



Department for
Business, Energy
& Industrial Strategy

Smart Meter Enabled Thermal Efficiency Ratings (SMETER) Innovation Competition: Phase 2

Application Guidance Notes

August 2019

SMART METER ENABLED THERMAL EFFICIENCY RATINGS (SMETER) Innovation
Competition: Phase 2

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Any enquiries regarding this publication should be sent to us at:
builtenvironmentinnovation@beis.gov.uk

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1 Introduction

This Call for Proposals and Guidance document sets out the context, scope, application process and assessment criteria for the Smart Meter Enabled Thermal Efficiency Ratings (SMETER) Innovation Competition: Phase 2.

This Competition focuses on the evaluation of new tools to measure the thermal efficiency of homes. Its aim is to help consumers, energy suppliers, providers of energy efficiency products and services, and policymakers to save energy, reducing bills and carbon emissions, by providing a better understanding of the energy efficiency of homes. The programme will test and demonstrate tools that can measure the heat transfer coefficient of a home using its energy consumption data plus other data.

The Competition will consist of evaluation of the participant's tool in a field trial which commences in October 2019. A Technical Assessment Contractor (TAC) has been procured by BEIS to oversee the delivery of the field trial and testing of the SMETER tools.

Note: All applications must be received electronically by BEIS by 13th September. See Section 7 (application process) of this document for details of how to apply.

1.1 Context

The Department for Business, Energy and Industrial Strategy (BEIS) works to ensure that the country has secure energy supplies that are reliable, affordable and clean; ensuring that the UK remains at the leading edge of science, research and innovation; and tackling climate change.

1.1.1 The Clean Growth Strategy

The overarching driver for this programme of work is the Clean Growth Strategy¹. It sets out the Government's plans to grow the economy while reducing greenhouse gas emissions in the UK. Of the total UK emissions, 13% comes from energy consumed in our homes. A key part of this strategy is how to further reduce emissions from homes while ensuring that everyone has a home that is comfortable, healthy and affordable to run.

In the Clean Growth Strategy, the Government committed to the following proposals:

- Support around £3.6 billion of investment to upgrade around a million homes through the Energy Company Obligation (ECO), and extend support for home energy efficiency improvements until 2028 at the current level of ECO funding
- Help to upgrade all fuel poor homes to Energy Performance Certificate (EPC) Band C by 2030 and our aspiration is for as many homes as possible to be EPC Band C by 2035 where practical, cost-effective and affordable
- Develop a long-term trajectory to improve the energy performance standards of privately rented homes, with the aim of upgrading as many as possible to EPC Band C by 2030 where practical, cost-effective and affordable
- Consult on how social housing can meet similar standards over this period
- Following the outcome of the independent review of Building Regulations and fire safety, consult on strengthening energy performance standards for new and existing homes under Building Regulations
- Offer all households the opportunity to have a smart meter to help them save energy by the end of 2020

¹ <https://www.gov.uk/government/publications/clean-growth-strategy>

In addition to these commitments, as part of the Clean Growth Grand Challenge the Prime Minister announced the Buildings Mission which aims to at least halve the energy use of new buildings by 2030².

By making our buildings more energy efficient and embracing smart technologies, we can cut household energy bills, reduce demand for energy, and boost economic growth while meeting our targets for carbon reduction.

1.1.2 The Standard Assessment Procedure

Many of the policies to reduce future emissions and energy consumption in homes and help deliver the Clean Growth Strategy and Buildings Mission, are based on having an understanding of the energy performance of homes.

The Standard Assessment Procedure (SAP) is the principal methodology used by the Government to compare and assess the energy performance of dwellings. For existing homes, the required inputs for SAP are not always readily available so a reduced data version, RdSAP, has been developed that infers inputs that are hard to obtain (e.g. thermal properties) based on a site survey of the property.

The primary purpose of SAP³ is to assess compliance with Part L of the Building Regulations⁴, but many other policies are now dependent on SAP. In recent years, BEIS and the Ministry for Housing, Communities and Local Government (MHCLG) have extended the use of SAP to serve other purposes, in particular to calculate the Energy Efficiency Rating presented on home Energy Performance Certificates (EPCs) and to calculate annual energy and bill savings for efficiency measures on EPCs themselves, for the Energy Company Obligation (ECO 'deemed scores'), and in Green Deal Assessment Reports. In turn, EPCs support the operation of the Energy Savings Advice Service (ESAS), and EPC ratings underpin Private Rented Sector regulations and are made available to inform the decision-making of homebuyers, renters, and the financial services sector (which has a stake in home energy efficiency metrics as the basis for designing and

² <https://www.gov.uk/government/speeches/pm-speech-on-science-and-modern-industrialstrategy-21-may-2018>

³ In general, references to SAP include the use of RdSAP. Once dwelling characteristics have been inferred from the RdSAP inputs, the process for calculating the energy performance is identical for SAP and RdSAP. RdSAP is only referred to in the text where it is relevant to specify the method of data input for the SAP calculation.

⁴ <https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>

informing lending decisions on 'green' financial products such as mortgages and home improvement loans).

SAP calculations start by calculating the heat transfer coefficient (HTC) of a home based on its physical and thermal characteristics. This intermediate calculation result – HTC – is a fundamental measure of the thermal performance of the building envelope covering all forms of heat transfer between the inside and outside of the home. Given the HTC, SAP then calculates annual electricity and heating fuel demands based on the efficiency of building services, and standardised assumptions about climate, the number of occupants, and how they use energy in the home⁵.

In practice, evidence shows that there are frequently differences between the SAP inputs and the actual construction of a home. For new homes, there are multiple causes for such difference across the housebuilding process - the most comprehensive review has been undertaken by the Zero Carbon Hub⁶. For existing homes, RdSAP infers thermal properties from inputs such as dwelling type and age collected by way of a survey and, for example, BEIS research⁷ has demonstrated variability in the survey data collected through repeat surveys of the same property. The quality of the inputs impacts on the accuracy of the HTC calculation and further calculations.

1.1.3 Moving from a Modelled to a Measured Approach

An improvement to SAP would be to more accurately measure and input the HTC rather than calculating it within SAP. The best currently available and proven measurement option, the co-heating test⁸, is costly and requires homes to be unoccupied for around two weeks meaning this cannot be used as a widespread method for assessing the thermal performance of homes. As such there is great interest in alternative options for measuring the thermal performance of homes in situ while they are occupied. One such option is to use smart meter data plus other data such as temperature to calculate the HTC.

⁵ https://www.bre.co.uk/filelibrary/SAP/2012/SAP-2012_9-92.pdf

⁶ Zero Carbon Hub. 2014. Performance Gap

⁷ DECC 2014. Green Deal Assessment Mystery Shopping Research.

⁸ The co-heating test is an experimental method of determining a building's overall heat transfer coefficient (HTC) due to conductive and ventilation heat losses.

1.1.4 The Smart Metering Implementation Programme

The Government is committed to ensuring that every home and business in the country is offered a smart meter by the end of 2020. At the end of March 2018, there were over 11 million smart and advanced meters operating across homes and businesses in Great Britain.

The smart meter roll-out provides an opportunity to develop new technologies using household specific consumption data from smart meters, combined with other data, for assessing the thermal performance of homes. The smart meter ecosystem, with data available via the Data Communications Company (DCC) or a Consumer Access Device CADs, means that for the first time businesses, with the consumer's consent, can access recent household energy data to provide related services and products. More information on options for accessing smart meter data is outlined in 'Smart Meters, Smart Data, Smart Growth'⁹.

Recognising this potential, BEIS made a commitment in the Clean Growth Strategy to "explore measuring actual building performance using data from smart meters" which is a key driver for this programme. A second accompanying Clean Growth Strategy (CGS) commitment is to "explore how the data available through the national smart metering platform can, with customers' consent, support personalised recommendations for saving energy, more targeted policy interventions and help businesses develop energy saving offers".

1.2 Smart Meter Enabled Thermal Efficiency Rating (SMETER) Products

BEIS undertook a significant review to understand the market potential to develop and commercially deploy methods for measuring the thermal performance of homes using smart meter data. The review highlighted a significant market potential to develop such methods which could use smart meter and weather data, and potentially other measurements (e.g. indoor temperature and home survey data). These products have been collectively termed 'Smart Meter Enabled Thermal Efficiency Rating' (SMETER)

⁹ Smart Meters, Smart Data, Smart Growth.

<https://www.gov.uk/government/publications/smart-meters-smart-data-smart-growth>

products. The thermal performance measurement provided by a SMETER (i.e. the HTC) could be fed back into SAP to enable a more accurate assessment of annual building energy performance for policy use.

1.2.1 Expected Benefits of SMETER Products

Providing a better assessment of the thermal performance of homes using SMETER products could benefit a wide range of stakeholders, from consumers, to policymakers. Ultimately these could lead to the reduction of energy used in homes and reduce carbon emissions.

SMETER could deliver the following benefits:

- More accurate and reliable energy efficiency ratings, and advice better tailored to specific properties. This leads to more trust/confidence in energy efficiency metrics and related policies.
- Increased uptake of energy efficiency products
- Larger bill savings for the consumer
- Larger carbon savings
- Drive innovation to improve performance of building fabric energy efficiency measures.

These benefits could help improve the execution of or inform the improvement of key energy efficiency policies and services, including ¹⁰:

- Energy Company Obligation (ECO)
- Private Rental Sector Regulations
- Social Rental Sector improvements
- Fuel Poverty
- Energy Savings Advice Service (ESAS)
- Smart Meter Implementation Programme (SMIP)
- Part L of the Building Regulations
- Future Homes Standard

¹⁰ BEIS and MHCLG are currently considering ways in which the use of Energy Performance Certificates could be improved. In July 2018 the two departments launched a Call for Evidence on EPCs which closed on October 2018. One possibility described in the Call for Evidence is that smart meter and other building data could be used to improve the accuracy of the EPC rating which is an output of the SAP calculation e.g. through the HTC generated by a SMETER.

SMETER products could also deliver benefits to the following non-government stakeholders:

- **Homeowners and occupants:** Having a better understanding of the thermal performance of their homes will make them more informed customers for energy efficiency products, leading to greater energy bill savings and improved thermal comfort.
- **Green Mortgage / Finance Providers:** An increase in energy efficiency metrics will boost confidence to invest in energy efficiency related financial products
- **Commercial businesses:** Businesses could better demonstrate performance and provide guarantees for energy efficiency products or provide new commercial offerings e.g. energy advice services, and green financing.

Learning from the outcomes of this competition can also inform options for measuring the performance of non-domestic buildings for which there is currently a significant information gap.

SMETER products could also help Government to achieve some of its ambitions set out in the Construction Sector Deal¹¹ between industry and Government:

- Digital techniques deployed at all phases of design will deliver better, more certain results during the construction and operation of buildings. This will contribute to the improvement of safety, quality and productivity during construction, optimising performance during the life of the building.
- Whole life asset performance will shift focus from the costs of construction to the costs of a building across its life cycle, particularly its use of energy.

