broad terms) what harm may result from disclosure if a request is received, and the time period applicable to that sensitivity. Such designation alone may not prevent disclosure if in the Department's reasonable opinion publication is required by applicable legislation or Government policy or where disclosure is required by the Information Commissioner or the First-tier Tribunal (Information Rights).

Additionally, the Government's transparency agenda requires that tender documents (including ITTs such as this) are published on a designated, publicly searchable web site. The same applies to other tender documents issued by the Department (including the original advertisement and the pre-qualification questionnaire (if used)), and any contract entered into by the Department with its preferred supplier once the procurement is complete. By submitting a tender, you agree that your participation in this procurement may be made public. The answers you give in this response will not be published on the transparency web site (but may fall to be disclosed under FOIA or EIR (see above)). Where tender documents issued by the Department or contracts with its suppliers fall to be disclosed the Department will redact them as it thinks necessary, having regard (inter alia) to the exemptions/exceptions in the FOIA or EIR.

## 2. Data Security

The successful tenderer must comply with all relevant Data Protection Legislation, as defined in the terms and conditions applying to this Invitation to Tender.

section 6 contains "The General Data Protection Regulation Assurance Questionnaire for Contractors" (Declaration 7) to evidence the extent of readiness. The Authority may ask the Contractor to provide evidence to support the position stated in the questionnaire. The Authority may require the successful Contractor to increase their preparedness where the Authority is not satisfied that the Contractor will be in a position to meet its obligations under the terms and conditions. If the Contractor fails to satisfy the Authority that it will be in a position to meet its obligations under the terms and conditions in the event that the Contractor is successful, the Authority reserves the right to exclude the bidder from this procurement.

### 3. Non-Collusion

No tender will be considered for acceptance if the contractor has indulged or attempted to indulge in any corrupt practice or canvassed the tender with an officer of the Department. Section 5 contains a "Statement of non-collusion" (Declaration 1); any breach of the undertakings covered under items 1 - 3 inclusive will invalidate your tender. If a contractor has indulged or attempted to indulge in such practices and the tender is accepted, then grounds shall exist for the termination of the contract and the claiming damages from the successful contractors.

You must not:

- Tell anyone else what your tender price is or will be, before the time limit for delivery of tenders.
- Try to obtain any information about anyone else's tender or proposed tender before the time limit for delivery of tenders.
- Make any arrangements with another organisation about whether or not they should tender, or about their or your tender price.

Offering an inducement of any kind in relation to obtaining this or any other contract with the Department will disqualify your tender from being considered and may constitute a criminal offence.



## Section 6

### Declarations to be submitted by the Tenderer

Invitation to Tender for Provision of Hydrogen Appliance Demonstration Facilities (moveable) (Hy4Heat Work Package 8a)

Tender Reference Number: 2278/02/2020

Deadline for Tender Responses: 1<sup>st</sup> May 2020 (2:00pm)

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**Declaration 1: Statement of Non-collusion**

To: The Department for Business, Energy & Industrial Strategy

1. We recognise that the essence of competitive tendering is that the Department will receive a bona fide competitive tender from all persons tendering. We therefore certify that this is a bona fide tender and that we have not fixed or adjusted the amount of the tender or our rates and prices included therein by or in accordance with any agreement or arrangement with any other person.

2. We also certify that we have not done and undertake not to do at any time before the hour and date specified for the return of this tender any of the following acts:

- (a) communicate to any person other than the Department the amount or approximate amount of our proposed tender, except where the disclosure, in confidence, of the approximate amount is necessary to obtain any insurance premium quotation required for the preparation of the tender;
- (b) enter into any agreement or arrangement with any other person that he shall refrain for submitting a tender or as to the amount included in the tender;
- (c) offer or pay or give or agree to pay or give any sum of money, inducement or valuable consideration directly or indirectly to any person doing or having done or causing or having caused to be done, in relation to any other actual or proposed tender for the contract any act, omission or thing of the kind described above.

3. In this certificate, the word "person" shall include any person, body or association, corporate or unincorporated; and "any agreement or arrangement" includes any such information, formal or informal, whether legally binding or not.

.....  
Signature (duly authorised on behalf of the tenderer)

.....  
Print name

.....  
On behalf of (organisation name)

.....  
Date

**Declaration 2: Form of Tender**

To: The Department for Business, Energy & Industrial Strategy

1. Having considered the invitation to tender and all accompanying documents (including without limitation, the terms and conditions of contract and the Specification) we confirm that we are fully satisfied as to our experience and ability to deliver the goods/services in all respects in accordance with the requirements of this invitation to tender.
2. We hereby tender and undertake to provide and complete all the services required to be performed in accordance with the terms and conditions of contract and the Specification for the amount set out in the Pricing Schedule.
3. We agree that any insertion by us of any conditions qualifying this tender or any unauthorised alteration to any of the terms and conditions of contract made by us may result in the rejection of this tender.
4. We agree that this tender shall remain open to be accepted by the Department for 8 weeks from the date below.
5. We understand that if we are a subsidiary (within the meaning of section 1159 of (and schedule 6 to) the Companies Act 2006) if requested by the Department we may be required to secure a Deed of Guarantee in favour of the Department from our holding company or ultimate holding company, as determined by the Department in their discretion.
6. We understand that the Department is not bound to accept the lowest or any tender it may receive.
7. We certify that this is a bona fide tender.

.....  
Signature (duly authorised on behalf of the tenderer)

.....  
Print name

.....  
On behalf of (organisation name)

.....  
Date

**Declaration 3: Conflict of Interest**

I have nothing to declare with respect to any current or potential interest or conflict in relation to this research (or any potential providers who may be subcontracted to deliver this work, their advisers or other related parties). By conflict of interest, I mean, anything which could be reasonably perceived to affect the impartiality of this research, or to indicate a professional or personal interest in the outcomes from this research.

Signed .....

Name .....

Position .....

**OR**

I wish to declare the following with respect to personal or professional interests related to relevant organisations\*;

- X
- X

*Where a potential conflict of interest has been declared for an individual or organisation within a consortium, please clearly outline the role which this individual or organisation will play in the proposed project and how any conflict of interest has or will be mitigated.*

- X
- X

Signed .....

Name .....

Position .....

Please complete this form and return this with your ITT documentation - Nil returns **are** required.

\* These may include (but are not restricted to);

- A professional or personal interest in the outcome of this research
- For evaluation projects, a close working, governance, or commercial involvement in the project under evaluation
- Current or past employment with relevant organisations
- Payment (cash or other) received or likely to be received from relevant organisations for goods or services provided (Including consulting or advisory fees)
- Gifts or entertainment received from relevant organisations
- Shareholdings (excluding those within unit trusts, pension funds etc) in relevant organisations
- Close personal relationship or friendships with individuals employed by or otherwise closely associated with relevant organisations

***All of the above apply both to the individual signing this form and their close family / friends / partners etc.***

If your situation changes during the project in terms of interests or conflicts, you must notify the Department straight away.

A DECLARATION OF INTEREST WILL NOT NECESSARILY MEAN THE INDIVIDUAL OR ORGANISATION CANNOT WORK ON THE PROJECT; BUT IT IS VITAL THAT ANY INTEREST OR CONFLICT IS DECLARED SO IT CAN BE CONSIDERED OPENLY.

## Declaration 4: Standard Selection Questionnaire

### Potential Supplier Information and Exclusion Grounds: Part 1 and Part 2.

The standard Selection Questionnaire is a self-declaration, made by you (the potential supplier), that you do not meet any of the grounds for exclusion<sup>1</sup>. If there are grounds for exclusion, there is an opportunity to explain the background and any measures you have taken to rectify the situation (we call this self-cleaning).

A completed declaration of Part 1 and Part 2 provides a formal statement that the organisation making the declaration has not breached any of the exclusions grounds. Consequently, we require all the organisations that you will rely on to meet the selection criteria to provide a completed Part 1 and Part 2. For example, these could be parent companies, affiliates, associates, or essential sub-contractors, if they are relied upon to meet the selection criteria. This means that where you are joining in a group of organisations, including joint ventures and partnerships, each organisation in that group must complete one of these self-declarations. Sub-contractors that you rely on to meet the selection criteria must also complete a self-declaration (although sub-contractors that are not relied upon do not need to complete the self-declaration).

When completed, this form is to be sent back to the contact point given in the procurement documents along with the selection information requested in the procurement documentation.

*Alternatively you can submit the completed Exclusion Grounds of the EU ESPD (Part III) as a downloaded XML file to the buyer contact point along with the selection information requested in the procurement documentation.*

### Supplier Selection Questions: Part 3

The procurement document will provide instructions on the selection questions you need to respond to and how to submit those responses. If you are bidding on behalf of a group (consortium) or you intend to use sub-contractors, you should complete all of the selection questions on behalf of the consortium and/or any sub-contractors.

If the relevant documentary evidence referred to in the Selection Questionnaire is not provided upon request and without delay, we reserve the right to amend the contract award decision and award to the next compliant bidder.

