

**Invitation to Tender for the Hydrogen Logistics project**

Tender Reference Number: 1391/11/2017

Deadline for Tender Responses:

16:00 Tues 19th December 2017

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

Date: 21 November 2017

The Department for Business, Energy & Industrial Strategy (“BEIS”) wishes to commission a project to understand the logistical requirements associated with transitioning UK domestic properties from natural gas to hydrogen, specifically from the meter and downstream.

Enclosed are the following sections:

* Section 1 (page 3) Instructions on tendering procedures
* Section 2 (page 7) Specification of requirements
* Section 3 (page 24) Further information on tendering procedure
* Section 4 (page 27) Declarations and information to be provided;

Statement of Non-Collusion

Form of Tender

Conflict of Interest

Code of Practice for Research

* Annex A: Pricing schedule
* Annex B: Code of practice for research

Please register your interest in submitting a tender for this project by emailing [jenna.owen@beis.gov.uk](mailto:jenna.owen@beis.gov.uk) This will ensure you receive immediate notification of updates to the ITT process or answers to questions raised by potential bidders.

Please read the instructions on the tendering procedures carefully since failure to comply with them may invalidate your tender. Your tender must be returned by 16:00 Tuesday 19th December 2017 clearly marked as “TENDER”.

I look forward to receiving your response.

Yours sincerely,

Jenna Owen

Policy Adviser – Heat Strategic Options Project

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

**Section 1**

**Instructions and Information on Tendering Procedures**

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# Indicative Timetable

The anticipated timetable for this tender exercise is as follows. BEIS reserves the right to vary this timetable. Any variations will be published on contracts finder or circulated to all organisations who have registered an interest in notifications.

|  |  |
| --- | --- |
| **Tender Timeline** | **Date** |
| Advert and full invitation to tender issued | 21st November 2017 |
| Deadline for questions relating to the tender | 17:00 30th November 2017 |
| Responses to questions published | 7th December 2017 |
| Deadline for receipt of tender | 16:00 Tues 19th December 2017 |
| Invite suppliers for bid clarification (if needed) | 4th Jan - 10th Jan 2018 |
| All suppliers alerted of outcome | By 12th January 2018 |
| Contract award on signature by both parties | By 15th January 2018 |
|  |  |
| Contract start date | 15th January 2018 |

The contract is to be for a period of 14 weeks unless terminated or extended by the Department in accordance with the terms of the contract.

# Procedure for Submitting Tenders

The maximum page limit for tenders is 30 pages (excluding declarations).

**Please email** your proposal to [jenna.owen@beis.gov.uk](mailto:jenna.owen@beis.gov.uk) before the deadline of 16:00 Tues 19th December 2017.

For questions regarding the procurement process please contact Jenna Owen at [jenna.owen@beis.gov.uk](mailto:jenna.owen@beis.gov.uk)

Tenders will be received up to the time and date stated. Please ensure that your tender is delivered not later than the appointed time on the appointed date. 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.

BEIS 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. BEIS 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, email [jenna.owen@beis.gov.uk](mailto:jenna.owen@beis.gov.uk) All questions should be submitted by 17:00 30th November 2017; 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 with our formal reply by the end of 7th December 2017 and circulate – unnamed - to all organisations that have expressed an interest in bidding. All contractors should then take that reply 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.

# Conflict of Interest

The Department’s standard terms and conditions of contract include reference to conflict of interest and require contractors to declare any potential conflict of interest to the Secretary of State.

For research and analysis, conflict of interest is defined 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 a 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 ensue maintain 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 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 contract finder (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 30) 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.

# 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 are provided in the specification.

# Terms and conditions applying to this Invitation to Tender

The Department’s Standard Terms and Conditions of Contract will apply to this contract. These can be downloaded from Contracts Finder.

# 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 7th December 2017. 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 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.

# Checklist of Documents to be Returned

* Proposal (maximum 30 pages)
* Annex A – pricing schedule
* Declaration 1: Statement of non-collusion
* Declaration 2: Form of Tender
* Declaration 3: Conflict of Interest
* Declaration 4: Code of Practice

**Section 2**

**Specification of Requirements**

Invitation to Tender for: Hydrogen Logistics

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# Introduction and summary of requirements

BEIS wishes to commission a research project to understand the logistical requirements associated with transitioning UK domestic properties from natural gas to hydrogen, specifically from the meter and downstream, including the associated costs, timescales and related trade-offs.