1.3 Aims and Objectives of the SMETER Programme

The overall aim of the SMETER programme is to develop and demonstrate methods to robustly assess the thermal performance of dwellings that are suitable for policy applications. It is focussed on methods to measure the heat transfer coefficient (HTC) of homes, and therefore integrate with SAP (including RdSAP) which underpins many existing policies. The programme objectives are discussed below.

1.3.1 Objectives of the SMETER Programme are:

The objectives of the SMETER programme are to:

¹¹ <https://www.gov.uk/government/publications/construction-sector-deal>

1. Accelerate development of SMETERs to the point that they are close to market readiness
2. Develop SMETERs that:
 - a. Have an improved accuracy compared to the current application of SAP and RdSAP
 - b. Are value-for-money for policy application
 - c. Are acceptable to households
3. Test and demonstrate SMETERs to provide BEIS with the confidence that they meet these objectives

These objectives will be delivered through two components:

- Phase 1: A previously tendered Innovation Competition to develop, test and demonstrate SMETER products (Phase 1 Development and Testing Programme)
- Phase 2: This Competition to test and demonstrate “off the shelf” SMETER products (i.e. which require no development activity).

1.3.2 Objectives of the Innovation Competition: Phase 2

The Phase 2 Testing Programme has been launched to test SMETER products that are at a commercial stage of development and meet programme objectives.

To meet these objectives, we expect participants to:

1. Provide SMETERs for testing that:
 - a. Have an improved accuracy of assessing the thermal performance of homes compared to current application of SAP and RdSAP
 - b. Provide value-for-money to implement for a specific policy application
 - c. Are acceptable to households
2. Provide SMETERs that are ready to be trialled in real homes from the start of October 2019.
3. Work with the Technical Assessment Contractor to support the testing of their SMETER.

1.3.3 Objectives of the Technical Assessment Contractor (TAC)

The Competition provides an opportunity for BEIS to assess the performance of SMETERs and to understand how they can be deployed and scaled-up through commercialisation. BEIS has procured a Technical Assessment Contractor to assess the performance of SMETERs.

The Technical Assessment Contractor (TAC) will support the testing and demonstration of SMETERs to provide BEIS with the confidence that they meet the programme objectives.

The primary objectives of the TAC are to:

1. Independently test and validate SMETERs and report back to BEIS on their performance.
2. Assess and report on the user acceptability of SMETERs related to the impacts of deployment (installation, any ongoing maintenance, fault resolution, and uninstallation).
3. Deploy the SMETERs for the field trials:
 - a. recruiting an appropriate mix of homes to take part in field trials; and
 - b. ensuring adequate and safe deployment of SMETERs, and their effective operation through a field trial, respecting the privacy and practical needs of participating households and the intellectual property-related confidentiality expectations of participants.
4. Provide a robust evaluation of to what extent, and how, the programme has achieved its objectives and longer-term desired outcomes. This will be achieved by collecting independent evidence from participants and stakeholders.
5. Make recommendations to BEIS at the end of the programme on the suitability of SMETERs for future policy use.

These objectives are to be achieved through working collaboratively with the participants while maintaining objectivity. Details of this are described in section 3.

2 Call Scope

This call will support proposals that can test and demonstrate the performance of existing SMETER products in real homes within the scope set out in the sections below.

2.1 Technical Scope

BEIS plans to support up to 2 companies to demonstrate their SMETER methods. It is expected that each project will adopt, to some degree, a different approach to determine the thermal performance of a home. Although all participants in the previously tendered SMETER Innovation Competition chose to make use of smart meter data, we appreciate that alternative approaches may have different merits which can be evaluated during this project and the programme is intended to have a relatively broad scope to encourage innovative ideas. Hence, no preference is being given in this tender to the use or not of smart meter data.

The scope of the testing programme is divided into 'essential' and 'desirable' outcomes.

'Essential' outcomes include:

- Measure the whole-house heat transfer coefficient (HTC) of homes with gas as their primary heating fuel
- Provide a more accurate (true and precise) calculation of HTC than from using the Standard Assessment Procedure (SAP)

'Desirable' outcomes include:

- Be sufficiently accurate to measure the effect of installed fabric energy efficiency measures
- Measure the whole-house heat transfer coefficient (HTC) of homes that use other main heating fuels (e.g. electricity).
- Additional capability to robustly measure other aspects of home energy performance and produce other performance metrics of value.

SMETER products may include measurement equipment to be installed in households and make use of additional data that is currently (or is expected to become) legally accessible ('big data'). Participants must be able to demonstrate their product in test homes as part of the programme.

2.2 Technology Readiness Levels

BEIS would take on products at Technology Readiness Levels (TRLs) between 8 and 9, with SMETER products at a commercial stage of development. Further information on TRLs can be found at Annex 1 – Technology Readiness Levels (TRLs).

2.3 Funding Scope

No funding is available as part of the Innovation Competition: Phase 2.

2.4 Geographic Scope

All installs of SMETER technologies will be in houses in Great Britain and the processing of data from the SMETERs devices must take place in the UK or EU.

3 Activities and timescales

3.1 Summary of Activities

The successful applicants' SMETERs will be evaluated through a field trial. A Technical Assessment Contractor (TAC) has been contracted to work alongside the participants to independently assess the performance of participants' SMETERs in comparison with BEIS's objectives. The TAC is led by Loughborough University and includes Leeds Beckett University, University College London and Halton Housing.

The participants and the TAC will have the following complementary roles:

- Innovation Competition Participants – Each Competition Participant will: train the TAC on the effective deployment and operation of their SMETER for installation in the field trial homes, provide SMETERs for field trial tests, remotely access data from their deployed SMETER, analyse and report on the results of the testing, and provide details of roll-out plans.
- Technical Assessment Contractor – The TAC will deliver all on-site activities to enable the field trialling of participants' SMETERs including recruiting the field trial homes, installing SMETERs and maintaining them as and where required, undertaking co-heating tests, surveying homes, and administering the testing of SMETER accuracy and household acceptability.

An outline of the research design is presented in the table below. There are four steps to be undertaken. The respective roles of participants and the TAC at each step of the testing programme are summarised. The TAC and participants will be expected to develop a strong collaborative approach.

Step	Activity	Time-table	Roles	
			TAC	Participants
1	Suitability of installation	Sept – Oct 2019	Observe SMETER deployment and assess installation impact in representative setting.	<p>Deploy SMETERs – provide demonstration and training on install to TAC</p> <p>Demonstrate that SMETERs meet relevant standards for installation in homes</p>
2	Blind test of SMETER technologies	Oct 2019 – Nov 2020	Physical survey, install SMETERs, co-heating test (to produce reference HTC), evaluate SMETER results vs. HTC	Remotely monitor SMETERs and support TAC on-site activities. Produce SMETER-measured HTCs & provide results plus measured input data to TAC
3	Blind test of SMETER algorithms	Oct 2019 – Nov 2020	Physical survey, install SMETERs, co-heating test (to produce reference HTC), measure reference input data for SMETER algorithms, evaluate SMETER results vs. HTC	Calculate SMETER HTCs from reference input data & provide results to TAC
4	User acceptability testing	Oct 2019 – Nov 2020	Interviews with each household, assess feedback	Nothing
Final reporting		Jan '21	Report to BEIS on performance assessment of participants' SMETER device	Report to BEIS on experience of programme

3.2 Field Trial

There is a need to ensure that any on-site equipment required as part of participants' SMETER deployments is safely and adequately installed, that any problems with on-site equipment are fixed quickly, that the privacy of households is respected and disruption minimised, in particular that there is strict compliance with applicable data privacy legislation and the Smart Meter Data Access and Privacy Framework, and that the intellectual property interests of participants are protected. Experience from other field trials suggests that the best way to ensure these outcomes is to centralise responsibility for on-site activities and for a single party to undertake activities at any given site. As such the TAC will undertake all on-site activities for the field trial, participants will not visit field trial homes, and the TAC will anonymise survey data etc before sharing it with participants.

The expectation is that the field trial will assess up to 10 different SMETER technologies; 8 technologies from the previously tendered SMETER Innovation Competition and an additional 2 from this Competition. Each SMETER participant will provide the technologies for this trial. If the participant needs to remotely access data from their SMETER, then it is assumed that the SMETER participant will provide the necessary hardware e.g. the SMETER participant cannot utilise the resident's WIFI router.

In total, the field trial will comprise 45 occupied homes, supplied by Halton Housing. Each home will be selected from a list of new build and void properties. A sample that covers the range of thermal performance of the housing stock will be selected to obtain sets of new-build, poor thermal efficiency and UK average thermal efficiency. Each home will be prepared for occupancy (routine maintenance).

- 30 of the homes will have a co-heating test (while unoccupied), a full physical survey and TAC monitoring equipment installed. All homes will be let to a Halton Housing customer immediately afterwards. One or more different SMETER products will be installed in each of these homes. Care will be taken to install each SMETER product in a range of homes of different thermal efficiencies to evaluate its performance.
- An additional 15 homes with no co-heating test will increase the sample for user acceptability evaluation only. One or more different SMETER products will be installed in each of these homes.

We expect that each SMETER participant's product will be installed in a maximum of 10 homes i.e. the SMETER participant will need to provide up to 10 sets of equipment - the final number is to be confirmed. The exact number of homes each SMETER will be installed in will be agreed ahead of the field trial.

The TAC monitoring equipment that is to be installed in 30 homes (in addition to the SMETER) will include smart meters plus air temperature (accuracy $\pm 0.2^{\circ}\text{C}$) and relative humidity (accuracy $\pm 2\%$) sensors in each room. The physical survey will be equivalent to that used for an EPC and will include a dimensioned floorplan and photographs. There will also be a thermographic survey. The co-heating test will be complemented by measurements of airtightness by the blower door method. Heat flux measurements during

the co-heating test will be used to account for potential party wall bypasses, heat flow to adjoining dwellings and net heat losses to the thermal mass of the floor slab.

Halton Housing will let the home in their usual way. The number of SMETER products in each home will depend on their intrusiveness and any potential conflict between SMETERs e.g. it may not be possible to connect more than one to a smart meter and it will mitigate against any data transmission issues.

Throughout the field trial Halton Housing will support the households. Any maintenance of the SMETER and accompanying monitoring equipment will be carried out by Halton Housing. They will collect all the data from their monitoring equipment anonymise it and share it with Loughborough University. During the field trial, only Loughborough University will be able to cross-reference the co-heating test results with the anonymised house ID numbers and this information will be stored securely. Participants will be provided with a partial postcode to provide the geographical area while keeping the exact home and occupants anonymous; this information may be used to access, for example, local weather data if required.

BEIS is looking to evaluate SMETER technologies across a range of characteristics. This will include accuracy, time taken to measure the HTC, amount of information required about the dwelling, cost, invasiveness etc. This is to understand the performance of current SMETERs. Different policies may prioritise different characteristics.