### Consequences of misrepresentation

If you seriously misrepresent any factual information in filling in the Selection Questionnaire, and so induce an authority to enter into a contract, there may be significant consequences.

You may be excluded from the procurement procedure, and from bidding for other contracts for three years. If a contract has been entered into you may be sued for damages and the contract may be rescinded. If fraud, or fraudulent intent, can be proved, you or your responsible officers may be prosecuted and convicted of the offence of fraud by false representation, and you must be excluded from further procurements for five years.

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<sup>1</sup> For the list of exclusion please see

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/551130/List\\_of\\_Mandatory\\_and\\_Disciplinary\\_Exclusions.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/551130/List_of_Mandatory_and_Disciplinary_Exclusions.pdf)

## Hydrogen Appliance Demonstration Facilities

TRN: 2278/02/2020

OPEN

### Notes for completion

1. The “authority” means the contracting authority, or anyone acting on behalf of the contracting authority, that is seeking to invite suitable candidates to participate in this procurement process.
2. “You” / “Your” refers to the potential supplier completing this standard Selection Questionnaire i.e. the legal entity responsible for the information provided. The term “potential supplier” is intended to cover any economic operator as defined by the Public Contracts Regulations 2015 (referred to as the “regulations”) and could be a registered company; the lead contact for a group of economic operators; charitable organisation; Voluntary Community and Social Enterprise (VCSE); Special Purpose Vehicle; or other form of entity.
3. Please ensure that all questions are completed in full, and in the format requested. If the question does not apply to you, please state ‘N/A’. Should you need to provide additional information in response to the questions, please submit a clearly identified annex.
4. The authority recognises that arrangements set out in section 1.2 of the standard Selection Questionnaire, in relation to a group of economic operators (for example, a consortium) and/or use of sub-contractors, may be subject to change and will, therefore, not be finalised until a later date. The lead contact should notify the authority immediately of any change in the proposed arrangements and ensure a completed Part 1 and Part 2 is submitted for any new organisation relied on to meet the selection criteria. The authority will make a revised assessment of the submission based on the updated information.
5. For Part 1 and Part 2 every organisation that is being relied on to meet the selection must complete and submit the self-declaration.
6. All sub-contractors are required to complete Part 1 and Part 2<sup>2</sup>.
7. For answers to Part 3 - If you are bidding on behalf of a group, for example, a consortium, or you intend to use sub-contractors, you should complete all of the questions on behalf of the consortium and/ or any sub-contractors, providing one composite response and declaration.

The authority confirms that it will keep confidential and will not disclose to any third parties any information obtained from a named customer contact, other than to the Cabinet Office and/or contracting authorities defined by the regulations, or pursuant to an order of the court or demand made by any competent authority or body where the authority is under a legal or regulatory obligation to make such a disclosure.

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<sup>2</sup> See PCR 2015 regulations 71 (8)-(9)

### Part 1: Potential supplier Information

Please answer the following questions in full. Note that every organisation that is being relied on to meet the selection must complete and submit the Part 1 and Part 2 self-declaration.

Section 1	Potential supplier information	
Question No.	Question	Response
1.1(a)	Full name of the potential supplier submitting the information	
1.1(b) – (i)	Registered office address (if applicable)	
1.1(b) – (ii)	Registered website address (if applicable)	
1.1(c)	Trading status a) public limited company b) limited company c) limited liability partnership d) other partnership e) sole trader f) third sector g) other (please specify your trading status)	
1.1(d)	Date of registration in country of origin	
1.1(e)	Company registration number (if applicable)	
1.1(f)	Charity registration number (if applicable)	
1.1(g)	Head office DUNS number (if applicable)	
1.1(h)	Registered VAT number	
1.1(i) - (i)	If applicable, is your organisation registered with the appropriate professional or trade register(s) in the member state where it is established?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
1.1(i) - (ii)	If you responded yes to 1.1(i) - (i), please provide the relevant details, including the registration number(s).	
1.1(j) - (i)	Is it a legal requirement in the state where you are established for you to possess a particular authorisation, or be a member of a particular organisation in order to provide the services specified in this procurement?	Yes <input type="checkbox"/> No <input type="checkbox"/>
1.1(j) - (ii)	If you responded yes to 1.1(j) - (i), please	



	provide additional details of what is required and confirmation that you have complied with this.	
1.1(k)	Trading name(s) that will be used if successful in this procurement	
1.1(l)	<p>Relevant classifications (state whether you fall within one of these, and if so which one)</p> <ul style="list-style-type: none"> <li>• Voluntary Community Social Enterprise (VCSE)</li> <li>• Sheltered Workshop</li> <li>• Public service mutual</li> </ul>	
1.1(m)	Are you a Small, Medium or Micro Enterprise (SME) <sup>3</sup> ?	Yes <input type="checkbox"/> No <input type="checkbox"/>
1.1(n)	<p>Details of Persons of Significant Control (PSC), where appropriate: <sup>4</sup></p> <ul style="list-style-type: none"> <li>- Name;</li> <li>- Date of birth;</li> <li>- Nationality;</li> <li>- Country, state or part of the UK where the PSC usually lives;</li> <li>- Service address;</li> <li>- The date he or she became a PSC in relation to the company (for existing companies the 6 April 2016 should be used);</li> <li>- Which conditions for being a PSC are met;             <ul style="list-style-type: none"> <li>- Over 25% up to (and including) 50%,</li> <li>- More than 50% and less than 75%,</li> <li>- 75% or more. <sup>5</sup></li> </ul> </li> </ul>	

<sup>3</sup> See EU definition of SME: <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/>

<sup>4</sup> UK companies, Societas European (SEs) and limited liability partnerships (LLPs) will be required to identify and record the people who own or control their company. Companies, SEs and LLPs will need to keep a PSC register, and must file the PSC information with the central public register at Companies House. [See PSC guidance.](#)

<sup>5</sup> Central Government contracting authorities should use this information to have the PSC information for the preferred supplier checked before award.

	(Please enter N/A if not applicable)	
1.1(o)	<p>Details of immediate parent company:</p> <ul style="list-style-type: none"> <li>- Full name of the immediate parent company</li> <li>- Registered office address (if applicable)</li> <li>- Registration number (if applicable)</li> <li>- Head office DUNS number (if applicable)</li> <li>- Head office VAT number (if applicable)</li> </ul> <p>(Please enter N/A if not applicable)</p>	
1.1(p)	<p>Details of ultimate parent company:</p> <ul style="list-style-type: none"> <li>- Full name of the ultimate parent company</li> <li>- Registered office address (if applicable)</li> <li>- Registration number (if applicable)</li> <li>- Head office DUNS number (if applicable)</li> <li>- Head office VAT number (if applicable)</li> </ul> <p>(Please enter N/A if not applicable)</p>	

**Please note:** A criminal record check for relevant convictions may be undertaken for the preferred suppliers and the persons of significant in control of them.

Please provide the following information about your approach to this procurement:

Section 1		Bidding model			
Question No.	Question	Response			
1.2(a) - (i)	Are you bidding as the lead contact for a group of economic operators?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details listed in questions 1.2(a) (ii), (a) (iii) and to 1.2(b) (i), (b) (ii), 1.3, Section 2 and 3. If no, and you are a supporting bidder please provide the name of your group at 1.2(a) (ii) for reference purposes, and complete 1.3, Section 2 and 3.			
1.2(a) - (ii)	Name of group of economic operators (if applicable)				
1.2(a) - (iii)	Proposed legal structure if the group of economic operators intends to form a named single legal entity prior to signing a contract, if awarded. If you do not propose to form a single legal entity, please explain the legal structure.				
1.2(b) - (i)	Are you or, if applicable, the group of economic operators proposing to use sub-contractors?	Yes <input type="checkbox"/> No <input type="checkbox"/>			
1.2(b) - (ii)	If you responded yes to 1.2(b)-(i) please provide additional details for each sub-contractor in the following table: we may ask them to complete this form as well.				
	Name				
	Registered address				
	Trading status				

	Company registration number					
	Head Office DUNS number (if applicable)					
	Registered VAT number					
	Type of organisation					
	SME (Yes/No)					
	The role each sub-contractor will take in providing the works and /or supplies e.g. key deliverables					
	The approximate % of contractual obligations assigned to each sub-contractor					

### Contact details and declaration

I declare that to the best of my knowledge the answers submitted, and information contained in this document are correct and accurate.

I declare that, upon request and without delay I will provide the certificates or documentary evidence referred to in this document.

I understand that the information will be used in the selection process to assess my organisation's suitability to be invited to participate further in this procurement.

I understand that the authority may reject this submission in its entirety if there is a failure to answer all the relevant questions fully, or if false/misleading information or content is provided in any section.

I am aware of the consequences of serious misrepresentation.

Section 1	Contact details and declaration	
Question No.	Question	Response
1.3(a)	Contact name	
1.3(b)	Name of organisation	
1.3(c)	Role in organisation	
1.3(d)	Phone number	
1.3(e)	E-mail address	
1.3(f)	Postal address	
1.3(g)	Signature (electronic is acceptable)	
1.3(h)	Date	

## Part 2: Exclusion Grounds

Please answer the following questions in full. Note that every organisation that is being relied on to meet the selection must complete and submit the Part 1 and Part 2 self-declaration.