# Background

Heat refers to any energy that is used, or might be used, for the purposes of heating or cooling in buildings, including cooking, providing hot water and in industrial processes. The Climate Change Act places a statutory obligation on the UK Government to make an 80% reduction in 1990 greenhouse gas emissions by 2050. Achieving nearly zero carbon heating continues to be identified by government analysis as an important feature of any lowest cost pathway to 2050. Heat currently accounts for ~48% of UK energy consumption and approximately one third of our greenhouse gas emissions. Almost 70% of our heat is currently generated by natural gas[[1]](#footnote-2). 85% of households are connected to the gas grid[[2]](#footnote-3).

The [Clean Growth Strategy](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/651916/BEIS_The_Clean_Growth_online_12.10.17.pdf), published in October 2017, outlines the challenges and opportunities involved in decarbonising heat in buildings and industry. It sets out that there are a range of low carbon heating technologies with the potential to support the scale of change needed. At present, it is not clear which approach will work best at scale and offer the most cost-effective, long term answer.

Converting the gas grid to hydrogen is one potential option for decarbonising the UK’s heat. However, the end to end logistical requirements that would be associated with transitioning the UK’s natural gas grid to hydrogen are not currently well understood.

Previous examples of UK gas transitions include:

* The **town gas to natural gas conversion** which occurred between **1966-1977** involved the conversion of 14 million customers and 40 million appliances plus industrial and commercial customers. From initiation in 1966, by 1969 conversion of over 400,000 domestic dwellings each year was being undertaken with a peak of over 2.3 million per year in 1971/72.[[3]](#footnote-4)
* More recently the **Isle of Man** completed a conversion from LPG/air mixtures to natural gas in **2013**. This cost on average approximately £3,500 per property, including all work both within the property (reported at about £1,200) and in the street (reported at about £2,300 per property).[[4]](#footnote-5)

It is expected that a transition of the gas grid from natural gas to hydrogen would require a large co-ordinated logistical exercise in order to be successful. It is important that BEIS understands more about these logistical requirements, the costs and timescales of such an exercise, including the trade-offs which would impact on costs and timescales, in order to more accurately assess the viability of using hydrogen as an option for decarbonising heat in the UK.

# Aims and Objectives

This project will seek to understand the logistical requirements, costs, and timescales associated with transitioning UK domestic properties from natural gas to hydrogen, specifically from the meter and downstream, including the trade-offs which will impact on those costs and timescales.

“Logistical requirements” will include (but not necessarily limited to):

* Planning for the works/surveying the home
* The training and qualification of engineers to complete the works
* Arranging for access to homes as required to complete the works
* Stopping the flow of gas to the home
* Purging the in-home gas and heating system
* Checking that the pipes downstream of the meter are safe and carrying out any necessary remedial works[[5]](#footnote-6). (The checks referred to here are regarding standard safety checks such as inspecting pipes for leaks and ensuring safe connection to appliances etc. Checks relating specifically to the safe transportation of hydrogen will be out of scope of this project.)
* Provision of kit (meters/sensors)
* Provision of and installation of gas appliances (on a like-for-like basis – it is to be assumed that hydrogen appliances will be available) and ancillary works
* Testing the kit and appliances
* Testing the heating and gas system
* Education (ensuring occupiers understand how to use the equipment safely).

Appliances will be defined as domestic gas boilers, ovens, hobs and fires and ought to include a consideration of any logistical implications of the different appliance variations being considered as part of the hydrogen appliances project currently being undertaken by Frazer-Nash[[6]](#footnote-7) for BEIS: Full replacement, Adaptable, Dual Fuel and Hydrogen Ready.

For the purposes of this project it should be assumed that hydrogen infrastructure is in place upstream of the meter.

Out of Scope of this project:

Logistics required to design, deliver, and co-ordinate the transition of the Gas Distribution and Transmission Networks would be out of scope of this project.

It is also proposed that non-domestic buildings, including industry, and commercial properties will be out of scope of this project.