In terms of data protection and privacy, participants must be able to meet all applicable legislation and regulations including the Data Protection Act, General Data Protection Regulation, and, where applicable, the Smart Meter Data Access and Privacy Framework. Though the TAC is expected to take primary responsibility in relation to field trial households.

1. Suitability of installation

Suitability for installing in a home will be judged as meeting relevant standards and being acceptable to households. Participants must demonstrate that:

- all data collected during the field trial will be done so in full compliance with the Data Protection Act 2018;
- any SMETER device that requires installation in a home must be shown to meet all relevant UK and EU standards, including those related to electrical and gas safety; and
- the installation of a SMETER device should not cause undue disruption to a household nor should it unduly damage the fabric of the house or its decoration.

This evaluation will be undertaken by the TAC project team. It will be based on documentation supplied by the participants, including what was proposed in the tender, and observation of the pilot installation of each SMETER in a test house as below.

Participants will be required to install their SMETER product in one of the TAC's Test Houses. The installations will be videoed for the record. The installation contractors that will be used in the field trial will attend to understand the installation process and to identify

any potential problems and look to agree with the participants how to address. An assessment of the invasiveness of the SMETER product will be made based on the number of sensors, the required location of those sensors and the length of time that the installation requires. It is possible that the SMETER product will be judged too invasive for the field trial.

2. Blind field test of SMETER technologies (up to 10 homes with co-heating test)

This test will evaluate the speed, accuracy, stability and repeatability of the SMETERs in the homes where the equipment is installed. This test will account of both: (i) the calculation algorithm and (ii) the deployment (including installation, measurement equipment, and communications) which provides the data required by the algorithm. Deficiencies in either component could impact on the SMETER performance, so it is important to test both of these components in a controlled way to ensure that the overall SMETER implementation works as expected.

Each of the SMETER Participants will be required to report the HTC of the homes where their product is installed to Loughborough University on a timescale commensurate with the algorithms they use. Some SMETERs may provide repeated estimations of the HTC after only a short time, whilst other may require longer period. The speed, accuracy, stability and repeatability of each will be analysed for presentation to BEIS.

The results will be compared with the following, taking the uncertainty in each value into account:

- The TAC's result of the co-heating test. This is based on the *building heat transfer coefficient* described in BS EN ISO 13789:2017 *Thermal performance of buildings - Transmission and ventilation heat transfer coefficients - Calculation method*. This is the principal comparison. To ensure consistency with this definition of HTC, the 'traditional' co-heating test methodology has been modified: the designed ventilation openings (e.g. extract fan openings, air bricks, flues, fireplaces, trickle vents, passive vents) will not be sealed in the usual way and therefore will better represent the home in its lived-in condition.
- The TAC's determination of the heat transfer coefficient calculated using the SAP methodology.

3. Blind test of SMETER algorithms using monitored data (30 homes with co-heating test)

This test uses the TAC monitored data collected from all 30 field trial homes that have had a co-heating test to provide an additional test of the SMETER algorithms only i.e. SMETERs can be tested using data from all of the homes despite only being installed in a sub-set. The participant will make a blind prediction to the TAC of the HTC in homes where their SMETER was not installed by using their SMETER algorithm based on the TAC monitored data. The TAC monitored data (e.g. gas demand, electricity demand and room air temperatures) and physical survey data will be shared with the participants where it is a required input into their SMETER algorithm. As with Step 2, the TAC will compare these results with those of the co-heating test and the HTC calculated using the SAP

methodology. The SMETER participants will be expected to report the uncertainty in each measurement of HTC and the number of days of data that were used in the calculation.

4. User acceptability evaluation (up to 10 homes)

This test will identify how intrusive the SMETERs are when they are installed and working in homes. Each household will be interviewed to understand their perception of its invasiveness. They will also be asked about their ideas for how it could be improved and any changes they have made because of using it.

3.3 Outputs

Information to and engagement with the Technical Assessment Contractor (TAC)

1. Supply equipment for field trials, update installation protocols and conduct training on the deployment of their SMETER.
2. Provide data collected from SMETERs deployed in the field trial.
3. Return SMETER HTC results (including uncertainty estimates) for the two sets of blind tests (Steps 2 and 3).

Reporting to BEIS

4. Quarterly reports and meetings to discuss project progress against milestones
5. A final report and presentation to BEIS. It is envisaged this report will include:
 - a. Final testing results;
 - b. Field trial summary and associated learning; and
 - c. Outline plans for SMETER roll-out. BEIS wishes to understand the intended customer market and roll-out plans as this will impact on the potential use of SMETERs for policy application.

Further details on expected report content and the process for BEIS to provide comments and agree changes to reports would be agreed prior to commencement of this work.

3.4 Summary of key dates

Milestone	Planned Completion Date
Start Date	September 2019
Confirm suitability for installation	September 2019 – October 2019
Installation of SMETERs in field trial homes	October 2019 – January 2020
Provision of HTC results from blind tests	November 2019 - December 2020
Final reporting and project end date	January 2021

4 Deliverables

Projects will be required to deliver a summary report containing a detailed description of outputs detailed in section 3.3 and any learning from the project.

Additional information: Alongside the report, participants will need to deliver fully accessible copies of any other relevant documentation or outputs used in delivery of the project, with appropriate explanations of the analysis undertaken and raw data used.

BEIS will supply guidance for report writing prior to the commencement of the programme.

5 Support available

BEIS will provide no funding to participants who take part in this programme. Participants will benefit in kind through participation in the field trials and receive results on accuracy and user acceptability of their SMETER product based on the evaluation by the Technical Assessment Contractor who is commissioned and paid for by BEIS.

BEIS intends to sign bespoke agreements with the two highest-scoring eligible proposals.

Note: Nothing in this call requires BEIS to award any applicant an agreement on any particular terms. BEIS reserves the right not to award any agreements, in particular if BEIS is not satisfied by the proposals received. BEIS will not, under any circumstances, make any contribution to the costs of preparing proposals and applicants accept the risk that they may not be awarded an agreement.

6 Competition process

Bespoke agreements will be awarded on a competitive basis to the two highest quality, eligible proposals that address the challenges set out in this guidance.

The Competition will proceed along the following timelines.

Milestone	Planned Completion Date
Competition launch	w/c 19 th August
Deadline for Expressions of Interest	30 th August
Deadline for Questions to be submitted	4 th September
Deadline for submission of proposals	13 th September
Project selection and contracts awarded	w/c 23 rd September
Observation of SMETER Installation	September - October 2019
Field trials commence	October 2019

Projects will be assessed against defined criteria as set out in section 9.

Projects will run for a total of 2 years, from Sept 2019 – Jan 2021 and all development, data collection and reporting must be completed within this timeframe.

7 Application Process

The call for applications opened in w/c 19th August. Applicants are asked to complete a standard application form detailing their proposed technologies.

The deadline for applications is 13th September

Applications will be assessed against the evaluation criteria detailed in section 9. Projects will be selected for a place in the programme based on their position in a ranked list and ability to pass Criterion 1 on SMETER readiness. Up to 2 projects will be accepted into the SMETER Innovation Competition: Phase 2.

Contracts are expected to be granted by 27th September. Feedback to Applicants will be provided on request after contracts have been awarded. BEIS's decision on project selection is final.

The application form can be found alongside this document at <https://www.gov.uk/guidance/innovations-in-the-built-environment>

Completed application forms should be submitted electronically in pdf format and emailed to builtenvironmentinnovation@beis.gov.uk with '**SMETER Innovation Competition: Phase 2**' in the subject line. If your application is larger than the file size limit on the email, please break the submission down into smaller sizes and ensure the subject line of each additional email takes the following format '**SMETER Innovation Competition: Phase 2 – email x of y**'

You should endeavour to answer all the questions on the application in full. Incomplete applications and any containing incorrect or false information will very likely be rejected although BEIS may, at its discretion, request clarification or additional data before making a final decision.

All answers should be contained within the application form. Any appendices that support the answers in the application form must be appended to the end of the form. The application form must list all appendices and supporting documents.

Any applications or supporting documentation received after the application deadline will not be considered.

8 Eligibility Criteria

Proposals will be assessed for eligibility prior to proceeding to full evaluation.

Eligible proposals must:

1. Address the call scope (see section 2);
2. Be at a commercial stage of development (see section 2, Call Scope);
3. Be led by a single organisation

9 Evaluation of Proposals

Proposals will be assessed against the criteria described in section 9.1. These relate to the questions set out in the application form and responses must be clear and provide sufficient evidence of how the applicant will meet the required criteria. The scoring method is described in section 9.2.

9.1 Evaluation Criteria

Criterion 1	SMETER Readiness
Weighting	Pass/Fail
Description	<p>Demonstrate that your SMETER has been suitably developed and is ready for the Innovation Competition: Phase 2.</p> <ul style="list-style-type: none"> Describe your proposed solution to determine the HTC in homes Define the current TRL of your solution (see Annex 1) Justify that your solution is at this TRL. Describe the development activities undertaken to get to this TRL level. Confirm that your solution can measure the HTC of homes that use gas as their main heating fuel.

Criterion 2	SMETER Accuracy
Weighting	40%
Description	<p>Demonstrate that your SMETER has sufficient accuracy to be suitable for this programme.</p> <ul style="list-style-type: none"> Specify the accuracy of the HTC measurement for gas heated homes from your SMETER (e.g. a 95% confidence interval or another common measure of accuracy). Detail how you have derived this accuracy value. This should include any supporting evidence (e.g. details of prior trials) to demonstrate the robustness of your estimate.

Criterion 3	SMETER Installation and Operation
Weighting	20%
Description	<p>Demonstrate that your SMETER is suitable for installation and operation in a home. In particular, demonstrate that:</p> <ul style="list-style-type: none"> all data collected during the field trial will be done so in full compliance with the Data Protection Act 2018; the installation of your SMETER device in a home meets all relevant UK and EU standards, including those related to electrical and gas safety; and the installation of your SMETER device in a home will not cause undue

	disruption to a household (either during installation or operation) nor will it unduly damage the fabric of the house or its decoration.
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Criterion 4	Value-For-Money
Weighting	20%
Description	<p>Demonstrate that your SMETER is value-for-money.</p> <ul style="list-style-type: none"> • Which Government policies do you consider that your SMETER product would help support? How would it help support these policies? • What is the cost to deploy your SMETER for each such policy?

Criterion 5	Project Delivery
Weighting	20%
Description	<p>Demonstrate that you can deliver the activities and milestones detailed in section 3.</p> <ul style="list-style-type: none"> • Confirm that you can provide your SMETER products in the timeframe required. Assume that BEIS will require 10 products for the field trial; at least five of the products will be required at the start of October 2019 and the remaining products at the start of November 2019. • Identify the team that will deliver this project and demonstrate that they have the relevant skills and expertise.