Section 2	Grounds for mandatory exclusion	
Question No.	Question	Response
2.1(a)	<p><b>Regulations 57(1) and (2)</b></p> <p>The detailed grounds for mandatory exclusion of an organisation are set out on this <a href="#">web page</a>, which should be referred to before completing these questions. These are also included under Annex C.</p> <p>Please indicate if, within the past five years you, your organisation or any other person who has powers of representation, decision or control in the organisation been convicted anywhere in the world of any of the offences within the summary below and listed on the <a href="#">webpage</a>.</p>	
	Participation in a criminal organisation.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes please provide details at 2.1(b)
	Corruption.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes please provide details at 2.1(b)
	Fraud.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes please provide details at 2.1(b)
	Terrorist offences or offences linked to terrorist activities	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes please provide details at 2.1(b)
	Money laundering or terrorist financing	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes please provide details at 2.1(b)
	Child labour and other forms of trafficking in human beings	Yes <input type="checkbox"/>

		No <input type="checkbox"/> If Yes please provide details at 2.1(b)
2.1(b)	<p>If you have answered yes to question 2.1(a), please provide further details.</p> <p>Date of conviction, specify which of the grounds listed the conviction was for, and the reasons for conviction, Identity of who has been convicted</p> <p>If the relevant documentation is available electronically please provide the web address, issuing authority, precise reference of the documents.</p>	
2.2	If you have answered Yes to any of the points above have measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant ground for exclusion? (Self Cleaning)	Yes <input type="checkbox"/> No <input type="checkbox"/>
2.3(a)	<p><b>Regulation 57(3)</b></p> <p>Has it been established, for your organisation by a judicial or administrative decision having final and binding effect in accordance with the legal provisions of any part of the United Kingdom or the legal provisions of the country in which the organisation is established (if outside the UK), that the organisation is in breach of obligations related to the payment of tax or social security contributions?</p>	Yes <input type="checkbox"/> No <input type="checkbox"/>
2.3(b)	If you have answered yes to question 2.3(a), please provide further details. Please also confirm you have paid or have entered into a binding arrangement with a view to paying, the outstanding sum including where applicable any accrued interest and/or fines.	

**Please Note:** The authority reserves the right to use its discretion to exclude a potential supplier where it can demonstrate by any appropriate means that the potential supplier is in breach of its obligations relating to the non-payment of taxes or social security contributions.

Section 3	Grounds for discretionary exclusion	
Question No.	Question	Response
3.1	<p><b>Regulation 57 (8)</b></p> <p>The detailed grounds for discretionary exclusion of an organisation are set out on this <a href="#">web page</a>, which should be referred to before completing these questions. These are also included under Annex C.</p> <p>Please indicate if, within the past three years, anywhere in the world any of the following situations have applied to you, your organisation or any other person who has powers of representation, decision or control in the organisation.</p>	
3.1(a)	Breach of environmental obligations?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes please provide details at 3.2
3.1 (b)	Breach of social obligations?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes please provide details at 3.2
3.1 (c)	Breach of labour law obligations?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes please provide details at 3.2
3.1(d)	Bankrupt or is the subject of insolvency or winding-up proceedings, where the organisation's assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended, or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(e)	Guilty of grave professional misconduct?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(f)	Entered into agreements with other	Yes <input type="checkbox"/>



	economic operators aimed at distorting competition?	No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(g)	Aware of any conflict of interest within the meaning of regulation 24 due to the participation in the procurement procedure?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(h)	Been involved in the preparation of the procurement procedure?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(i)	Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions?	Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide details at 3.2
3.1(j)	Please answer the following statements	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, please provide details at 3.2
3.1(j) - (i)	The organisation is guilty of serious misrepresentation in supplying the information required for the verification of the absence of grounds for exclusion or the fulfilment of the selection criteria.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, please provide details at 3.2
3.1(j) - (ii)	The organisation has withheld such information.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, please provide details at 3.2
3.1(j) –(iii)	The organisation is not able to submit supporting documents required under regulation 59 of the Public Contracts Regulations 2015.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, please provide details at 3.2

3.1(j)-(iv)	The organisation has influenced the decision-making process of the contracting authority to obtain confidential information that may confer upon the organisation undue advantages in the procurement procedure or has negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection or award.	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, please provide details at 3.2
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3.2	If you have answered Yes to any of the above, explain what measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant ground for exclusion? (Self-Cleaning)	
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**Part 3: Selection Questions<sup>6</sup>**

<b>Section 4</b>	<b>Economic and Financial Standing</b>	
<b>Question No.</b>	<b>Question</b>	<b>Response</b>
<b>4.1</b>	Are you able to provide a copy of your audited accounts for the last two years, if requested? If no, can you provide <b>one</b> of the following: answer with Y/N in the relevant box.	Yes <input type="checkbox"/> No <input type="checkbox"/>
	(a) A statement of the turnover, Profit and Loss Account/Income Statement, Balance Sheet/Statement of Financial Position and Statement of Cash Flow for the most recent year of trading for this organisation.	Yes <input type="checkbox"/> No <input type="checkbox"/>
	(b) A statement of the cash flow forecast for the current year and a bank letter outlining the current cash and credit position.	Yes <input type="checkbox"/> No <input type="checkbox"/>
	(c) Alternative means of demonstrating financial status if any of the above are not available (e.g. forecast of turnover for the current year and a statement of funding provided by the owners and/or the bank, charity accruals accounts or an alternative means of demonstrating financial status).	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>4.2</b>	Where we have specified a minimum level of economic and financial standing and/ or a minimum financial threshold within the evaluation criteria for this procurement, please self-certify by answering 'Yes' or 'No' that you meet the requirements set out.	Yes <input type="checkbox"/> No <input type="checkbox"/>

<b>Section 5</b>	<b>If you have indicated in the Selection Questionnaire question 1.2 that you are part of a wider group, please provide further details below:</b>	
<b>Name of organisation</b>		
<b>Relationship to the Supplier completing these questions</b>		

<sup>6</sup> [See Action Note 8/16 Updated Standard Selection Questionnaire](#)

5.1	Are you able to provide parent company accounts if requested to at a later stage?	Yes <input type="checkbox"/> No <input type="checkbox"/>
5.2	If yes, would the parent company be willing to provide a guarantee if necessary?	Yes <input type="checkbox"/> No <input type="checkbox"/>
5.3	If no, would you be able to obtain a guarantee elsewhere (e.g. from a bank)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Section 6</b>	<b>Technical and Professional Ability</b>	
6.1	<p><b>Relevant experience and contract examples</b></p> <p>Please provide details of up to three contracts, in any combination from either the public or private sector; voluntary, charity or social enterprise (VCSE) that are relevant to our requirement. VCSEs may include samples of grant-funded work. Contracts for supplies or services should have been performed during the past three years. Works contracts may be from the past five years.</p> <p>The named contact provided should be able to provide written evidence to confirm the accuracy of the information provided below.</p> <p>Consortia bids should provide relevant examples of where the consortium has delivered similar requirements. If this is not possible (e.g. the consortium is newly formed or a Special Purpose Vehicle is to be created for this contract) then three separate examples should be provided between the principal member(s) of the proposed consortium or Special Purpose Vehicle (three examples are not required from each member).</p> <p>Where the Supplier is a Special Purpose Vehicle, or a managing agent not intending to be the main provider of the supplies or services, the information requested should be provided in respect of the main intended provider(s) or sub-contractor(s) who will deliver the contract.</p> <p>If you cannot provide examples, see question 6.3</p>	

	<b>Contract 1</b>	<b>Contract 2</b>	<b>Contract 3</b>
<b>Name of customer organisation</b>			
<b>Point of contact in the organisation</b>			
<b>Position in the organisation</b>			
<b>E-mail address</b>			
<b>Description of contract</b>			
<b>Contract Start date</b>			
<b>Contract completion date</b>			
<b>Estimated contract value</b>			

<b>6.2</b>	<p>Where you intend to sub-contract a proportion of the contract, please demonstrate how you have previously maintained healthy supply chains with your sub-contractor(s)</p> <p>Evidence should include, but is not limited to, details of your supply chain management tracking systems to ensure performance of the contract and including prompt payment or membership of the UK Prompt Payment Code (or equivalent schemes in other countries)</p>

<b>6.3</b>	<p>If you cannot provide at least one example for questions 6.1, in no more than 500 words please provide an explanation for this e.g. your organisation is a new start-up, or you have provided services in the past</p>
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	but not under a contract.