Questions to be answered by this project:

Outlined below are the questions that we would like contractors to address. The questions indicated here are not intended to be an exhaustive list, and others may come out of the work during the contracting period. Where numerical answers are to be provided in response to these questions, ranges must be provided to illustrate the estimated level of uncertainty and the basis for that range clearly articulated:

1. What practical tasks would need to be undertaken in order to transition UK domestic properties from natural gas to hydrogen from the meter and downstream? [[7]](#footnote-8)
2. What options exist for delivering the tasks identified?
3. How would these tasks be sequenced and co-ordinated?
4. Would opportunities exist to combine this exercise with other works required to improve properties to reduce overall disruption? For example would it be practical for energy efficiency measures to be installed at the same time?
5. How much would it cost and how long would it take to transition a home from the meter and downstream (both in terms of the individual tasks and in total)?
6. How often and how long would access to homes be needed for and what tasks would require access to the home?
7. What skills would be required to deliver the tasks identified and what training/qualifications would be needed to deliver this?
8. What workforce size would be required in order to deliver this?
9. What issues might arise during the first few weeks/ months following the transition and what overhead and training might be required to address these?
10. At what stage would the household’s gas need to be turned off and how long will their gas need to be off for?
11. What are the key drivers behind the cost and timings of a transition? For example would the logistical requirements, costs and timings differ according to the following and if so, what are the differences and why?
    1. Property type (e.g. flats vs houses)
    2. Age of property
    3. Type of Ownership (e.g. freehold vs leasehold)
    4. Type of Occupant (e.g. owner occupied vs rented vs social housing).
12. In practice, what information would need to be understood about the homes being transitioned and the different types of existing gas appliance in the homes before a transition could be completed and how would that information be obtained?

For example, would surveys of the homes and the types of gas appliance contained in each home to be converted need to be completed and what level of detail would be required?

1. What are the different logistical implications associated with the 4 appliance variations being considered as part of hydrogen appliances project currently being undertaken by Frazer-Nash[[8]](#footnote-9) for BEIS: Full replacement, Adaptable, Dual Fuel and Hydrogen Ready?:
   1. What different logistical processes would be required?
   2. Would different training would be required for each variation?
   3. What evidence limitations exist in seeking to answer these questions and how might they be addressed?
2. What risks and barriers would exist and how could they be overcome?
3. What could be done to minimise these risks/barriers? For example what could be done to minimise the disruption of a transition for consumers?
4. What trade-offs and sensitivities would exist? For example:
   1. What factors would influence the cost of a transition?
   2. What could be done to minimise the timescales of a transition?
   3. Would it be cheaper to transition suburbia than city centres?
   4. How would the costs and logistics change depending on different scales and speeds of transition? For example how might the costs and logistics change if 100, 1000, 10,000, 20,000 or 30,000 homes were converted per day and what would be the impacts on the required workforce size?
   5. Would the logistics and costs vary across different parts of the country?
5. What assumptions have been made in conducting this work and in reaching conclusions?
6. What are the data limitations?
7. What evidence gaps exist and how might they be addressed?

# Methodology

Tenderers should set out details of their preferred method(s) for seeking answers to the above questions in their tenders. The methodology proposed must make clear how contractors will deliver new robust evidence and add value to the evidence base.

The contractors will be expected to critically assess and challenge the information they receive as required. Where applicable relevant existing evidence should be interrogated, critically analysed, evaluated and as appropriate used as a basis to build on. If surveys are conducted as part of this project, contractors will be required to complete a BEIS survey control form.

It is expected that contractors would undertake a phased approach to this work by first undertaking a desk-based literature review to identify relevant existing evidence and inform the second phase.

During the second phase it is expected that views would be gathered from industry experts via for example:

* Questionnaires;
* Individual and group meetings with stakeholders;
* Telephone interviews;

Questions must be tailored appropriately to each stakeholder.

Stakeholders might include for example hydrogen experts/engineers, Gas Distribution Network Operators (GDNOs), energy supply companies and individuals with prior experience of the town gas or the Isle of Man transitions. Tenderers should specify in their bids which and how many organisations they intend to approach in each of these categories and which questions they believe each stakeholder will be able to answer. It is expected that contractors will engage with a minimum of 20 different stakeholders.