9.2 Criteria Scoring Method

Criterion 1 above is a pass/fail criterion. Each tender must pass this criterion in order to be eligible for participation.

Tenders will be scored against each of Criteria 2 to 5 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. Projects must score a minimum of 2 for each criterion in order to be eligible for participation.

The total score will be calculated by applying the weighting set against Criteria 2 to 5 above; the maximum number of marks possible will be 100. Projects must score a minimum of 60% (based on total score) in order to be eligible for participation.

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

9.3 Selection of Successful Applications

BEIS expects to award contracts to the highest-ranking eligible proposals, which achieve a minimum pass mark of 60%.

10 Further information

10.1 Publication of results

In return for provision of non-financial support during demonstration and testing activities, BEIS expects to be able to use and share the results and outputs of this work with other Government Departments, industry and other stakeholders to further understanding and progress technology development and deployment.

Following completion of the project, BEIS will publish on its website a summary of the activities and the outcomes achieved. This will include details of the technical approach, key performance achievements and recommendations. BEIS may also revisit the project at a later date and publish further research and/or evaluation reports.

BEIS however recognises the need to maintain confidentiality of commercially sensitive information. BEIS will consult applicants regarding the nature of information to be published, in order to protect commercially sensitive information.

10.2 Project Reporting

There will be a number of requirements on participants during the course of the project. These are described in more detail in section 3, but for clarity, these will at a minimum include:

Reporting: in order to track project progress. This reporting will be in confidence to BEIS and will not be published. Any changes to schedules or project plans will need to be discussed with BEIS and Applicants should expect significant interaction with the team during the project.

10.3 Ownership of Demonstration Devices

Participants will retain responsibility and ownership for the technologies and related equipment developed and used during the delivery of the contracts.

The TAC will install and maintain equipment that is installed in field trial homes, and subsequently remove the equipment at the end of the field trials and return it to the Participant. However, it is the responsibility of the Participants to instruct the TAC how to do this and to provide any required replacement equipment during the project.

10.4 Intellectual Property Rights

The contract details Arising Intellectual Property Rights generated through this project. It is important to note that BEIS does not wish to own or license Intellectual Property Rights for the SMETER hardware or software for any wider purpose outside of the immediate Project. It only requires the use of any Intellectual Property Rights to the extent necessary to be able to deliver the project (for example, the use of the SMETER Products themselves or the use of any fixes or patches or adaptations to the SMETER Product provided to the Authority and/or the Technical Assessment Contractor to ensure that the SMETER Product continues to function) as well as to use the learning from this work to support policy development. Please contact builtenvironmentinnovation@beis.gov.uk if you have any questions on this.

Annex 1 – Technology Readiness Levels (TRLs)

Technology readiness levels are an indication of the maturity stage of development of particular technology on its way to being developed for a particular application or product. Below are some broad definitions of the TRLs Research.

TRL 1 – Basic Research	Scientific research begins to be translated into applied research and development.
TRL 2 – Applied Research	Basic physical principles are observed, practical applications of those characteristics can be 'invented' or identified. At this level, the application is still speculative: there is not experimental proof or detailed analysis to support the conjecture
Applied research and development	
TRL 3 – Critical Function or Proof of Concept Established	Active research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.
TRL 4 – Laboratory Testing/Validation of Component(s)/Process(es)	Basic technological components are integrated - Basic technological components are integrated to establish that the pieces will work together.
TRL 5 – Laboratory Testing of Integrated/Semi-Integrated System	The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment.
Demonstration	
TRL 6 – Prototype System Verified	Representative model or prototype system, is tested in a relevant environment.
TRL 7 – Integrated Pilot System Demonstrated	Prototype near or at planned operational system, requiring demonstration of an actual system prototype in an operational environment.
Pre-commercial deployment	
TRL 8 – System Incorporated in Commercial Design	Technology is proven to work - Actual technology completed and qualified through test and demonstration.
TRL 9 – System Proven and Ready for Full Commercial Deployment	Actual application of technology is in its final form - Technology proven through successful operations.

Annex 2 – Contract Terms & Conditions

BEIS TERMS AND CONDITIONS OF CONTRACT FOR SERVICES

TITLE: Smart Meter Enabled Thermal Efficiency Ratings (SMETER) Innovation Competition: Phase 2

1. Definitions and Interpretation

(1) In these terms and conditions of contract for services (“Conditions”):

“Authority” means the Secretary of State for Business, Energy and Industrial Strategy, acting as part of the Crown;

“Authority’s Premises” means land or buildings owned or occupied by the Authority;

“Confidential Information”:

(a) means all information obtained by the Contractor from the Authority or any other department or office of Her Majesty's Government relating to and connected with the Contract and the Services; but

(b) does not include the Contract itself and the provisions of the Contract where, or to the extent that, the Authority publishes them by virtue of Condition 37;

the “Contract” means the agreement concluded between the Authority and the Contractor for the supply of Services, including without limitation these Conditions (to the extent that they are not expressly excluded or modified), all specifications, plans, drawings and other documents which are incorporated into the agreement;

the “Contract Period” means the period from the date of this Contract to the date of expiry of this Contract set out in the DPF41 Contract offer letter or such earlier date as this Contract is terminated in accordance with its terms;

the “Contract Year” means a period of 12 consecutive months starting on the date of this Contract and each anniversary thereafter;

the “Contractor” means the person who agrees to participate in the Project and includes any person to whom all or part of the Contractor’s obligations are assigned pursuant to Condition 4;

“Contractor Personnel” means all directors, officers, employees, agents, consultants and contractors of the Contractor and/or of any sub-contractor engaged in the performance of its obligations under this Contract, pursuant to Condition 4;

“Contracts Finder” means the Government’s publishing portal for public sector procurement opportunities;

“Data Controller” shall have the same meaning as given in the Data Protection Legislation;

“Data Loss Event” means any event that results, or may result, in unauthorised access to Personal Data held by the Contractor under this Contract and/or actual or potential loss and/or alteration and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach;

“Data Protection Legislation” means (i) the General Data Protection Regulation (GDPR)(Regulation (EU) 2016/679), the Law Enforcement Directive (LED) (Directive (EU) 2016/680) and any applicable national implementing Laws as amended from time to time; (ii) the Data Protection Act 2018 [subject to Royal Assent] to the extent that it relates to processing of personal data and privacy; (iii) all applicable Law about the processing of personal data and privacy;

“Data Processor” shall have the same meaning as given in the Data Protection Legislation;

“Data Protection Impact Assessment” means an assessment by the Data Controller of the impact of the envisaged processing on the protection of Personal Data;

“Data Protection Officer” shall have the same meaning as given in the Data Protection Legislation;

“Data Subject” shall have the same meaning as given in the Data Protection Legislation;

“Data Subject Request” means a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data

“Government Property” means anything issued or otherwise furnished in connection with the Contract by or on behalf of the Authority, including but not limited to documents, papers, data issued in electronic form and other materials;

“Intellectual Property Rights” means patents, trademarks, service marks, design rights (whether registrable or not), applications for any of those rights, copyright, database rights, trade or business names and other similar rights or obligations, whether registrable or not, in any country, including but not limited to, the United Kingdom;

“Arising Intellectual Property” means the Intellectual Property Rights which are created as a result of the Contractor’s participation in the Project;

“Background Intellectual Property” means Intellectual Property Rights owned, controlled or used by either of the Parties at the date of this Contract or which shall at any time thereafter become so owned, controlled or used otherwise than as a result of the Contractor's participation in the Project;

“Law” means any law, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of Section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements with which the Contractor is bound to comply;

“Party” means a Party to this Contract, and “Parties” shall mean both of them;

“Personal Data” shall have the same meaning as given in Data Protection Legislation;

"Personal Data Breach" shall have the same meaning as given in Data Protection Legislation;

"Project" means the Smart Meter Enabled Thermal Efficiency Ratings Innovation Competition: Phase 2, details of which are set out in the [Application Guidance Notes];

"Properties" means the properties into which the Contractor's SMETER Product will be installed as part of the Project;

"Protective Measures" means any appropriate technical and organisational measures which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it;

"Quarter" means a period of three months from the commencement of the Contract Period and each three month period thereafter;

"SMETER Product" means the Contractor's product for measuring thermal performance used in the course of the Project and any ancillary equipment used in the installation, removal or required for the functioning of such product; "Sub-Processor" means any third Party appointed to process Personal Data on behalf of the Contractor related to this Contract; and

"Technical Assessment Contractor" means the technical assessment contractor procured by the Authority to oversee the Project.

- (2) The interpretation and construction of the Contract shall be subject to the following provisions:
 - (a) a reference to any statute, enactment, order, regulation or similar instrument shall be construed as a reference to the statute, enactment, order, regulation or instrument as subsequently amended or re-enacted;
 - (b) the headings in these Conditions are for ease of reference only and shall not affect the interpretation or construction of the Contract; and
 - (c) references to "person", where the context allows, includes a corporation or an unincorporated association.

2. Acts by the Authority

Any decision, act or thing which the Authority is required or authorised to take or do under the Contract may be taken or done by any person authorised, either expressly or impliedly, by the Authority to take or do that decision, act or thing.

3. Service of Notices and Communications

Any notice or other communication that either party gives under the Contract shall be made in writing and given either by hand, first class recorded postal delivery or facsimile

transmission. Notice given by hand shall be effective immediately, notice given by recorded postal delivery shall be effective two working days after the date of posting. Notice given by facsimile transmission shall be effective the working day after receipt by the notifying party of a transmission slip showing that the transmission has succeeded.

4. Assignment and Sub-contracting

- (1) The Contractor shall not give, bargain, sell, assign, sub-contract or otherwise dispose of the Contract or any part thereof without the previous agreement in writing of the Authority.
- (2) The Contractor shall not use the services of self-employed individuals in connection with the Contract without the previous agreement in writing of the Authority.
- (3) If the Contractor uses a sub-contractor for the purpose of performing the Services or any part of it, the Contractor shall include in the relevant contract a provision which requires the Contractor to pay for those goods or services within 30 days of the Contractor receiving a correct invoice from the sub-contractor.
- (4) The Contractor shall be responsible for the acts and omissions of his sub-contractors as though they were his own.
- (5) The Authority shall be entitled to assign any or all of its rights under the Contract to any contracting authority as defined in Regulation 2(1) of the Public Services Contracts Regulations 2006, provided that such assignment shall not materially increase the burden of the Contractor's obligations under the Contract.
- (6) Where the Authority notifies the Contractor that it estimates the Charges payable under this Contract are due to exceed £5 million in one or more Contract Years the Contractor shall:
 - (a) subject to Condition 4(9), advertise on Contracts Finder all subcontract opportunities arising from or in connection with the provision of the Goods and/or Services and/or Works above a minimum threshold of £25,000 that arise during the Contract Period;
 - (b) within 90 days of awarding a subcontract to a subcontractor, update the notice on Contracts Finder with details of the successful subcontractor;
 - (c) monitor the number, type and value of the subcontract opportunities placed on Contracts Finder advertised and awarded in its supply chain during the Contract Period;
 - (d) provide reports on the information in Condition 4(6)(c) to the Authority in the format and frequency as reasonably specified by the Authority; and
 - (e) promote Contracts Finder to its Contractors and encourage those organisations to register on Contracts Finder.
- (7) Each advert referred to in Condition 4(6)(a) above shall provide a full and detailed description of the subcontract opportunity with each of the mandatory fields being completed on Contracts Finder by the Contractor.