<b>Section 7</b>		<b>Modern Slavery Act 2015: Requirements under Modern Slavery Act 2015<sup>7</sup></b>	
<b>7.1</b>	Are you a relevant commercial organisation as defined by section 54 ("Transparency in supply chains etc.") of the Modern Slavery Act 2015 ("the Act")?	Yes <input type="checkbox"/>	N/A <input type="checkbox"/>
<b>7.2</b>	If you have answered yes to question 1 are you compliant with the annual reporting requirements contained within Section 54 of the Act 2015?	Yes <input type="checkbox"/>	Please provide relevant the url ...  No <input type="checkbox"/> Please provide an explanation

<b>Section 8</b>		<b>The General Data Protection Regulation (GDPR)<sup>8</sup></b>	
<b>8.1</b>	Compliance with the GDPR is a mandatory requirement for all contracts or agreements that involve the transfer and processing of personal data from 25 <sup>th</sup> May 2018. Will your organisation be compliant with the GDPR and all Data Protection Legislation (as defined in the terms and conditions	Yes <input type="checkbox"/>	No <input type="checkbox"/>

<sup>7</sup> [Procurement Policy Note 9/16 Modern Slavery Act 2015](#)

<sup>8</sup> [Procurement Policy Note 02/18 Changes to Data Protection Legislation & General Data Protection Regulation](#)

applying to this Invitation to Tender) in regard to the processing required under this contract by the time of contract award?

Contractors are also required to complete Declaration 5: The General Data Protection Regulation Assurance Questionnaire for Contractors, to evidence the extent of readiness. The Authority may ask the Contractor to provide evidence to support the position stated in the questionnaire. The Authority may require the successful Contractor to increase their preparedness where the Authority is not satisfied that the Contractor will be in a position to meet its obligations under the terms and conditions. If the Contractor fails to satisfy the Authority that it will be in a position to meet its obligations under the terms and conditions in the event that the Contractor is successful, the Authority reserves the right to exclude the bidder from this procurement.

## 9. Additional Questions

Suppliers who self-certify that they meet the requirements to these additional questions will be required to provide evidence of this if they are successful at contract award stage.

Section 9	Additional Questions
9.1	<b>Insurance</b>
a.	<p>Please self-certify whether you already have, or can commit to obtain, prior to the commencement of the contract, the levels of insurance cover indicated below:</p> <p>Y/N</p> <p>Employer's (Compulsory) Liability Insurance = £5m</p> <p>Public Liability Insurance (as per Clause 18 of Contract T&amp;Cs)</p> <p>Professional Indemnity Insurance = Please advise level of cover to be obtained.</p> <p>Product Liability Insurance (for products to be installed) = Please advise level of cover to be obtained.</p> <p>Contents Insurance– e.g. damage/theft of contents = Please advise level of cover to be obtained.</p> <p>*It is a legal requirement that all companies hold Employer's (Compulsory) Liability Insurance of £5 million as a minimum. Please note this requirement is not applicable to Sole Traders.</p>

Section 9	Additional Questions	
9.2	<b>Suppliers' Past Performance<sup>9</sup> - (please refer to supplier selection guidance - this question should only be included by central government contracting authorities)</b>	
a.	Can you supply a list of your relevant principal contracts for goods and/or services provided in the last three	Yes <input type="checkbox"/>

<sup>9</sup> [Procurement Policy Note 04/15 Taking Account of Suppliers' Past Performance](#)



	years?	No <input type="checkbox"/>
<b>b.</b>	On request can you provide a certificate from those customers on the list?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>c.</b>	If you cannot obtain a certificate from a customer can you explain the reasons why?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>d.</b>	If the certificate states that goods and/or services supplied were not satisfactory are you able to supply information which shows why this will not recur in this contract if you are awarded it?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>e.</b>	Can you supply the information in questions a. to d. above for any sub-contractors [or consortium members] who you are relying upon to perform this contract?	Yes <input type="checkbox"/> No <input type="checkbox"/>

**Declaration 5: Safe Use of Hydrogen**

By responding to this ITT, the tenderer must provide assurance that its staff are competent to work with hydrogen in the declaration below and evidence must be provided to support the declaration.

I declare that the staff that will be working on this project (and who are already qualified and extensively experienced in the use of natural gas) have given appropriate consideration to the safety considerations of hydrogen and will put in place procedures to ensure these are followed to provide a safe working environment to complete the tendered work.

Signed .....

Name .....

Position .....

Date .....

**Declaration 6: Code of Practice for Research<sup>10</sup>**

I confirm that I am aware of the requirements of the Department's Code of Practice<sup>11</sup> for Research and, in the proposed project, I will use my best efforts to ensure that the procedures used conform to those requirements under the following headings<sup>12</sup>:

- Responsibilities
- Competence
- Project planning
- Quality Control
- Handling of samples and materials
- Facilities and equipment
- Documentation of procedures and methods
- Research/work records

I understand that the Department has the right to inspect our procedures and practices against the requirements of the Code of Practice, and that I may be asked to provide documentary evidence of our working practices or provide access and assistance to auditors appointed by the Department.

(There is some flexibility in the application of the Code of Practice to specific research projects. Contractors are encouraged to discuss with the Department any aspects that cause them concern, in order to reach agreement on the interpretation of each requirement.)

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<sup>10</sup> Please note that this declaration applies to individuals, single organisations and consortia.

<sup>11</sup> The Code of Practice is attached to this ITT as Annex B

<sup>12</sup> Please delete as appropriate

## **Declaration 7: The General Data Protection Regulation Assurance Questionnaire for Contractors**



Declaration 6 -  
GDPR Assurance Que

## **Annex A: Pricing Schedule – Work Package 8a**

**See separate document**

## **Annex B: Code of Practice for Research**

### **CODE OF PRACTICE FOR RESEARCH**

*Issued by the Department for Business, Energy and Industrial Strategy*

The Department has developed this Code of Practice from the Joint Code of Practice issued by BBSRC; the Department for Environment, Food and Rural Affairs (Defra); the Food Standards Agency; and the Natural Environment Research Council (NERC) which lays out a framework for the proper conduct of research. It sets out the key aspects of the research process and the importance of making judgements on the appropriate precautions needed in every research activity.

The Code applies to all research funded by The Department. It is intended to apply to all types of research, but the overriding principle is fitness of purpose and that all research must be conducted diligently by competent researchers and therefore the individual provisions must be interpreted with that in mind.

#### ***PRINCIPLES BEHIND THE CODE OF PRACTICE***

Contractors and consortia funded by the Department are expected to be committed to the quality of the research process in addition to quality of the evidence outputs

The Code of Practice has been created in order to assist contractors to conduct research of the highest quality and to encourage good conduct in research and help prevent misconduct.

Set out over 8 responsibilities the code of practice provides general principles and standards for good practice in research.

Most contractors will already have in place many of the measures set out in the Code and its adoption should not require great effort.

#### ***COMPLIANCE WITH THE CODE OF PRACTICE***

All organisations contracting to the Department (including those sub-contracting as part of a consortium) will be expected to commit to upholding these responsibilities and will be expected to indicate acceptance of the Code when submitting proposals to the Department.

Contractors are encouraged to discuss with the Department any clauses in the Code that they consider inappropriate or unnecessary in the context of the proposed research project. The Code, and records of the discussions if held, will become part of the Terms and Conditions under which the research is funded.

Additionally, The Department may conduct (or request from the Contractor as appropriate) a formal risk assessment on the project to identify where additional controls may be needed.

#### ***MONITORING OF COMPLIANCE WITH THE CODE OF PRACTICE***

Monitoring of compliance with the Code is necessary to ensure:

- Policies and managed processes exist to support compliance with the Code

- That these are being applied in practice.

In the short term, the Department can require contractors to conduct planned internal audits although the Department reserves the right to obtain evidence that a funded project is carried out to the required standard. The Department may also conduct an audit of a Contractor's research system if deemed necessary.

In the longer term it is expected that most research organisations will assure the quality of their research processes by means of a formal system that is audited by an impartial and competent third party against an appropriate internationally recognised standard that is fit for purpose.

A recommended checklist for researchers can be found on the UK Research Integrity Office (UKRIO) website at <http://www.ukrio.org/what-we-do/code-of-practice-for-research>

## ***SPECIFIC REQUIREMENTS IN THE CODE OF PRACTICE***

### ***1. Responsibilities***

All organisations contracting to the Department (including those sub-contracting as part of a consortium) will be responsible for the overall quality of research they conducted. Managers, group leaders and supervisors have a responsibility to ensure a climate of good practice in the research teams, including a commitment to the development of scientific and technical skills.

The Principal Investigator or Project Leader is responsible for all the work conducted in the project including that of any subcontractors. All staff and students must have defined responsibilities in relation to the project and be aware of these responsibilities.

### ***2. Competence***

All personnel associated with the project must be competent to perform the technical, scientific and support tasks required of them. Personnel undergoing training must be supervised at a level such that the quality of the results is not compromised by the inexperience of the researcher.

### ***3. Project planning***

An appropriate level of risk assessment must be conducted to demonstrate awareness of the key factors that will influence the success of the project and the ability to meet its objectives. There must be a written project plan showing that these factors (including research design, statistical methods and others) have been addressed. Projects must be ethical and project plans must be agreed in collaboration with the Department, taking account of the requirements of ethical committees<sup>13</sup> or the terms of project licences, if relevant.