Once evidence has been gathered, contractors will be expected to present their conclusions to stakeholders to validate their findings.

**Relevant studies**

Whilst there are a number of wider hydrogen studies in existence which consider, for example, what would be needed to develop a hydrogen fired appliance supply chain, the feasibility of converting a town (Leeds) to hydrogen, and wider hydrogen evidence and modelling, none focus specifically on identifying the logistical requirements, costs and timescales associated with transitioning UK homes from natural gas to hydrogen. This is therefore an evidence gap which BEIS are keen to address.

**Existing sources of information which contractors may wish to consider:**

Studies:

* Northern Gas Networks Leeds City Gate H21 report July 2016[[9]](#footnote-10)
* Report for DECC - Desk study on the development of a hydrogen-fired appliance supply chain November 2016[[10]](#footnote-11)

Previous gas transitions:

* Isle of Man conversion from LPG/air mixtures to natural gas in 2013.
* Towns gas to Natural Gas transition 1966-1977.

**Relevant BEIS projects yet to be completed:**

BEIS will share relevant information and evidence with contractors at the start of this project. This will include:

* **Hydrogen evidence and modelling** *(Element Energy (Evidence) and Baringa (Modelling), final output expected November 2017)*: Seeks to improve our capability to assess hydrogen systems including the requirements of different levels of hydrogen demand and the costs, infrastructure implications and coordination requirements of different approaches.
* **Hydrogen Appliances** *(Frazer-Nash, final output expected January 2018)***:** Seeks to appraise different variations in approach to providing hydrogen appliances in UK homes should there be a transition from natural gas to hydrogen.
* **Hydrogen Demonstration Project** (*BEIS-SICE, final output expected March 2021: Project Management Contractor appointed – other contractors yet to be appointed)*:   
  Seeks to build the safety case, downstream of the meter, in preparation for a potential future project involving occupied trials. This project will look at a hydrogen specification, testing existing internal pipework, and developing and testing domestic hydrogen appliances. In addition, commercial and small industrial gas uses will be mapped and some representative hydrogen equipment may also be developed and tested.

**Relevant external projects yet to be completed:**

* **H21 NIC bid proposal[[11]](#footnote-12)** *(Northern Gas Networks, Cadent, Scotland and Southern Gas Networks, Wales and West Utilities, DNV GL, Health and Safety Laboratories):* This project is seeking funding from OFGEM’s Network Innovation Competition. If this bid is successful, this project will seek to provide quantified safety based evidence to confirm whether or not the gas distribution networks of Great Britain are suitable to transport 100% hydrogen.

# Outputs Required

Project Outputs

|  |  |
| --- | --- |
| Outputs | Description |
| Project Plan | Project plan signed off by BEIS, detailing how the contractor will deliver against the project’s milestones. To include key phases of work, weekly activity plan and delivery dates. |
| Governance documents | Quality assurance plan - Plan detailing how the contractor will quality assure their work and ensure robustness of their evidence and analysis.  Risk log - Description of key delivery risks identified at the outset of the project, in a format that can be updated as part of ongoing project monitoring and review, signed off by BEIS.  Progress updates - Written updates on the progress of the project with reference to the project plan, QA plan and risk log – each of which will be updated as necessary in order to capture the state of progress |
| Stakeholder Plan | Description of stakeholders to be engaged in completion of project, the input expected, meeting schedule and eventual outturn. |
| Draft primary research material | Draft versions of any primary research material (e.g. topic guides, surveys) should be shared with BEIS for comment. |
| Summary of any discussions with stakeholders/ industry | A summary of any interviews/engagement with any stakeholders/ industry (this is separate to the appropriate analysis of these that should be fed into the final report) |
| A written report | A report addressing the questions set out above and any others that may come out of the work during the contracting period. Quality assured. This should be an accessible report that is a maximum of 50 pages long with more technical details included as an annex. |