- (8) The obligation in Condition 4(6)(a) shall only apply in respect of subcontract opportunities arising after the contract award date.
- (9) Notwithstanding Condition 4(6), the Contracting Authority may, by giving its prior written approval, agree that a subcontract opportunity is not required to be advertised on Contracts Finder.

5. Entire Agreement

The Contract constitutes the entire agreement and understanding between the parties and supersedes all prior written and oral representations, agreements or understandings between them relating to the subject matter of the Contract provided that neither party excludes liability for fraudulent misrepresentations upon which the other party has relied.

6. Waiver

- (1) The failure by either party to exercise any right or remedy shall not constitute a waiver of that right or remedy.
- (2) No waiver shall be effective unless it is communicated to the other party in writing.
- (3) A waiver of any right or remedy arising from a breach of the Contract shall not constitute a waiver of any right or remedy arising from any other breach of the Contract.

7. Severability

If any Condition, clause or provision of the Contract not being of a fundamental nature is held to be unlawful, invalid or unenforceable by a court or tribunal in any proceedings relating to the Contract, the validity or enforceability of the remainder of the Contract shall not be affected. If the court finds invalid a provision so fundamental as to prevent the accomplishment of the purpose of the Contract, the parties shall immediately commence negotiations in good faith to remedy the invalidity.

8. Confidentiality

- (1) The Contractor agrees not to disclose any Confidential Information to any third party without the prior written consent of the Authority. To the extent that it is necessary for the Contractor to disclose Confidential Information to its staff, agents and sub-contractors, the Contractor shall ensure that such staff, agents and sub-contractors are subject to the same obligations as the Contractor in respect of all Confidential Information.
- (2) Condition 8(1) shall not apply to information which:
 - (a) is or becomes public knowledge (otherwise than by breach of these Conditions or a breach of an obligation of confidentiality);

- (b) is in the possession of the Contractor, without restriction as to its disclosure, before receiving it from the Authority or any other department or office of Her Majesty's Government;
 - (c) is required by Law to be disclosed;
 - (d) was independently developed by the Contractor without access to the Confidential Information.
- (3) The obligations contained in this Condition shall continue to apply after the expiry or termination of the Contract.
 - (4) The Contractor shall not handle or examine any document or thing bearing a Government security classification of "Confidential", "Secret" or "Top Secret" other than in a Government establishment and the Contractor shall not remove any such document or thing from such Government establishment without the prior written consent of the Authority.
 - (5) The Contractor shall not communicate with representatives of the general or technical press, radio, television or other communications media, with regard to the Contract, unless previously agreed in writing with the Authority.
 - (6) Except with the prior consent in writing of the Authority, the Contractor shall not make use of the Contract or any Confidential Information otherwise than for the purposes of carrying out the Services.

9. Freedom of Information

- (1) The Contractor acknowledges that the Authority is subject to the requirements of the Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations SI 2004 No. 3391 ("EIR") and shall assist and cooperate with the Authority, at the Contractor's expense, to enable the Authority to comply with these information disclosure requirements.
- (2) In this Condition:-
 - "Information" has the meaning ascribed to it in section 84 of the FOIA;
 - "Request for Information" has the meaning ascribed to it in section 8 of the FOIA, or any apparent request for information under the FOIA or EIR.
- (3) The Contractor shall (and shall procure that its subcontractors shall):-
 - (a) transfer any Request for Information to the Authority as soon as practicable after receipt and in any event within two working days;
 - (b) provide the Authority with a copy of all Information in its possession or power in the form that the Authority requires within five working days (or such other period as the Authority may specify) of the Authority requesting that Information;
 - (c) provide all necessary assistance as reasonably requested by the Authority to enable it to respond to a Request for Information within the time for compliance set out in section 10 of the FOIA or regulation 5 of the EIR.

- (4) The Authority shall be responsible for determining, at its absolute discretion, whether any Information:-
- (a) is exempt from disclosure in accordance with the provisions of the FOIA or the EIR;
 - (b) is to be disclosed in response to a Request for Information.

In no event shall the Contractor respond directly to a Request of Information unless expressly authorised to do so in writing by the Authority.

- (5) The Contractor acknowledges that the Authority may, acting in accordance with the Secretary of State for Constitutional Affairs' Code of Practice on the discharge of public authorities' functions under Part 1 of the FOIA (issued under section 45 of the FOIA in November 2004), be obliged under the FOIA or the EIR to disclose Information unless an exemption applies. The Authority may at its discretion consult the Contractor with regard to whether the FOIA applies to the Information and whether an exemption applies.
- (6) The Contractor shall ensure that all Information produced in the course of the Contract or relating to the Contract is retained for disclosure and shall permit the Authority to inspect such records as requested from time to time.
- (7) The Contractor acknowledges that any lists or schedules provided by it outlining information it deems confidential or commercially sensitive are of indicative value only and that the Authority may nevertheless be obliged to disclose information which the Contractor considers confidential in accordance with Conditions 9(4) and (5).

10. Amendments and Variations

Subject to Condition 15(7) no amendment or variation to the terms of the Contract shall be valid unless previously agreed in writing between the Authority and the Contractor.

11. Accounts

- (1) The Contractor shall permit the Authority acting by its officers, servants and agents or independent auditor on request and at all reasonable times to examine all accounts, records and vouchers at the offices of the Contractor or at such other places as the Authority shall direct, and to take copies of such accounts, records and vouchers and the Contractor shall provide the Authority or its independent auditor with such explanations relating to that expenditure as the Authority may request.
- (2) The Contractor shall ensure that the said accounts, records and vouchers are available for a period of six years after termination or expiry of the Contract.

12. Project Participation

- (1) The Contractor shall participate in the Project in accordance with and as specified in the Contract to the satisfaction of the Authority whose decision shall be final and conclusive. The Authority shall have the power to review the Contractor's participation in the Project at any time during the course of the Project and shall have the power to inspect and examine any records relating to the same held at the Contractor's premises, or, provided that the Authority gives reasonable notice to the Contractor, at any other premises where the Contractor carries out any work relating to the Project.
- (2) If the Authority informs the Contractor that the Authority considers any part of the Contractor's participation in the Project is inadequate or in any way differing from the Contract, and this is other than as a result of default or negligence on the part of the Authority, the Contractor shall at his own expense take such action to improve its performance and within such reasonable time as may be specified by the Authority.
- (3) The provisions of this Condition shall not apply where the reason for the suspension or delay arises from circumstances beyond the control of the Authority.
- (4) If the participation in the Project by the Contractor is delayed by reason of any act on the part of the Authority or by industrial dispute (other than by an industrial dispute occurring within the Contractor's or its sub-contractor's organisation) or any other cause which the Contractor could not have prevented then the Contractor shall be allowed a reasonable extension of time for completion. For the purposes of this Condition, the Contractor shall be deemed to have been able to prevent causes of delay that are within the reasonable control of the Contractor's staff, agents and sub-contractors.
- (5) Timely performance of any necessary work or actions shall be of the essence of the Contract, including in relation to the provision of information within a set timescale or on a specified date.
- (6) The Contractor warrants that it shall carry out any work related to the Project with all due skill, care and diligence, and in accordance with good industry practice and legal requirements.
- (7) The Contractor warrants that any SMETER Product provided shall:
 - (a) be of satisfactory quality and fit for any purpose held out by the Contractor or made known to the Authority by the Contractor;
 - (b) be free from defects in design, material and workmanship and remain so for the duration of the Project; and
 - (c) comply with all requirements under applicable Law.
- (8) The Contractor shall reimburse the Authority for all reasonable costs incurred by the Authority which have arisen as a direct consequence of the Contractor's delay in the performance of the Contract which the Contractor had failed to remedy after being given reasonable notice by the Authority.

13. Co-operation with Project Partners

- (1) The Contractor shall co-operate in all aspects of the Project with the Authority and Technical Assessment Contractor, such co-operation to include (but not be limited to):
 - (a) the provision of the SMETER Product to the Technical Assessment Contractor along with full and proper instructions for the installation and use of that SMETER Product in the Properties;
 - (b) attendance at Project meetings with the Authority and/or the Technical Assessment Contractor once every Quarter (or at such times as may be requested by the Authority, acting reasonably);
 - (c) The provision of all reasonable assistance in relation to any ad-hoc information, explanations and documents as the Authority and/or the Technical Assessment Contractor may require from time to time; and/or
 - (d) the provision of a final report and presentation to the Authority and/or the Technical Contractor, the contents of which are detailed in section 3.3 (Outputs) of the Applicant Guidance Notes or as may be amended by the Authority and/or the Technical Contractor during the Project.

14. Contractor's Personnel

- (1) The Authority reserves the right to refuse to admit to the Authority's Premises any person employed by the Contractor or its sub-contractors, whose admission would be undesirable in the opinion of the Authority.
- (2) If and when requested by the Authority, the Contractor shall provide a list of the names and addresses of all persons who may at any time require admission in connection with its participation in the Project to the Authority's Premises, specifying the role in which each such person is concerned with the Contractor and giving such other particulars as the Authority may require.
- (3) If and when requested by the Authority, the Contractor shall procure from each person identified by the request, a signed statement that he understands that the Official Secrets Acts 1911 to 1989 applies to him both during the carrying out and after expiry or termination of the Contract and that he will comply with the provisions of those Acts in so far as they apply to the work he is performing under the Contract.
- (4) If and when requested by the Authority the Contractor agrees that it will submit any person employed by the Contractor or its sub-contractors to the Authority's security vetting procedure. The Contractor further agrees that any individual who refuses to submit to such vetting procedure or does not attain the clearance it affords will not carry out any work on the Project which the Authority certifies as suitable only for people who have passed its security vetting procedure.

- (5) If the Contractor fails to comply with paragraph (2) (3) or (4) of this Condition and the Authority decides that such failure is prejudicial to its interests, the Authority may immediately terminate the Contract by notice in writing to the Contractor, provided that such termination shall be without prejudice to any accrued rights of, or to any rights that shall accrue thereafter to, the Authority.