Significant amendments to the plan or milestones must be recorded and approved by the Department if applicable.

### ***4. Quality Control***

The organisation must have planned processes in place to assure the quality of the research undertaken by its staff. Projects must be subjected to formal reviews of an appropriate frequency. Final and interim outputs must always be accompanied by a statement of what quality control has been undertaken.

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<sup>13</sup> Please note ethical approval does not remove the responsibility of the individual for ethical behaviour.

The authorisation of outputs and publications shall be as agreed by the Department, and subject to senior approval in the Department, where appropriate. Errors identified after publication must be notified to the Department and agreed corrective action initiated.

### **5. Handling of samples and materials**

All samples and other experimental materials must be labelled (clearly, accurately, uniquely and durably), and retained for a period to be agreed by the Department. The storage and handling of the samples, materials and data must be as specified in the project plan (or proposal), and must be appropriate to their nature. If the storage conditions are critical, they must be monitored and recorded.

### **6. Documentation of procedures and methods**

All the procedures and methods used in a research project must be documented, at least in the personal records of the researcher. This includes analytical and statistical procedures and the generation of a clear audit trail linking secondary processed information to primary data.

There must be a procedure for validation of research methods as fit for purpose, and modifications must be trackable through each stage of development of the method.

### **7. Research/work records**

All records must be of sufficient quality to present a complete picture of the work performed, enabling it to be repeated if necessary.

The project leader is accountable for the validity of the work and responsible for ensuring that regular reviews of the records of each researcher are conducted<sup>14</sup>

The location of all project records, including critical data, must be recorded. They must be retained in a form that ensures their integrity and security, and prevents unauthorised modification, for a period to be agreed by the Department.

A recommended checklist for researchers can be found on the UK Research Integrity Office (UKRIO) website at <http://www.ukrio.org/what-we-do/code-of-practice-for-research>

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<sup>14</sup> Please note that this also applies to projects being undertaken by consortia.



## **Annex C: Exclusion Grounds**

### **Mandatory Exclusion Grounds**

**Public Contract Regulations 2015 R57(1), (2) and (3)**

**Public Contract Directives 2014/24/EU Article 57(1)**

#### **Participation in a criminal organisation**

Participation offence as defined by section 45 of the Serious Crime Act 2015

Conspiracy within the meaning of

- section 1 or 1A of the Criminal Law Act 1977 or
- article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983

where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA on the fight against organised crime;

#### **Corruption**

Corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906;

The common law offence of bribery;

Bribery within the meaning of sections 1, 2 or 6 of the Bribery Act 2010, or section 113 of the Representation of the People Act 1983;

#### **Fraud**

Any of the following offences, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the convention on the protection of the financial interests of the European Communities:

- the common law offence of cheating the Revenue;
- the common law offence of conspiracy to defraud;
- fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978;
- fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006;
- fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994;
- an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993;

- destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969;
- fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006;
- the possession of articles for use in frauds within the meaning of section 6 of the Fraud Act 2006, or the making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of that Act;

### **Terrorist offences or offences linked to terrorist activities**

Any offence:

- listed in section 41 of the Counter Terrorism Act 2008;
- listed in schedule 2 to that Act where the court has determined that there is a terrorist connection;
- under sections 44 to 46 of the Serious Crime Act 2007 which relates to an offence covered by the previous two points;

### **Money laundering or terrorist financing**

Money laundering within the meaning of sections 340(11) and 415 of the Proceeds of Crime Act 2002

An offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996

### **Child labour and other forms of trafficking human beings**

An offence under section 4 of the Asylum and Immigration (Treatment of Claimants etc.) Act 2004;

An offence under section 59A of the Sexual Offences Act 2003

An offence under section 71 of the Coroners and Justice Act 2009;

An offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994

An offence under section 2 or section 4 of the Modern Slavery Act 2015

### **Non-payment of tax and social security contributions**

Breach of obligations relating to the payment of taxes or social security contributions that has been established by a judicial or administrative decision.

Where any tax returns submitted on or after 1 October 2012 have been found to be incorrect as a result of:

- HMRC successfully challenging the potential supplier under the General Anti – Abuse Rule (GAAR) or the “Halifax” abuse principle; or
- a tax authority in a jurisdiction in which the potential supplier is established successfully challenging it under any tax rules or legislation that have an effect equivalent or similar to the GAAR or “Halifax” abuse principle;

- a failure to notify, or failure of an avoidance scheme which the supplier is or was involved in, under the Disclosure of Tax Avoidance Scheme rules (DOTAS) or any equivalent or similar regime in a jurisdiction in which the supplier is established
- 

### **Other offences**

Any other offence within the meaning of Article 57(1) of the Directive as defined by the law of any jurisdiction outside England, Wales and Northern Ireland

Any other offence within the meaning of Article 57(1) of the Directive created after 26<sup>th</sup> February 2015 in England, Wales or Northern Ireland

### **Discretionary exclusions**

#### **Obligations in the field of environment, social and labour law.**

Where an organisation has violated applicable obligations in the fields of environmental, social and labour law established by EU law, national law, collective agreements or by the international environmental, social and labour law provisions listed in Annex X to the Directive (see copy below) as amended from time to time; including the following: -

- Where the organisation or any of its Directors or Executive Officers has been in receipt of enforcement/remedial orders in relation to the Health and Safety Executive (or equivalent body) in the last 3 years.
- In the last three years, where the organisation has had a complaint upheld following an investigation by the Equality and Human Rights Commission or its predecessors (or a comparable body in any jurisdiction other than the UK), on grounds of alleged unlawful discrimination.
- In the last three years, where any finding of unlawful discrimination has been made against the organisation by an Employment Tribunal, an Employment Appeal Tribunal or any other court (or incomparable proceedings in any jurisdiction other than the UK).
- Where the organisation has been in breach of section 15 of the Immigration, Asylum, and Nationality Act 2006;
- Where the organisation has a conviction under section 21 of the Immigration, Asylum, and Nationality Act 2006;
- Where the organisation has been in breach of the National Minimum Wage Act 1998.

#### **Bankruptcy, insolvency**

Bankrupt or is the subject of insolvency or winding-up proceedings, where the organisation's assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended, or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State;

#### **Grave professional misconduct**

Guilty of grave professional misconduct

**Distortion of competition**

Entered into agreements with other economic operators aimed at distorting competition

**Conflict of interest**

Aware of any conflict of interest within the meaning of regulation 24 due to the participation in the procurement procedure

**Been involved in the preparation of the procurement procedure.****Prior performance issues**

Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions.

**Misrepresentation and undue influence**

The organisation has influenced the decision-making process of the contracting authority to obtain confidential information that may confer upon the organisation undue advantages in the procurement procedure, or to negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection or award.

Additional exclusion grounds

**Breach of obligations relating to the payment of taxes or social security contributions.****ANNEX X Extract from Public Procurement Directive 2014/24/EU****LIST OF INTERNATIONAL SOCIAL AND ENVIRONMENTAL CONVENTIONS REFERRED TO IN ARTICLE 18(2) —**

- ILO Convention 87 on Freedom of Association and the Protection of the Right to Organise;
- ILO Convention 98 on the Right to Organise and Collective Bargaining;
- ILO Convention 29 on Forced Labour;
- ILO Convention 105 on the Abolition of Forced Labour;
- ILO Convention 138 on Minimum Age;
- ILO Convention 111 on Discrimination (Employment and Occupation);
- ILO Convention 100 on Equal Remuneration;
- ILO Convention 182 on Worst Forms of Child Labour;
- Vienna Convention for the protection of the Ozone Layer and its Montreal Protocol on substances that deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention);
- Stockholm Convention on Persistent Organic Pollutants (Stockholm POPs Convention)

- Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (UNEP/FAO) (The PIC Convention) Rotterdam, 10 September 1998, and its 3 regional Protocols.

### **Consequences of misrepresentation**

A serious misrepresentation which induces a contracting authority to enter into a contract may have the following consequences for the signatory that made the misrepresentation: -

- The potential supplier may be excluded from bidding for contracts for three years, under regulation 57(8)(h)(i) of the PCR 2015;
- The contracting authority may sue the supplier for damages and may rescind the contract under the Misrepresentation Act 1967.
- If fraud, or fraudulent intent, can be proved, the potential supplier or the responsible officers of the potential supplier may be prosecuted and convicted of the offence of fraud by false representation under s.2 of the Fraud Act 2006, which can carry a sentence of up to 10 years or a fine (or both).
- If there is a conviction, then the company must be excluded from procurement for five years under reg. 57(1) of the PCR (subject to self-cleaning).

## Annex D: Technical Specification

Work Package 8a (WP8a) provides a means to demonstrate to a wider audience (beyond appliance manufacturers and those directly involved in the Hy4Heat programme) that natural gas can be successfully replaced by hydrogen in newly developed appliances and offer the same (or better) functionality and performance as existing products.