Contractor’s views and proposals will be sought on exactly how to deliver the aims of this project and answer the questions set out above but it is proposed that the final written report might include the following, though the exact format of these outputs will need to be agreed between the contractor and BEIS:

|  |  |
| --- | --- |
| Literature review | This will set out the conclusions of the rapid initial review of data sources across all questions in order to identify sources and conduct initial mapping of evidence against the core questions listed in Section 3 and identify evidence gaps. |
| Logistical requirements | Setting out the answers to the questions in Section 3 above. |
| Sensitivity analysis | Setting out different trade-offs and how the transition logistical requirements, costs and timescales might be impacted as a result. |
| Log of barriers, risks and constraints. | The log ought to contain a description of any barriers, risks and constraints identified as part of this project, their significance, the criteria used to assess them and recommendations for addressing them. |
| A log of key assumptions and data limitations | To ensure that evidence can be used with confidence by officials, assumptions must be recorded in detail in an assumptions log, providing primary data sources, a clear explanation of any data transformations that led to the values given, uncertainty ranges (where possible) and quality ratings for all assumptions. The BEIS assumptions log template and wider quality assurance guidance is available at the following link: <https://www.gov.uk/government/collections/quality-assurance-tools-and-guidance-in-decc> |

# Ownership and Publication

BEIS is committed to openness and transparency. All outputs listed in section 5 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 copy righted materials can be redacted.
2. Data is commercial in confidence.

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

Unless the above exceptions have been stated in a proposal, BEIS will own all the information pertaining to this project. The projects outputs and any other information gathered as part of this project cannot therefore be used by contractors for purposes other than our work.

**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. The contractor is responsible for ensuring that any 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 of restricted data.

# Quality Assurance

The contractor will be required to provide their own quality assurance for this project in line with BEIS’s QA policy for evidence and analysis. This project must comply with the BEIS Code of Practice for Research (Annex B) or if applicable the Code of Practice for Official Statistics[[12]](#footnote-13) and bidders must set out their approach to quality assurance in their response to this ITT, including a QA plan.

All project outputs will also be quality assured by the (BEIS) Analytical Working Group to ensure the findings are robust and in line with BEIS’s QA guidance. The bid should include time to incorporate the comments from the BEIS QA review.

Contractor’s calculations must be assured proportionately using the [BEIS guidance](https://www.gov.uk/government/collections/quality-assurance-tools-and-guidance-in-decc) and contractors must complete a quality assurance log in accordance with this guidance.

The following steps must also be taken to ensure that the project’s outputs are of the appropriate quality:

|  |  |
| --- | --- |
| **Quality measures** | **Actions to ensure quality** |
| On time and within budget | Contractor will need to demonstrate clear understanding of the scope, a clear project plan and meet regularly to demonstrate that the plan is being kept to. |
| Outputs are professional and high quality | The contractor will set out a plan for internal peer review, and will be subject to sign off by senior analytical team in BEIS.  There will be regular opportunities for BEIS subject matter experts to steer the project. An indicative timetable can be found in section 8 below. |
| Information clearly sourced | All information sources must be clearly referenced.  All workings and additional data set out in excel and clearly labelled with working showing. |
| Assumptions are transparent | All assumptions should be clearly indicated in the assumptions log and tested. The BEIS assumptions log template and wider quality assurance guidance is available at the following link: <https://www.gov.uk/government/collections/quality-assurance-tools-and-guidance-in-decc>  Professional judgements should be clearly articulated. |
| Reports in plain English | A 50 page limit will be imposed on the main text to be included in reports; additional information may be provided in annexes. Reports will only be cleared if they are easily comprehendible by a non-technical BEIS staff member. |
| Suitable handling of confidential information | Contractors will be required to set out their data handling protocol as part of the bid. |

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.

All bids must include a completed declaration as set out in the Code of Practice at Annex B and any additional information you wish to submit up to must be a maximum of **1 side of** **A4, font size 10**.  (Links to other documents will not be considered as part of your response e.g. links to published documents online, etc.)

The successful bidder will be responsible for any work supplied by sub-contractors and should therefore provide assurance that all work in the contract is undertaken in accordance with the 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.

For primary research, contractors should be willing to facilitate BEIS research staff to attend any interviews or listen in to telephone surveys as part of the quality assurance process.