15. Indemnities and Insurance

- (1) The Contractor shall hold harmless and indemnify the Authority on demand from and against all claims, demands, proceedings, actions, damages, costs (including legal costs), expenses and any other liabilities arising from claims made by the Authority's staff or agents, or by third parties, in respect of any death or personal injury, or loss or destruction of or damage to property (including the Properties), or any other loss, destruction or damage, including but not limited to financial losses which are caused, whether directly or indirectly, by the breach of contract or breach of duty (whether in negligence, tort, statute or otherwise) of the Contractor, its employees, agents or sub-contractors.
- (2) The Contractor shall be liable to the Authority for any loss, damage, destruction, injury or expense, whether direct or indirect, (and including but not limited to loss or destruction of or damage to the Authority's property, which includes data) arising from the Contractor's breach of contract or duty (whether arising in negligence, tort, statute or otherwise).
- (3) The Contractor shall effect with a reputable insurance company a policy or policies of insurance providing an adequate level of cover in respect of all risks which may be incurred by the Contractor in respect of the indemnities provided under the Contract, which in any event shall not be less than £1,000,000, and shall at the request of the Authority produce the relevant policy or policies together with receipt or other evidence of payment of the latest premium due there under.
- (4) Nothing in these Conditions nor in any part of the Contract shall impose any liability on any member of the staff of the Authority or its representatives in their personal capacity.
- (5) The Contractor shall indemnify the Authority against all proceedings, actions, claims, demands, costs (including legal costs), charges, expenses and any other liabilities arising from or incurred by reason of any infringement or alleged infringement of any third party's Intellectual Property Rights used by or on behalf of the Contractor for the purpose of the Contract, providing that any such infringement or alleged infringement is not knowingly caused by, or contributed to, by any act of the Authority.
- (6) The Authority shall indemnify the Contractor against all proceedings, actions, claims, demands, costs (including legal costs), charges, expenses and any other liabilities arising from or incurred by reason of any infringement or alleged infringement of any third party's Intellectual Property Rights used at the request of the Authority by the Contractor in the course of providing the Services, providing

that any such infringement or alleged infringement is not knowingly caused by, or contributed to by, any act of the Contractor.

- (7) Except in relation to death or personal injury, and subject to Conditions 15(5) and 27(6) the amount of liability under this clause shall be limited to a sum of £4,000,000, or such other sum as may be agreed in writing between the Head of Procurement on behalf of the Authority and the Contractor.

16. Termination for Insolvency or Change of Control

- (1) The Contractor shall notify the Authority in writing immediately upon the occurrence of any of the following events:
- (a) where the Contractor is an individual, if a petition is presented for his bankruptcy, or he makes any composition or arrangement with or for the benefit of creditors, or makes any conveyance or assignment for the benefit of creditors, or if an administrator is appointed to manage his affairs; or
 - (b) where the Contractor is not an individual but is a firm or a number of persons acting together, if any event in Condition 16(1)(a) or (c) occurs in respect of any partner in the firm or any of those persons, or if a petition is presented for the Contractor to be wound up as an unregistered company; or
 - (c) where the Contractor is a company or limited liability partnership, if the company or limited liability partnership enters administration or passes a resolution to wind up or the court makes an administration order or a winding-up order, or the company makes a composition or arrangement with its creditors, or an administrative receiver, receiver or manager is appointed by a creditor or by the court, or possession is taken of any of its property under the terms of a floating charge; or
 - (d) the Contractor undergoes a change of control, where “control” is interpreted in accordance with Section 1124 of the Corporation Tax Act 2010.
- (2) After receipt of the notice under paragraph (1) above or earlier discovery by the Authority of the occurrence of any of the events described in that paragraph, the Authority may, by notice in writing to the Contractor, terminate the Contract with immediate effect without compensation to the Contractor and without prejudice to any right or action or remedy which may accrue to the Authority thereafter. The Authority’s right to terminate the Contract under Condition 16(1)(d) will exist until the end of a period of three months starting from receipt of the notice provided by the Contractor pursuant to Condition 16(1), or such other period as is agreed by the parties.

17. Termination for Breach of Contract

If either party commits a material breach of the Contract which is either not capable of remedy, or, if it is capable of remedy, he fails to remedy such breach within 28 days of being notified by the other party in writing to do so, that other party shall be entitled to

terminate the Contract with immediate effect by notice in writing to the party that committed the material breach and without prejudice to any other rights or remedies of either party in respect of the breach concerned or any other breach of the Contract.

18. Cancellation

The Authority shall be entitled to terminate the Contract, or to terminate the Contractor's participation in the Project, by giving to the Contractor not less than 28 days' notice in writing to that effect. Once it has given such notice, the Authority may extend the period of notice at any time before it expires, subject to agreement on the Contractor's continued participation in the Project during the period of extension.

19. Dispute Resolution

- (1) The parties shall attempt in good faith to negotiate a settlement to any dispute between them arising out of or in connection with the Contract.
- (2) If the parties cannot resolve the dispute pursuant to paragraph (1) of this Condition, the dispute may, by agreement between the parties, be referred to mediation pursuant to paragraph (4) of this Condition.
- (3) The Contractor's participation in the Project shall not cease or be delayed by the reference of a dispute to mediation pursuant to paragraph (2) of this Condition.
- (4) If the parties agree to refer the dispute to mediation:
 - (a) in order to determine the person who shall mediate the dispute (the "Mediator") the parties shall by agreement choose a neutral adviser or mediator from one of the dispute resolution providers listed by the Government Procurement Service on its website or in its printed guidance on dispute resolution within 30 days after agreeing to refer the dispute to mediation;
 - (b) the parties shall within 14 days of the appointment of the Mediator meet with him in order to agree a programme for the exchange of all relevant information and the structure to be adopted for negotiations to be held. If considered appropriate, the parties may at any stage seek assistance from the Government Procurement Service to provide guidance on a suitable procedure;
 - (c) unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the parties in any future proceedings;
 - (d) if the parties reach agreement on the resolution of the dispute within 60 days of the Mediator being appointed, or such longer period as may be agreed between the parties, the agreement shall be reduced to writing and shall be binding on the parties once it is signed by both the Authority and the Contractor;
 - (e) failing agreement within 60 days of the Mediator being appointed, or such longer period as may be agreed between the parties, either of the parties may invite the Mediator to provide a non-binding but informative opinion in writing. Such an

opinion shall be provided on a without prejudice basis and shall not be used in evidence in any proceedings relating to the Contract without the prior written consent of both parties.

- (5) If the parties do not agree to refer the dispute to mediation, or if the parties fail to reach agreement as to who shall mediate the dispute pursuant to Condition 19(4)(a) or if they fail to reach agreement in the structured negotiations within 60 days of the Mediator being appointed or such longer period as may be agreed by the parties, then any dispute or difference between them may be referred to the courts.

20. Bribery and corruption

- (1) The Contractor shall not, and shall ensure that its staff, sub-contractors and agents do not:
- (a) offer or promise, to any person employed by or on behalf of the Authority any financial or other advantage as an inducement or reward for the improper performance of a function or activity, or for showing or not showing favour or disfavour to any person in relation to this Contract or any other contract with the Authority;
 - (b) agree to receive or accept any financial or other advantage as an inducement or reward for any improper performance of a function or activity in relation to this Contract or any other contract with the Authority; or
 - (c) enter into the Contract or any other contract with the Authority or any other department or office of Her Majesty's Government in connection with which commission has been paid, or agreed to be paid by him or on his behalf, or to his knowledge, unless, before the Contract is made, particulars of any such commission and the terms and conditions of any agreement for the payment thereof, have been disclosed in writing to any person duly authorised by the Authority to act as its representative for the purpose of this Condition.

Nothing contained in this Condition shall prevent the Contractor paying such commission or bonuses to his own staff in accordance with their agreed contracts of employment.

- (2) Any breach of this Condition by the Contractor, or by any person employed or engaged by him or acting on his behalf (whether with or without his knowledge), or any act or omission by the Contractor, or by such other person, in contravention of the Bribery Act 2010 or any other anti-corruption Law, in relation to this Contract or any other contract with the Authority, shall entitle the Authority to terminate the Contract with immediate effect by notice in writing and to recover from the Contractor the amount of any loss resulting from such termination and the amount of the value of any such gift, consideration or commission as the Authority shall think fit.
- (3) In any dispute, difference or question arising in respect of:

- (a) the interpretation of this Condition (except so far as the same may relate to the amount recoverable from the Contractor under paragraph (2) of this Condition in respect of any loss resulting from such determination of the Contract); or
 - (b) the right of the Authority to determine the Contract; or
 - (c) the amount or value of any gift, consideration or commission,
- the decision of the Authority shall be final and conclusive.

21. Official Secrets

The Contractor's attention is drawn to the provisions of the Official Secrets Acts 1911 to 1989. The Contractor shall take all reasonable steps by display of notices or by other appropriate means to ensure that all persons employed in connection with the Contract have notice that these statutory provisions apply to them and will continue so to apply after the expiry or earlier termination of the Contract.

22. Special Provisions

In the case of any conflict or inconsistency between these general Conditions and any specific terms of the Contract, the latter shall prevail.

23. Conflict of Interest

- (1) The Contractor shall ensure that there is no conflict of interest as to be likely to prejudice his independence and objectivity in performing the Contract and undertakes that upon becoming aware of any such conflict of interest during the performance of the Contract (whether the conflict existed before the award of the Contract or arises during its performance) he shall immediately notify the Authority in writing of the same, giving particulars of its nature and the circumstances in which it exists or arises and shall furnish such further information as the Authority may reasonably require.
- (2) Where the Authority is of the opinion that the conflict of interest notified to it under paragraph (1) above is capable of being avoided or removed, the Authority may require the Contractor to take such steps as will, in its opinion, avoid, or as the case may be, remove the conflict and:
 - (a) if the Contractor fails to comply with the Authority's requirements in this respect;
or
 - (b) if, in the opinion of the Authority, it is not possible to remove the conflict,the Authority may terminate the Contract immediately and recover from the Contractor the amount of any loss resulting from such termination.
- (3) Notwithstanding Condition 23(2), where the Authority is of the opinion that the conflict of interest which existed at the time of the award of the Contract could have

been discovered with the application by the Contractor of due diligence and ought to have been disclosed as required by the tender documents pertaining to it, the Authority may terminate the Contract immediately for breach of a fundamental condition and, without prejudice to any other rights, recover from the Contractor the amount of any loss resulting from such termination.