A range of appliances from a number of manufacturers will be made available by Hy4Heat. It is expected that the following domestic technologies will be demonstrated:

- Domestic boilers – combination & system/regular
- Domestic cookers – hobs, oven and grill, and fully integrated appliances (hobs, oven and grill)
- Domestic gas fires – open and closed fronted
- Domestic gas meters – although not an appliance it will be necessary to demonstrate the availability, operation and look of hydrogen gas meters

There may also be a limited number of commercial products available at pilot stage including:

- Commercial space heaters
- Commercial cookers.

The appliances are to be demonstrated in accessible facilities where visitors can interact with the appliances and view their operation. WP8a consists of the design, construction, build and operation of three facilities:

Facility 1 – Exhibition displays (No hydrogen fuel)

Facility 2 – Moveable showroom with operational appliances (hydrogen)

Facility 3 – Cooking demonstration unit (hydrogen).

Facilities 1 and 2 are designed to realistically demonstrate the technology developed under the Hy4Heat programme. They are to represent typical domestic environments, however, none are to be 'lived in' or are to have people in them overnight. It is expected that the facilities will be 'manned' during exhibition days, which could include weekends.

The cooking facility is designed to allow demonstration of cooking using a hydrogen appliance in a variety of locations. It is to consist of a hydrogen cooker and surrounding display stand where a chef can cook a variety of simple foods using the hydrogen appliance. The food is to be sampled by visitors. It must not be a converted vehicle, but must be moveable, therefore the facility is to be easily assembled/disassembled and transportable within a van or trailer.

The contractor will be required to provide their own detailed layouts for the proposed facility(s) as detailed in Section 4.

The following utility services will be required:

- Hydrogen Gas
- Water

- Electricity
- Drainage (although possibly via portable sump).

Where possible a single connection point and service supply spine should be provided for the provision of utilities to the facility [1].

Provision is to be made for appropriate insurance for each of the facilities. This is expected to include public liability, product liability and contents insurance for the facilities, covering integral parts (e.g. pipework and structure) and appliances which have been installed (see section 9.1 of Declaration 4). It should be noted that appliances will be prototypes which have been safety certified but will not have met all required certifications to be CE marked.

## **WP8a – Moveable facilities and cooking demonstration – Facilities 1, 2 and 3.**

### **Facility 1 – Exhibition Displays (ED)**

The exhibition display should allow a range of appliances to be displayed but will not contain functioning products as a gas supply will not be available.

It is envisaged that this facility will be used in exhibition centres and industry events whereby the products can be displayed within realistic settings, e.g. a domestic kitchen or living space. However, their operation would be demonstrated by supporting media such as video or other visual display.

The facility must be easily portable and of suitable size to meet standard exhibition space restraints. It must be accessible for all visitors and be able to be modified in size and layout to accommodate a variety of appliance makes and models.

### **Facility 2 – Moveable showroom (operational hydrogen appliances) (MS)**

The moveable showroom should be designed to simulate a typical domestic property and therefore include a space where a number of domestic boilers, cookers and gas fires can be demonstrated. It is likely that this will include the simulation of kitchen and lounge environment(s).

The facility must be transportable, but able to remain in position for several weeks, therefore a static caravan, park home, portable cabin or equivalent is suggested.

It is expected that operational demonstrations will take place within the facility such as cooker demonstrations, hot water provision (combi boiler) and gas fire usage. It is not suggested that a wet heating system is installed due to the complexity of including water storage and cooling in a moveable unit, however a radiator could be placed within the facility to demonstrate that the boiler will operate as a standard natural gas product.

The facility must have sufficient ventilation to allow for the operation of multiple appliances without overheating. The facility and appliances should be operable under all reasonable weather conditions.

The facility must be able to accommodate up to 35 visitors and therefore it is suggested that it has a floor area of 40 to 60m<sup>2</sup>.

When sizing the facility, consideration must be made regarding transportation of the facility between demonstration sites and available space at each of the locations. The Road Vehicles (Construction and Use) Regulations 1986 [11] detail the requirements of laden vehicles of varying size, including overhanging and abnormal loads. It is suggested that the dimensions of the facility should be below those in which additional transportation

requirements are in place, or the facility should be able to be deconstructed in such a way that it can be carried in two or more smaller parts that fall within permitted dimensions.

An example layout of a moveable showroom is provided below. Please note this is for indicative purposes and contractors will be expected to provide their own facility design.

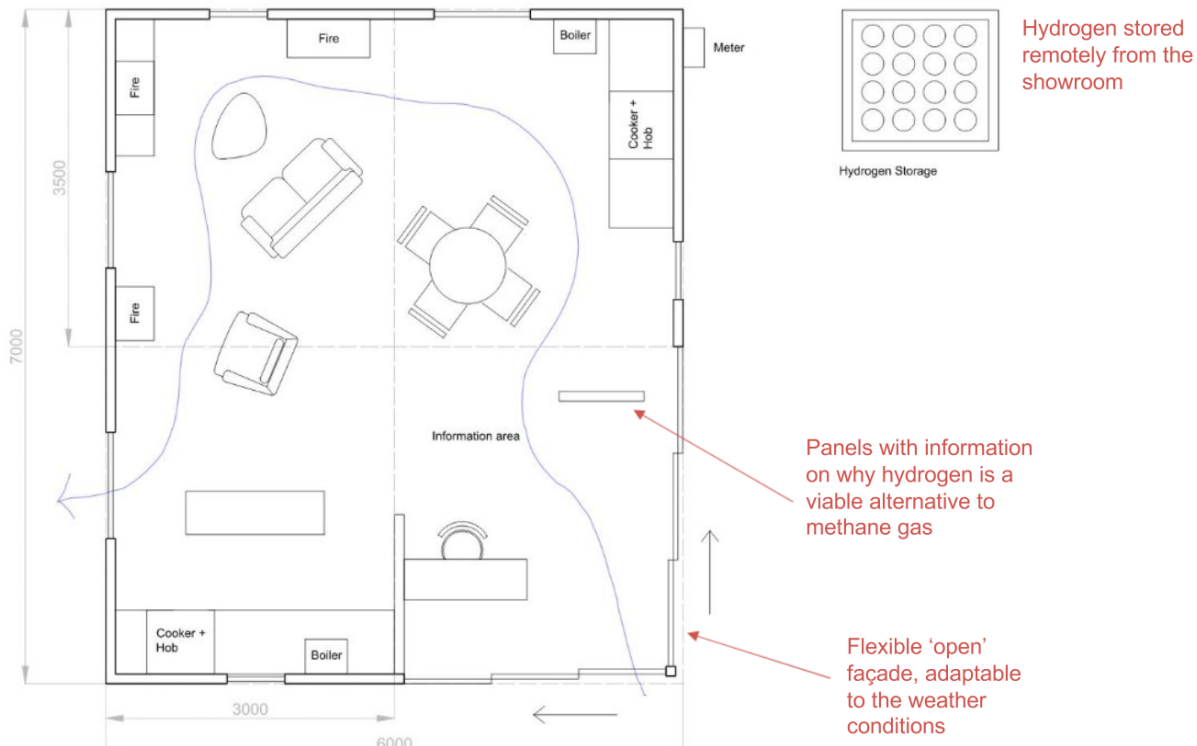


Figure 1: Example layout for a moveable showroom

### Facility 3 – Cooking demonstration unit (CDU)

This is a relatively simple hydrogen fuelled facility used to demonstrate cooking with hydrogen. The facility is to consist of a hydrogen fired cooker, either domestic or small commercial scale, e.g. a range style cooker.

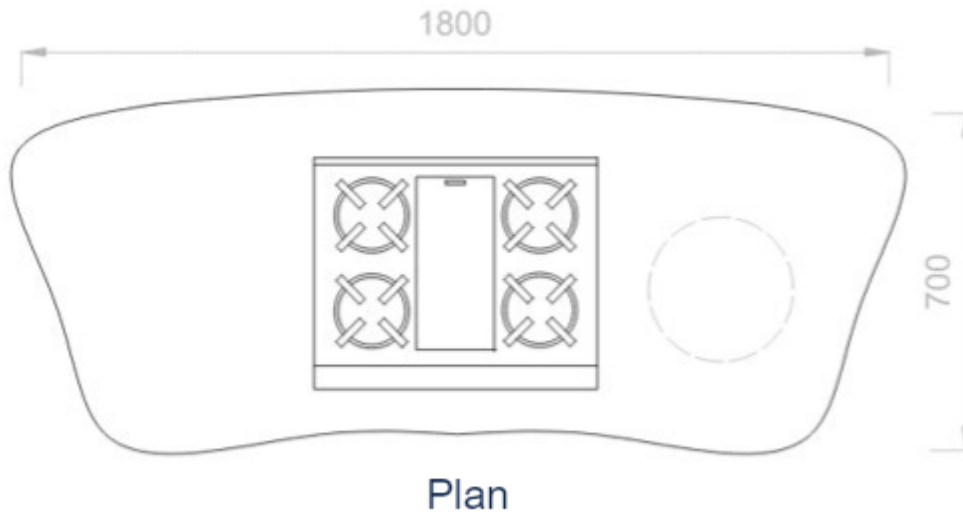
It is envisaged the demonstrations will take place primarily at events such as trade shows and catering events. The aim would be to prove that a range of standard meals/foods such as cake, cheese on toast, stir-fry etc. can be successfully created using a hydrogen appliance as it would be using the equivalent natural gas appliance. The contractor will work with appliance suppliers and possibly Hy4Heat and event organisers to specify the foods proposed.