# Timetable

An indicative work plan is presented below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Reporting points/deliverables** | **Detail** | **Due date** | **Milestone Payment** |
| Contract commences | Work on the project begins | 15 January 2018 |  |
| Introductory meeting with contractors/ managers | For introductions and to aid with project initiation | w/c 15 January 2018 |  |
| Weekly progress updates | Weekly emails from contractor to BEIS project manager detailing progress for the week, plus phone calls every 2 weeks. | Throughout the project |  |
| Collation of technical evidence and 1st draft report complete | All information and data required to meet the aims of this project has been gathered and pulled together into a draft report and quality assured by contractors. | 2 March 2018 | 20% |
| BEIS complete review of 1st draft report and external QA review. | BEIS complete review of the 1st draft report and quality assure information and data and provide feedback to contractors | 16 March 2018 |  |
| 2nd draft report complete |  | 29 March 2018 | 20% |
| BEIS complete review of 2nd  draft report and external QA review. | BEIS complete review of the 2nd draft report and quality assure information and data and provide feedback to contractors | 6 April 2018 |  |
| Final report presentation | Final report updated in response to BEIS feedback, submitted and presented to BEIS together with anonymised raw data (and completed BEIS survey control form if applicable) | 13 April 2018 |  |
| BEIS sign-off | BEIS conduct a final review and sign off of the report, assuming it meets the required standards. | 20 April 2018 | 60% |

The contract is expected to take 14 weeks. This would mean it would be due to complete by the 20 April 2018.

# Challenges

Key challenges include;

* Added value: It is critical that the methodology proposed makes clear how contractors will deliver new robust evidence and must make innovative proposals to answer the projects key questions. Where applicable relevant existing evidence should be interrogated, critically analysed, evaluated and as appropriate used as a basis to build on.
* Timing: This project feeds into other time critical dependent projects. The successful contractor must have a clear project plan and detail how they will ensure prompt delivery to agreed standards.
* Output quality: As set out above the contractor will be required to provide their own quality assurance for this project in line with BEIS’s QA policy for evidence and analysis and will be required to include a QA plan as part of their Bid.

# Ethics

All applicants will need to identify and propose arrangements for initial scrutiny and on-going monitoring of ethical issues. The appropriate handling of ethical issues is part of the tender assessment exercise and proposals will be evaluated on this as part of the ‘addressing challenges and risks’ criterion.

We expect contractors to adhere to the following GSR Principals:

1. Sound application and conduct of social research methods and appropriate dissemination and utilisation of findings
2. Participation based on valid consent
3. Enabling participation
4. Avoidance of personal harm
5. Non-disclosure of identity and personal information

# Working Arrangements

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

# Skills and experience

BEIS would like you to demonstrate that you have the experience and capabilities to undertake the project.

Your tender response should include a summary of each proposed team members experience and capabilities.

Contractors should propose named members of the project team, and include the tasks and responsibilities of each team member. This should be clearly linked to the work programme, indicating the grade/ seniority of staff and number of days allocated to specific tasks.

Contractors should identify the individual(s) who will be responsible for managing the project and those who will carry out QA.

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 field of hydrogen as well as expertise in conducting primary research.

# Consortium Bids

In the case of a consortium tender, only one submission covering all of the partners is required but consortia are advised to make clear the proposed role that each partner will play in performing the contract 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.

# Budget

The budget for this project is £50,000 - £80,000 excluding VAT.

Contractors should provide a full and detailed breakdown of costs (including options where appropriate). This should include staff (and day rate) allocated to specific tasks.

Cost will be a criterion against which bids which will be assessed.

Payments will be linked to delivery of key milestones as outlined in the Section 8 timetable above. 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.

In submitting full tenders, contractors confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The Department aims to pay all correctly submitted invoices as soon as possible with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

# Evaluation of Tenders

Contractors are invited to submit full tenders of no more than 30 pages, excluding declarations. Tenders will be evaluated by at least three BEIS staff.