24. Intellectual Property Rights

- (1) Subject to Condition 24(4), all Background Intellectual Property used or supplied under this Contract in connection with the Project shall remain the property of the Party introducing the same and nothing contained in this Contract or any licence agreement pertaining or pursuant to the Contractor's performance of the Services shall affect the rights of either Party in its Background Intellectual Property.
- (2) Subject to Condition 24(3) any Arising Intellectual Property shall belong to the Contractor.
- (3) Subject to Condition 24(4) below, the Contractor hereby grants to the Authority a worldwide, irrevocable, royalty-free, non-exclusive licence at no cost to the Authority to use, sub-licence, or (subject to Condition 25 (Public Announcements)) publish any Arising Intellectual Property, Data, results, outcomes or conclusions which are created in performing the Services, for such purposes as the Authority in its absolute discretion deems fit.
- (4) The licence granted in Condition 24(3) above shall not apply to any Arising Intellectual Property in any hardware or software for the SMETER Product itself save to the extent that the use of the hardware and software is required to ensure the functionality of the SMETER Product and for the Contractor's continued participation in the Project.
- (5) To the extent that any Background Intellectual Property is essential to the proper functioning and use of any Arising Intellectual Property licensed pursuant to Condition 24(3), the Contractor grants to the Authority a worldwide, irrevocable, royalty-free, non-exclusive licence at no cost to the Authority, to use and sub-licence that Background Intellectual Property.
- (6) To the extent that any third party licences are essential to the proper use of any Arising Intellectual Property Rights licensed pursuant to Condition s 24(3), the Contractor shall procure for the Authority and/or the Technical Assessment Contractor any worldwide, irrevocable, royalty-free license, from that third party, to use any such third party Intellectual Property Rights, on reasonable commercial terms, that are no less favourable than those available to the Contractor.

25. Public Announcements

- (1) Without prejudice to Condition 37, the Authority reserves the right to publish:
 - (a) the identity of the Contractor and the Contractor's participation in the Project;

- (b) [in an aggregated, anonymised form,] the results of any field-testing of the SMETER Product as part of the Project; and
- (c) [in an aggregated, anonymised form,] any feedback provided by the Contractor to the Authority and/or Technical Assessment Contractor relating to the Project.

26. Rights of Third Parties

It is not intended that the Contract, either expressly or by implication, shall confer any benefit on any person who is not a party to the Contract and accordingly the Contracts (Rights of Third Parties) Act 1999 shall not apply.

27. Government Property

- (1) All Government Property shall remain the property of the Authority and shall be used in the execution of the Contract and for no other purpose whatsoever except with the prior agreement in writing of the Authority.
- (2) All Government Property shall be deemed to be in good condition when received by or on behalf of the Contractor unless he notifies the Authority to the contrary within 14 days or such other time as is specified in the Contract.
- (3) The Contractor undertakes to return any and all Government Property on completion of the Contract or on any earlier request by the Authority.
- (4) The Contractor shall, except as otherwise provided for in the Contract, repair or replace or, at the option of the Authority, pay compensation for all loss, destruction or damage occurring to any Government Property caused or sustained by the Contractor, or by his servants, agents or sub-contractors, whether or not arising from his or their performance of the Contract and wherever occurring, provided that if the loss, destruction or damage occurs at the Authority's Premises or any other Government premises, this Condition shall not apply to the extent that the Contractor is able to show that any such loss, destruction or damage was not caused or contributed to by his negligence or default or the neglect or default of his servants, agents, or sub-contractors.
- (5) Where the Government Property comprises data issued in electronic form to the Contractor (including personal data as defined in Condition 1) the Contractor shall not store, copy, disclose or use such electronic data except as necessary for the performance by the Contractor of its obligations under the Contract (including its obligation to back up electronic data as provided in Condition 27(6) below) or as otherwise expressly authorised in writing by the Authority.
- (6) The Contractor shall perform secure back-ups of all such electronic data in its possession and shall ensure that an up to date back up copy is securely stored at a site other than that where any original copies of such electronic data are being stored.

- (7) The Contractor shall, and shall procure that its sub-contractors, agents and personnel, shall observe best practice when handling or in possession of any such electronic data. By way of example if the Contractor removes any such data or information from a Government establishment, or is sent such data or information by the Authority it shall ensure that the data and any equipment on which it is stored or is otherwise being processed is kept secure at all times. The Contractor shall impress on any of its sub-contractors, agents and personnel who are required to handle or have possession of such electronic data that they must safeguard it all times, and shall not place it in jeopardy for example by leaving it unattended in a vehicle or on public transport or by transmitting or posting it by insecure means.
- (8) If at any time the Contractor suspects or has reason to believe that such electronic data has or may become corrupted, lost, destroyed, altered (other than to the extent that the Contractor alters it by lawful processing in accordance with its obligations under this contract) or so degraded as a result of the Contractor's default so as to be unusable then the Contractor shall notify the Authority immediately and inform the Authority of the remedial action the Contractor proposes to take.
- (9) The Contractor shall indemnify the Authority against all claims and proceedings, and all costs and expenses incurred in connection therewith arising from the corruption, loss, destruction, alteration (other than by lawful processing permitted by this Contract) or degradation of electronic data which claims would not have arisen but for some act, omission, misrepresentation or negligence on the part of the Contractor or sub-contractors, agents and personnel and hold it harmless against all costs, losses and liability whatsoever incurred by it arising out of any action or inaction on its part in relation to any of its obligations as set out in this Contract which results in such corruption, loss or degradation.

28. Data Protection

- (1) The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Data Controller and the Contractor is the Data Processor. The only processing that the Contractor is authorised to do is listed in Annex 1 by the Authority and may not be determined by the Contractor.
- (2) The Contractor shall notify the Authority immediately if it considers that any of the Authority's instructions infringe the Data Protection Legislation.
- (3) The Contractor shall provide all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Authority, include:
 - (a) a systematic description of the envisaged processing operations and the purpose of the processing;
 - (b) an assessment of the necessity and proportionality of the processing operations in relation to the Services;
 - (c) an assessment of the risks to the rights and freedoms of Data Subjects; and

(d) the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

(4) The Contractor shall, in relation to any Personal Data processed in connection with its obligations under this Contract:

(a) process that Personal Data only in accordance with Annex 1, unless the Contractor is required to do otherwise by Law. If it is so required the Contractor shall promptly notify the Authority before processing the Personal Data unless prohibited by Law;

(b) ensure that it has in place Protective Measures, which have been reviewed and approved by the Authority as appropriate to protect against a Data Loss Event having taken account of the:

- (i) nature of the data to be protected;
- (ii) harm that might result from a Data Loss Event;
- (iii) state of technological development; and
- (iv) cost of implementing any measures;

The review and approval of the Protective Measures by the Authority shall not relieve the Contractor of its obligations under Data Protection Legislation, and the Contractor acknowledges that it is solely responsible for determining whether such Protective Measures are sufficient for it to have met its obligations under the Data Protection Legislation.

(c) ensure that:

- (i) the Contractor Personnel do not process Personal Data except in accordance with this Contract and in particular Annex 1;
- (ii) it takes all reasonable steps to ensure the reliability and integrity of any Contractor Personnel who have access to the Personal Data and ensure that they:
 - (A) are aware of and comply with the Contractor's duties under this clause;
 - (B) are subject to appropriate confidentiality undertakings with the Contractor or any Sub-Processor;
 - (C) are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third Party unless directed in writing to do so by the Authority or as otherwise permitted by this Contract; and
 - (D) have undergone adequate training in the use, care, protection and handling of Personal Data.

(d) do not transfer Personal Data outside of the European Union unless the prior written consent of the Authority has been obtained and provided the following conditions are fulfilled:-

- (i) the Authority or the Contractor has provided appropriate safeguards in relation to the transfer (whether in accordance with GDPR Article 46 or LED Article 37) as determined by the Authority;

- (ii) the Data Subject has enforceable rights and effective legal remedies;
 - (iii) the Contractor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Authority in meeting its obligations); and
 - (iv) the Contractor complies with any reasonable instructions notified to it in advance by the Authority with respect to the processing of the Personal Data.
- (5) Subject to clause (6), the Contractor shall notify the Authority immediately if it:
- (a) receives a Data Subject Request (or purported Data Subject Request);
 - (b) receives a request to rectify, block or erase any Personal Data;
 - (c) receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;
 - (d) receives any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data processed under this Contract;
 - (e) receives a request from any third Party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or
 - (f) becomes aware of a Data Loss Event.
- (6) The Contractor's obligation to notify under clause (5) shall include the provision of further information to the Authority in phases, as details become available.
- (7) Taking into account the nature of the processing, the Contractor shall provide the Authority with full assistance in relation to either Party's obligations under Data Protection Legislation and any complaint, communication or request made under clause (5) (and insofar as possible within the timescales reasonably required by the Authority) including by promptly providing:
- (a) the Authority with full details and copies of the complaint, communication or request;
 - (b) such assistance as is reasonably requested by the Authority to enable the Authority to comply with a Data Subject Request within the relevant timescales set out in the Data Protection Legislation;
 - (c) the Authority, at its request, with any Personal Data it holds in relation to a Data Subject;
 - (d) assistance as requested by the Authority following any Data Loss Event;
 - (e) assistance as requested by the Authority with respect to any request from the Information Commissioner's Office, or any consultation by the Authority with the Information Commissioner's Office.
- (8) The Contractor shall maintain complete and accurate records and information to demonstrate its compliance with this clause. This requirement does not apply where the Contractor employs fewer than 250 staff, unless:

- (a) the Authority determines that the processing is not occasional;
 - (b) the Authority determines the processing includes special categories of data as referred to in Article 9(1) of the GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the GDPR; and
 - (c) the Authority determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.
- (9) The Contractor shall allow for audits of its Data Processing activity by the Authority or the Authority's designated auditor.
- (10) The Contractor shall designate a Data Protection Officer if required by the Data Protection Legislation.
- (11) Before allowing any Sub-Processor to process any Personal Data related to this Contract, the Contractor must:
- (a) notify the Authority in writing of the intended Sub-Processor;
 - (b) obtain the written consent of the Authority;
 - (c) enter into a written Contract with the Sub-Processor which give effect to the terms set out in this Condition 28 such that they apply to the Sub-Processor; and
 - (d) provide the Authority with such information regarding the Sub-Processor as the Authority may reasonably require.
- (12) The Contractor shall remain fully liable for all acts or omissions of any Sub-Processor.
- (13) The Authority may, at any time on not less than 30 Working Days' notice, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Contract).
- (14) The Parties agree to take account of any guidance issued by the Information Commissioner's Office. The Authority may, on not less than 30 Working Days' notice to the Contractor, amend this Contract to ensure that it complies with any guidance issued by the Information Commissioner's Office.
- (15) If the Contractor fails to comply with any provision of this Condition 28, the Authority may terminate the Contract immediately in which event the provisions of Condition 17 shall apply.
- (16) The Contractor shall indemnify the Authority against all claims and proceedings, and all costs and expenses incurred in connection therewith, made or brought against the Authority by any person in respect of the Data Protection Legislation or equivalent applicable legislation in any other country which claims would not have arisen but for some act, omission, misrepresentation or negligence on the part of the Contractor, its sub-contractors and Sub-Processors and hold it harmless against all costs, losses and liability whatsoever incurred by it arising out of any action or inaction on its part in relation to any of its obligations as set out in this Contract

which results in the Authority being in breach of its obligations under the Data Protection Legislation or equivalent applicable legislation in any other country.