The facility must be suitable for easy assembly and disassembly for transportation in a van or trailer to numerous locations. However, a mobile catering facility in the form of a van or converted vehicle is not required and **does not** meet the specification of this tender.

Hy4Heat will facilitate provision of the hydrogen appliances through the delivery of other work packages within the programme and enabling discussion with manufacturers. There will be no cost for the appliances. The contractor will be required to design a demonstration space around the cooker that allows for hydrogen gas supply as well as interaction with the audience. They will also be required to detail waste removal and clean-up, as well as appropriate additional ventilation (if deemed necessary).



Figure 5 provides an indicative design for the cooking demonstration facility. It is stressed that this is for demonstration purposes only and the contractors will be required to provide detailed dimensioned drawings of their proposed design.



**Figure 2: Example cooking demonstration facility**

### **Gas supplies and storage**

An appropriate and safe hydrogen gas supply which complies to industry standards and best practice will be required for Facilities 2 and 3. Facility 1 does not require a gas supply.

### **Cooking demonstration unit (Facility 3)**

It is envisaged that the hydrogen supply will be either from a conventional steel or modern lightweight cylinder. The advice of the gas supply company and the appliance manufacturer should be sought. An independent risk assessment of the facility will be required, and suppliers will be required to contract an independent gas industry expert with demonstrable experience of R&D scale domestic/commercial hydrogen installations, or hydrogen blending, to carry out this assessment.

Contractors will be expected to arrange appropriate gas supply contracts for the duration of the trial. The minimum hydrogen gas quality is expected to meet manufacturer recommended standards. However, standard products from gas suppliers are likely to provide higher purity than this. Higher purity hydrogen is acceptable for use.

As for all flammable gases (including methane and LPG) hydrogen gas must be stored and delivered safely to the facility in accordance with industry guidance and regulation (example documents are listed later in this section).

It is envisaged that gas bottles will only be connected to the appliance during operational hours. Like propane, hydrogen bottles should be stored outside in a safe location when not in use.

### **Moveable showroom (operational hydrogen appliances) (Facility 2)**

The moveable unit will require more complex gas logistics. The quantity of gas required will be much larger than for a simple cooking facility and will almost certainly require a Multi-Cylinder Pack (MCP)

The expected concept is that the MCP storage compound will have the potential to be between 50 to 100m from the transportable module, connected with a heavy weight flexible

pipe. This allows flexibility of location of both MCP's and the moveable showroom.

The gas storage compound should be located outside. It must be secure and protected from physical damage by a fence.

MCPs are between approximately 1.21 and 2.3 m<sup>2</sup> (depending on supplier) with a height of approximately 1.8m, and when full, weigh approximately 1500 kg with a pressure of ~200barg. The secure compound for the gas supply to the moveable showroom should be of sufficient size to house at least two MCPs simultaneously, allowing for an in-use and stand-by gas supply. Weight considerations must be made when considering gas delivery and MCP storage. Delivery and MCP handling will probably require either a forklift or a delivery vehicle with a lift/crane

Appropriate signage in accordance with the Health & Safety (Safety Signs & Signals) Regulation [8] must be made available at all facilities.

### **Gas delivery**

The gas supply and distribution system must be safe and should comply with industry standards.

All materials in the supply and distribution systems should be compatible for use with hydrogen.

The details of the delivery system between the MCP storage location and moveable facility are to be determined by the tenderer, however a conceptually similar project involved the following pressure tiers and pipework:

- Close coupled pressure regulator at the MCP allowing initial pressure reduction from cylinder pressure to approximately 2 to 4 barg. Pressure relief from this line.
- Medium pressure reduction (regulator) to 500mbarg with full under pressure and over pressure shut off (UPSO and OPSO). Mounted within the fenced compound.
- Steel braid protected hoses (drum mounted) of suitable diameter and construction providing the full run of up 100m. These are widely used in the LPG industry and are generally of higher -pressure rating than 500mbarg. This gives confidence in their mechanical suitability.
- Appropriate fitting(s) that can be routinely made and unmade into which the supply hose can terminate. This connection will be below a meter box before entry to the facility. Entry to the meter box may use screwed steel pipe.
- A suitable emergency control valve (ECV) should be fitted where this steel pipe enters a conventional gas industry gas meter box secured to the outside of the moveable facility. Within the meter box should be located a good quality regulator to reduce the pressure from 500 mbarg to 20mbarg, again with full UPSO and OPSO. A suitable excess flow valve should be installed immediately downstream of the ECV. It is appreciated an ECV of correct and proven rating with hydrogen may not be available. This should be discussed with the Hy4heat team during the detailed design stage.

Fixed pipework within the transportable facility should be designed with help from the IGEM Reference Standard now under development, but for costing purposes an installation using copper to current natural gas standards should be used. As conventionally expected, fixed pipework shall be adequately supported and protected from damage, vibration or corrosion. Pipes within the demonstration facility should be kept to a minimum, be as straight as possible, with as few connections as possible and should be run in well-ventilated spaces

where possible. All materials should be attested by their suppliers as suitable for use with hydrogen. The use of stainless steel is not encouraged on the grounds this would be very unusual with natural gas.

The whole gas system must be fully validated and recommissioned at every location. This will include tightness testing and must be carried out by a suitably competent person.

Hy4Heat offers indicative volumetric gas supply requirement for each facility to enable cost estimations to be made.

### **Gas detection**

Due to the transportable nature of the facility gas detection is required especially as it is likely that the hydrogen supplied in MCPs will be un-odorised.

It is therefore an essential requirement of any facility developed under this work package to include a means of hydrogen detection. This may be through the positioning of gas alarms within the demonstration space.

If odorised hydrogen gas is available, then this should be the preferred choice of gas supply used at the facility.

Contractors are expected to detail the gas detection systems within the facility and the emergency procedures in the event of a gas escape.

### **Appliance installation**

Hydrogen appliance manufacturers will provide the appliances for the demonstration trials. Hy4Heat will enable discussions between the contractor and hydrogen appliance manufacturers. The contractor will be required to work alongside equipment suppliers to install these appliances within the facility. The installers must be competent individuals, meaning they must be registered with Gas Safe for natural gas, ideally with experience working with hydrogen gas. Some appliance manufacturers have indicated they wish to undertake this work themselves. For the purposes of pricing, please assume that installers will be paid for by the contractor for this work package, including provision for the possibility that some appliances will be installed by the manufacturers themselves.

The provision of full procedures will be required as part of the contract (see milestones in section 1) including installation, purging, commissioning, and operation. This should include the handover process from installers to the users of the demonstration facility.

It will also be expected that ongoing safety checks are carried out in line with industry practice and a proposed schedule with reasoning should be provided. Consideration should also be made to ongoing repair and maintenance, as well as commissioning at each location. Contractors should detail the companies or individuals available to carry out this work and justification of choice. A full independent risk assessment will be required for each facility, with particular attention made to the hydrogen installation. Suppliers will be required to contract an independent gas industry expert to carry out this assessment. The nominated company or individual should have demonstrable experience of R&D scale domestic and commercial hydrogen installations and/or experience of hydrogen blending (e.g. the addition of up to 20%v/v hydrogen to natural gas) at a commercial scale.

The contractor will also be required to provide appropriate insurance for appliances from the point they arrive for installation until manufacturers remove them (see section 9.1 of Declaration 4). It should be noted that appliances will be prototypes which have been safety certified but will not have met all required certifications to be CE marked.

## Gas requirement – Moveable showroom (operational hydrogen appliances) (Facility 2)

It is envisaged that the facility will consist of a number of appliances from the following:

- Gas Fire – maximum demand 5 kW
- Gas boiler – maximum demand 35 kW
- Gas cooker – maximum demand 10kW

It follows that an estimated gas requirement can be calculated, and a summary of suggested gas use follows in Table 1. It is stressed that this is **indicative only** and contractors should carry out their own calculations with justification as to why the pattern of usage is suggested to estimate gas demand.

Table 1: Estimated hydrogen use in stationary mobile facility

Appliance	Max kW rating	Gas Required (kg/h)	Expected hours of operation (h/day)	Gas Required (kg/day)
Fire	5	0.13	5	0.6
Boiler (hot water only)	35	0.89	1.7	1.5
Cooker	10	0.25	2.5	0.6
Total per day				2.7
No. of days per MCP				4.8

A multi-cylinder pack (MCP) consisting of 15 or 16 hydrogen cylinders, contains approximately 13 kg of hydrogen (in comparison to a single cylinder containing approximately 1kg). Therefore, using the estimated demand shown in Table 1. It is clear an MCP is a realistic method of gas delivery but will require replacement every 4 to 5 days. For security of supply the facility should be accompanied by at least two MCPs (one in use and one as standby). The contractor will be required to provide appropriate and safe storage of the MCPs and distribution pipework as part of the facility design. The design of the gas delivery network within the facility and the safety devices in place must be included.