BEIS will select the bidder that scores highest against the criteria and weighting listed below:

* **Conflict of interest:** pass/fail. See page 5 of the ITT for further information

**EVALUATION CRITERIA AND SCORING METHODOLOGY**

|  |  |  |
| --- | --- | --- |
| ***Criterion*** | ***Description*** | ***Weighting*** |
| 01  Skills and expertise | Experience/demonstration of relevant skills and supply a strong team of individuals with the capability to fulfil this project’s objectives and required outputs. | 15% |
| 02  Understanding of requirements | Demonstrate clear understanding of the tender requirements | 10% |
| 03  Methodology and adding value | Effective proposed approach to deliver the project’s objectives and to answering key questions. Clear demonstration of the methodology to be used and demonstration of an ability to deliver new robust evidence and add value to the evidence base. | 30% |
| 04  Management and delivery | Effective quality, relevance and breadth of management oversight processes including, project planning, risk management/identification, budget control, effective working arrangements, information handling and quality assurance. | 20% |
| 05  Cost | Price – price will be marked proportionately to the lowest tender please see example below. | 25% |
| TOTAL | | 100% |

**Scoring Method**

Tenders will be scored against each of the criteria above, according to the extent to which they meet the requirements of the tender. The meaning of each score is outlined in the table below.

The total score will be calculated by applying the weighting set against each criterion, outlined above; the maximum number of marks possible will be 100. Should any contractor score 1 in any of the criteria, they will be excluded from the tender competition.

|  |  |
| --- | --- |
| **Score** | **Description** |
| 1 | Not Satisfactory: Proposal contains significant shortcomings and does not meet the required standard |
| 2 | Partially Satisfactory: Proposal partially meets the required standard, with one or more moderate weaknesses or gaps |
| 3 | Satisfactory: Proposal mostly meets the required standard, with one or more minor weaknesses or gaps. |
| 4 | Good: Proposal meets the required standard, with moderate levels of assurance |
| 5 | Excellent: Proposal fully meets the required standard with high levels of assurance |

**Scoring for Pricing Evaluation**

There will be a maximum of 20 marks for the “Price” evaluation.

The lowest priced bid will receive the full 20 marks; all other bids will then be marked as set out below.

Proportionate Pricing scoring example

For example, if 20 marks are available and the cheapest bid is £50,000, then:

|  |  |  |
| --- | --- | --- |
| Supplier | Price | Marks |
| 1 (lowest bid) | £50,000 | 20 |
| 2 | £60,000 | 50/60 \* 20 =16.67 |
| 3 | £75,000 | 50/75 \* 20 =13.33 |

**Structure of Tenders**

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

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

**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.

**Feedback**

Feedback will be given in the unsuccessful letters or emails.

**Section 3**

**Further Information on Tender Procedure**

Invitation to Tender for: Hydrogen Logistics

Tender Reference Number: 1391/11/2017

Deadline for Tender Responses: 16:00 Tues 19th December 2017

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B. [Data security](#_Data_security) 25

C. [Non-Collusion](#_Non-Collusion) 26

# 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, of 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.

# Data security

The successful tenderer must comply with the Data Protection Act (DPA) 1998 and any information collected, processed and transferred on behalf of *The Department*, and in particular personal information, must be held and transferred securely**. Contractors 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 *The Department* 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.

# 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 BEIS. Section 4 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 4**

**Declarations to be submitted by the Tenderer**

Invitation to Tender for: Hydrogen Logistics

Tender Reference Number: 1391/11/2017

Deadline for Tender Responses: 16:00 Tues 19th December 2017

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Declaration 2: Form of Tender 29

Declaration 3: Conflict of Interest 30

# 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:

1. 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;
2. 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;
3. 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 consortia, 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.

**Annex C**

# Declaration 4: Code of Practice[[13]](#footnote-14)

I confirm that I am aware of the requirements of the BEIS Code of Practice[[14]](#footnote-15) 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[[15]](#footnote-16):

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 BEIS 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 BEIS.