- (17) Upon expiry of this Contract or termination of this Contract for whatever reason, the Contractor shall, unless specified in Annex 1, notified otherwise by the Authority or required by Law, immediately cease any processing of the Personal Data on the Authority's behalf and 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.
- (18) Where processing of the Personal Data continues after the expiry or termination of this Contract as specified in Annex 1 notified otherwise by the Authority or required by Law, the Contractor shall comply with the provisions of this Condition 28 for as long as the Contractor continues to process the Personal Data and such provisions shall survive the expiry or termination of this Contract.
- (19) Where the Contractor is required to collect any Personal Data on behalf of the Authority, it shall ensure that it provides the data subjects from whom the Personal Data are collected with a privacy notice in a form to be agreed with the Authority.

29. Payment of taxes: income tax and NICs

- (1) Where the Contractor is liable to be taxed in the UK in respect of consideration received under the Contract, the Contractor shall at all times comply with the Income Tax (Earnings and Pensions) Act 2003 and all other statutes and regulations relating to income tax in respect of that consideration.
- (2) Where the Contractor is liable to National Insurance Contributions (NICs) in respect of consideration received under the Contract, the Contractor shall at all times comply with the Social Security Contributions and Benefits Act 1992 and all other statutes and regulations relating to NICs in respect of that consideration.
- (3) The Authority may, at any time during the term of the Contract, require the Contractor to provide information to demonstrate that:
 - (a) the Contractor has complied with paragraphs (1) and (2) above; or
 - (b) the Contractor or its staff are not liable to the relevant taxes.
- (4) A request under paragraph (3) above may specify the information which the Contractor must provide and a reasonable deadline for response.
- (5) The Authority may supply any information which it receives under paragraph (3) to the Commissioners of Her Majesty's Revenue and Customs for the purpose of the collection and management of revenue for which they are responsible.
- (6) The Contractor shall ensure that any sub-contractors (including consultants) and agents engaged by the Contractor for the purpose of the Services are engaged on,

and comply with, conditions equivalent to those in paragraphs (1) to (5) above and this paragraph (6), and the Contractor shall, on request, provide the Authority with evidence to satisfy the Authority that the Contractor has done so. Those conditions shall provide both the Contractor and the Authority with the right to require the sub-contractor or agent to provide information to them equivalent to paragraph (3), and the Contractor shall obtain that information where requested by the Authority.

- (7) The Authority may terminate the Contract with immediate effect by notice in writing where:
- (a) the Contractor does not comply with any requirement of this Condition 29; or
 - (b) the Contractor's sub-contractors or agents do not comply with the conditions imposed on them under paragraph (6) above.
- (8) In particular (but without limitation), the Authority may terminate the Contract under paragraph (7) above:
- (a) in the case of a request under paragraph (3):
 - (i) the Contractor fails to provide information in response to the request within the deadline specified; or
 - (ii) the Contractor provides information which is inadequate to demonstrate how the Contractor or (where relevant) its sub-contractors and agents have complied with the conditions set out or referred to in paragraphs (1) to (6);
- or
- (b) the Authority receives information which demonstrates, to its reasonable satisfaction, that the Contractor, its sub-contractors or agents, are not complying with those conditions.

30. Equality and non-discrimination

- (1) The Contractor shall not unlawfully discriminate within the meaning and scope of the Equality Act 2010 and any other anti-discrimination legislation in relation to the provision of the Services or otherwise and shall take all reasonable steps to ensure that its staff, sub-contractors and agents do not do so.
- (2) The Contractor shall comply with the Authority's equality scheme as published on the Authority's website, and shall take all reasonable steps to ensure that its staff, sub-contractors and agents do so.
- (3) The Authority may (without prejudice to its other rights under the Contract) terminate the Contract with immediate effect by notice in writing where the Contractor fails (or the Contractor's staff, sub-contractors or agents fail) to comply with paragraphs (1) or (2) of this Condition.

31. Welsh Language Act

The Contractor shall for the term of the Contract comply with the principles of the Authority's Welsh Language Scheme.

32. Sustainable Procurement

- (1) The Contractor shall comply in all material respects with all applicable environmental laws and regulations in force from time to time in relation to the Services. Without prejudice to the generality of the foregoing, the Contractor shall promptly provide all such information regarding the environmental impact of the Services as may reasonably be requested by the Authority.
- (2) The Contractor shall meet all reasonable requests by the Authority for information evidencing compliance with the provisions of this Clause by the Contractor.
- (3) All written outputs, including reports, produced in connection with the Contract shall (unless otherwise specified) be produced on recycled paper containing at least 80% post-consumer waste and used on both sides where appropriate.

33. Other Legislation

The Contractor shall, and shall procure that its sub-contractors, agents and personnel, comply with all other applicable Law.

34. Contractor Status

Nothing in the Contract shall create or be construed as creating a partnership, joint venture, a contract of employment or relationship of employer and employee, or a relationship of principal and agent between the Authority and the Contractor.

35. Transfer of Services

- (1) Where the Authority intends to continue with services equivalent to any or all of the Services after termination or expiry of the Contract, either by performing them itself or by the appointment of a replacement contractor, the Contractor shall (both during the term of the Contract and, where relevant, after its expiry or termination):
 - (a) provide all information reasonably requested to allow the Authority to conduct the procurement for any replacement services; and
 - (b) use all reasonable endeavours to ensure that the transition is undertaken with the minimum of disruption to the Authority.
- (2) Without prejudice to the generality of paragraph (1) of this Condition, the Contractor shall, at times and intervals reasonably specified by the Authority, provide the Authority (for the benefit of the Authority, any replacement Contractor and any economic operator bidding to provide the replacement services) such information as the Authority may reasonably require relating to the application or potential

application of the Transfer of Undertakings (Protection of Employment) Regulations 2006 including the provision of employee liability information.

- (3) Without prejudice to the generality of paragraph (1) of this Condition, the contractor shall co-operate fully during the transition period and provide full access to all data, documents, manuals, working instructions, reports and any information, whether held in electronic or written form, which the Authority considers necessary.

36. Law and Jurisdiction

The Contract shall be governed by and construed in accordance with English Law and shall be subject to the exclusive jurisdiction of the courts of England and Wales.

37. Transparency

- (1) In order to comply with the Government's policy on transparency in the areas of procurement and contracts, the Authority may, subject to Conditions 37(2) and (3), publish the Contract and the tender documents issued by the Authority which led to its creation on a designated web site.
- (2) If the Authority chooses to publish the Contract and tender documents pursuant to Condition 37(1), the entire Contract and all the tender documents issued by the Authority will be published on that web site save where the Authority, in its absolute discretion, considers that the relevant documents, or their contents, would be exempt from disclosure in accordance with the provisions of the Freedom of Information Act 2000.
- (3) Where the Authority considers that any such exemption applies, the Authority will redact the relevant documents to the extent that the Authority considers the redaction is necessary to remove or obscure the relevant material, and those documents will be published on the designated web site subject to those redactions.
- (4) Where the Parties later agree changes to the contract, the Authority will publish those changes, and will consider any redaction, on the same basis.
- (5) In Condition 37(1) the expression "tender documents" means the advertisement issued by the Authority seeking expressions of interest, the pre-qualification questionnaire and the invitation to tender and the contract includes the Contractor's proposal.

38. Monitoring and Management Information

- (1) Where requested by the Authority, the Contractor shall supply to the Authority and/or to the Cabinet Office such information relating to the Contractor's management and performance of the Contract as they may require.
- (2) The information referred to in Condition 38(1) may include, but is not limited to, the following: Line Item Amount, Invoice Line Description, Invoice Line Number,

Currency Code, Order Date, VAT Inclusion Flag, VAT Rate, List Price, Number of Items, Unit of Purchase Quantity, Price per Unit, Contractor Service Code, Service description and/or name, UNSPSC Code, Taxonomy Code and/or Name, Geographical, Project Code, Project description, Project Start Date, Project Delivery Date (Estimate and Actual), Total project cost and Project Stage. The information may also, without limitation, include information relating to the capability of the Contractor (and any key sub-Contractor) to continue to perform the Contract (including information on matters referred to in regulations 23 to 27 of the Public Contracts Regulations 2006).

- (3) The information referred to in Condition 39(1) shall be supplied in such form and within such timescales as the Authority or the Cabinet Office may reasonably require.
- (4) The Contractor agrees that the Authority may provide the Cabinet Office, any other government department or agency or any other person or entity referred to in Condition 39(2) (Information Confidential to the Contractor), with information obtained under this Condition 41 and any other information relating to the Services procured and any payments made under the Contract.
- (5) Upon receipt of the information supplied by the Contractor in response to a request under Condition 39(1) or receipt of information provided by the Authority to the Cabinet Office under Condition 39(4) the Contractor hereby consents to the Cabinet Office (acting through the Government Procurement Service):
 - (a) storing and analysing the information and producing statistics; and
 - (b) sharing the information or any statistics produced using the information, with any person or entity referred to in Condition 39(2).
- (6) The Authority may make changes to the type of information which the Contractor is required to supply and shall give the Contractor at least one calendar month's written notice of any such changes.

39. Information confidential to the Contractor

- (1) Unless agreed expressly by both parties in writing, in a confidentiality agreement identifying the relevant information, information obtained by the Authority from the Contractor shall not constitute confidential information relating to the Contractor.
- (2) Where any information held by the Authority does constitute confidential information relating to the Contractor, the Authority shall nonetheless have the right to disclose that information:
 - (a) on a confidential basis to any other government department or agency for any proper purpose of the Authority or of that department or agency;
 - (b) to Parliament and Parliamentary Committees or if required by any Parliamentary reporting requirement;
 - (c) to the extent that the Authority (acting reasonably) deems disclosure necessary or appropriate in the course of carrying out its public functions;

- (d) on a confidential basis to a professional adviser, consultant, Contractor or other person engaged by any of the entities described in sub-paragraph a) (including any benchmarking organisation) for any purpose relating to or connected with the Project;
- (e) on a confidential basis for the purpose of the exercise of its rights under the Contract; or
- (f) on a confidential basis to a proposed successor body in connection with any assignment, novation or disposal of any of its rights, obligations or liabilities under the Contract.

(3) For the purpose of paragraph (2) of this Condition, references to disclosure on a confidential basis mean disclosure subject to a confidentiality agreement.

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

(2) The contact details of the Contractor’s Data Protection Officer are:

(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	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. 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.

Duration of the processing	Processing will take place from 28/01/2019 for the duration of the Contract. The Contract will end on 21/01/2021 but may be extended
Nature and purposes of the processing	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 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.
Type of Personal Data	<p>Names, business telephone numbers and email addresses, office location and position of staff of both the Authority and the Contractor 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> <p>Personal data derived from piloting SMETER technologies in households.</p>
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	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

<p>under European Union or European member state law to preserve that type of data</p>	<p>Contractor after the expiry of the Contract. The Contractor will certify to the Authority that it has completed such deletion.</p> <p>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.</p>
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Information on the latest innovation calls can be found here:

<https://www.gov.uk/guidance/energy-innovation>

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1 Victoria Street, London, SW1H 0ET

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