## Gas requirement – Cooking demonstration unit (Facility 3)

The structure will require a hydrogen gas supply likely in the form of individual gas cylinders.

It is envisaged that the cylinder(s) will be transported with the facility within a van or trailer; design detail should be provided with regard safe transportation and consideration must be made with regard [12]:

- Stability
- Weight
- Handling
- Transportation regulations (an example may be BCGA GN27[13])

It is suggested that a domestic scale cooking demonstration facility may require up 0.7 kg

of hydrogen each day of operation, assuming 6 hours of hob operation and 4 hours of oven operation. Using a commercial range this may increase to 1.2 kg assuming the same operating regime. This could be supplied using single cylinders or an MCP. Again, it is stressed that this is for **example only** and contractors should carry out their own calculations with justification as to why the pattern of usage is suggested to estimate gas demand. Liaison with the Hy4heat team is suggested.

## **Operational requirements**

### **Exhibition displays (Facility 1)**

It is expected that use of the exhibition facility would be used on an ad-hoc basis at appropriate industry events such as COP 26. The contractor will be required to provide hosting services to man the facility at the specified events.

### **Moveable showroom (operational hydrogen appliances) (Facility 2)**

The facility would be available (open) and therefore manned by at least 2 people 7 days a week, operating under typical working hours, with some evenings to engage those leaving work. Hours of operation are suggested to be:

- 9am to 8pm Monday to Thursday,
- 9am to 6pm Friday
- 9am to 5pm Saturday
- 10am to 4pm Sunday

The contractor will be expected to provide hosting services to man the facility for the duration of the trial.

It is suggested that the facility would be in place for 1 to 3 months. Before being dismantled and moved to a new location. Therefore, the contractor should provide detail of time and costs of installation and removal from each location, as well as transportation costs to each location. The facility set-up should be the same or similar in all locations; commissioning will be required at each location.

The contractor will be required to identify suitable locations and understand the requirements to enable siting of the demonstration facility. The contractor will be asked to demonstrate agreements in principle for the siting of the facility at the chosen locations and provide justification as to why the location was selected. All relevant compliance should be identified, and a method detailed as to how compliance will be achieved.

### **Cooking demonstration unit (Facility 3)**

When in place it would be suggested that routine cooking demonstrations are carried out, e.g. every 2 hours. The food created during these demonstrations should be offered to the audience, therefore the contractor must identify all applicable regulations to allow this to happen; an example may be an environmental health inspection.

The contractor will be required to identify suitable locations and understand the requirements to enable siting of the cooking demonstration facility at these locations. The contractor will be asked to demonstrate agreements in principle for the siting of the facility at the chosen locations and provide justification as to why the location was selected. All relevant compliance should be identified, and a method detailed as to how compliance will be achieved.

## Risk assessment

According to the Management of Health & Safety at Work Regulations a risk assessment will be required for the proposed facilities. Specific risks will depend on the facility proposed; however, it should include consideration of the following as a minimum:

- Location requirements (e.g. utility connections, permitting, etc)
- Facility design and certification
- Hydrogen gas storage
- Hydrogen gas supply
- Appliance installation, commissioning, plus assurance that it has been set up correctly (e.g. Environmental Health inspection) and decommissioning
- Hydrogen leak detection
- Fire precautions and inspection by the local fire service as required
- Evacuation procedures
- Site security and access
- Compliance (where applicable) with the following:
  - BCGA Code of Practice 4 (CP 4), Industrial Gas Cylinder Manifolds and Gas Distribution Pipework (excluding Acetylene) [2]
  - BCGA Code of Practice 44 (CP 44), The Storage of Gas Cylinders [3]
  - Pressure Equipment Regulations (PER) [4]
  - Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations [5]
  - Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) [6]
  - Pressure Systems Safety Regulations (PSSR) [7]
  - Gas cylinder supplier instructions and guidance

## Summary of requirements

In the delivery of WP8a the contractor will be expected to provide the services detailed below. This is a competitive tender open to individual bidders or appropriate consortiums to successfully deliver all the requirements.

### Exhibition displays (Facility 1):

- An exhibition showroom/display which allows the display of a range of domestic hydrogen appliances to include boilers, cookers and gas fires.
- A media facility, e.g. digital display, to demonstrate the operation of the appliances without the need for a gas supply to the facility.
- Event staff to man the facility and liaise with exhibition organisers.
- Compliance with appropriate legislation, security and Insurance, for example to cover public liability for the showroom and appliances as well as theft and damage (see section 9.1 of Declaration 4).

### Moveable showroom (operational hydrogen appliances) (Facility 2):

- A moveable showroom which meets the requirements for the demonstration of a range of domestic hydrogen appliances to include boilers, cookers and gas fires.

- A gas storage and supply solution that provides the required gas to the facility for the duration of the trial.
- Appropriate safety devices to ensure gas supply is fail safe, this should include gas detection, excess flow valves, regulators etc.
- Fitters to install the domestic interior
- Gas safe (natural gas) installers ideally with experience of hydrogen to install the gas supply, appliances and associated equipment
- Event staff to man the facility and liaise with venue operators/owners and relevant authorities; e.g. local authorities (environmental health, fire service etc.)
- Connection to local utilities, including electricity, water and drainage
- Timescales for delivery at each of the specified demonstration locations
- Logistics to transport, erect, commission, operate and dismantle the facility at each location
- Compliance with appropriate legislation and Insurance, for example to cover public liability for the showroom and appliances as well as theft and damage (see section 9.1 of Declaration 4).

### **Cooking demonstration unit (Facility 3):**

- Demonstration facility
- Gas storage and supply solution
- Appropriate safety devices to ensure gas supply is fail safe, this should include gas detection, excess flow valves, regulators etc.
- Gas safe (natural gas) installers ideally with experience of hydrogen to install the gas supply, appliances and associated equipment, and maintain the facility
- Chef and proposed demonstration menu
- Possibly additional staff for manning the stand
- Connection to local utilities, including electricity, water and drainage
- Compliance with appropriate legislation, security and Insurance, for example to cover public liability for the unit and appliances as well as theft and damage (see section 9.1 of Declaration 4).

### **Provided by Hy4Heat:**

For the duration of the contract, Hy4Heat will provide:

- Facilitation of engagement with hydrogen appliance manufacturers
- Ongoing technical support with regard facility requirements and gas supply design
- Marketing material (to be signed-off by Hy4Heat before production and display)

### **Provided by hydrogen appliance manufacturers:**

For the duration of the contract, hydrogen appliance manufacturers will provide:

- Hydrogen appliances

- Manufacturer support staff, services and any applicable additional insurance is to be agreed with the contractor (discussions will be facilitated by Hy4Heat).



## References

[OBJ]

- [1] Ministry of Defence, "Design and Maintenance Guide 18, Design of Catering Facilities," HMSO, Norwich, 2012.
- [2] British Compressed Gases Association, Code of Practice 4, Industrial gas cylinder manifolds and gas distribution pipework (excluding acetylene). Revision 4, Derby: BCGA, 2012.
- [3] British Compressed Gases Association, Code of Practice 44, The storage of gas cylinders, Derby: BCGA, 2016.
- [4] UK Government, Statutory Instruments No. 1105, The Pressure Equipment (Safety) Regulations, London, 2016.
- [5] UK Government, Statutory Instrument No. 1107, The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations, London, 2016.
- [6] UK Government, Statutory Instrument No. 2776, The Dangerous Substances and Explosive Atmospheres Regulations, London, 2002.
- [7] UK Government, Statutory Instrument No. 128, The Pressure Systems Safety Regulations, London, 2000.
- [8] UK Government, Statutory Instrument No. 341, The Health and Safety (Safety Signs and Signals) Regulations, London, 1996.
- [9] BSI, BS 9999:2017, Fire safety in the design, management and use of buildings. Code of practice, British Standards Institution, 2017.
- [10] BSI, BS 8313, Code of practice for accommodation of building services in ducts, British Standards Institution, 1997.
- [11] UK Government, Statutory Instrument, No. 1078, London, 1986.
- [12] The Nationwide Caterers Association, Guidance for the installation of LPG and LPG fired equipment in catering trailers, converted vehicles, portable kitchens, carts, trolleys and bikes., Solihull: NCASS, 2012.
- [13] British Compressed Gas Association, Guidance Note 27, Guidance for the carriage of gas cylinders on vehicles, Derby: BCGA, 2017.
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- [15] Department for Transport, "Guidance Overhanging Loads," 1 April 2009. [Online]. Available: <https://www.gov.uk/government/publications/overhanging-loads-on-vehicles/overhanging-loads>. [Accessed 29 August 2019].