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

**Annex A: Pricing Schedule**

**Part A – Staff/project team charges**

|  |  |
| --- | --- |
| Set up Costs – please specify |  |
|  |
| Expenses |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **\*Grade/level of staff** | **Daily rate**  **(ex VAT)** | **No. days offered over course of contract** | **Tasks to be undertaken on this project** | **Total price offered per staff member** |
|  | £ |  |  | £ |
|  | £ |  |  | £ |
|  | £ |  |  | £ |
|  | £ |  |  | £ |
|  | £ |  |  | £ |
| **Sub-total** | | |  | **£** |

[\*Suppliers should also include sub-contractors]

**Part B – Non-staff/project team charges**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **No. of items** | **Price per item**  **(ex VAT)** | **Total price per offered** |
|  |  | £ | £ |
|  |  | £ | £ |
|  |  | £ | £ |
|  |  | £ | £ |
|  |  | £ | £ |
| **Sub-total** | | | **£** |

**Part C – Full price offered**

|  |  |
| --- | --- |
| **Sub-total (Part A + Part B)** | **£** |
| **VAT** | **£** |
| **TOTAL (Sub-total + VAT)** | **£** |

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

**CODE OF PRACTICE FOR RESEARCH**

***Issued by the Department for Business, Energy & 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 BEIS. 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 BEIS 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 BEIS 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, BEIS 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, BEIS can require contractors to conduct planned internal audits although BEIS reserve the right to obtain evidence that a funded project is carried out to the required standard. BEIS 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 BEIS, taking account of the requirements of ethical committees[[16]](#footnote-17) or the terms of project licences, if relevant.

Significant amendments to the plan or milestones must be recorded and approved by BEIS 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.

The authorisation of outputs and publications shall be as agreed by BEIS, and subject to senior approval in BEIS, where appropriate. Errors identified after publication must be notified to BEIS 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 BEIS. 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 trial 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 wok and responsible for ensuring that regular reviews of the records of each researcher are conducted[[17]](#footnote-18)

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 BEIS

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

1. Source BEIS *Energy Consumption in the UK (ECUK) 2016 Table 1.04* [↑](#footnote-ref-2)
2. Source: BEIS *Energy Consumption in the UK (ECUK) 2016* [↑](#footnote-ref-3)
3. Source [Northern Gas Networks H21 Report](https://www.northerngasnetworks.co.uk/wp-content/uploads/2017/04/H21-Report-Interactive-PDF-July-2016.compressed.pdf) [↑](#footnote-ref-4)
4. Source [Northern Gas Networks H21 Report](https://www.northerngasnetworks.co.uk/wp-content/uploads/2017/04/H21-Report-Interactive-PDF-July-2016.compressed.pdf) [↑](#footnote-ref-5)
5. Depending on where the meter is located this may include pipes both in the home and outside. [↑](#footnote-ref-6)
6. [BEIS ITT - Hydrogen Appliances -v2 03May17.docx](https://www.contractsfinder.service.gov.uk/Notice/Attachment/c96c0f95-4713-41b5-8c3b-d1b27994868e) [↑](#footnote-ref-7)
7. Depending on where the meter is located this may include pipes both in the home and outside. [↑](#footnote-ref-8)
8. [BEIS ITT - Hydrogen Appliances -v2 03May17.docx](https://www.contractsfinder.service.gov.uk/Notice/Attachment/c96c0f95-4713-41b5-8c3b-d1b27994868e) [↑](#footnote-ref-9)
9. [Northern Gas Networks Leeds City Gate H21 report](http://www.northerngasnetworks.co.uk/wp-content/uploads/2016/07/H21-Report-Interactive-PDF-July-2016.pdf) July 2016 [↑](#footnote-ref-10)
10. [Report for DECC - Desk study on the development of a hydrogen-fired appliance supply chain November 2016](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/537594/30686_Final_Report_DECC_Hydrogen_appliances_08.07.16.pdf) [↑](#footnote-ref-11)
11. <https://www.northerngasnetworks.co.uk//wp-content/uploads/2017/08/H21-Network-Innovation-Competition-1.pdf> [↑](#footnote-ref-12)
12. http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html [↑](#footnote-ref-13)
13. Please note that this declaration applies to individuals, single organisations and consortia. [↑](#footnote-ref-14)
14. The Code of Practice is attached to this ITT as Annex C [↑](#footnote-ref-15)
15. Please delete as appropriate [↑](#footnote-ref-16)
16. Please note ethical approval does not remove the responsibility of the individual for ethical behaviour. [↑](#footnote-ref-17)
17. Please note that this also applies to projects being undertaken by consortia. [↑](#footnote-ref-18)