DPS FRAMEWORK SCHEDULE 4: LETTER OF APPOINTMENT AND CONTRACT TERMS

Part 1: Letter of Appointment

Dear Sirs

Letter of Appointment

This letter of Appointment dated Monday 21st December 2020, is issued in accordance with the provisions of the DPS Agreement (RM6018) between CCS and the Supplier.

Capitalised terms and expressions used in this letter have the same meanings as in the Contract Terms unless the context otherwise requires.

Order Number:	CR20110
From:	**The Department for Business, Energy and Industrial Strategy** (BEIS), 1 Victoria Street, London, SW1H 0ET ("**Customer**")
To:	**Market and Opinion Research International Limited** (trading as Ipsos MORI) 3 Thomas More st, St Katherines & Wapping, London, E1W 1YW ("**Supplier**"),

Effective Date:	Monday 21st December 2020
Expiry Date:	Friday 31st March 2023 With break clause special terms as follows: Wednesday 31st March 2021 On delivery of the Phase 1 report – Friday 30th July 2021 Thursday 31st March 2022 Notice Period for cancellation is 30 days

Services required:	Set out in Section 2, Part B (Specification) of the DPS Agreement and refined by: The Customer's Project Specification attached at Annex A and the Supplier's Proposal attached at Annex B; and

Key Individuals:	[redacted]
[Guarantor(s)]	N/A

Contract Charges (including any applicable discount(s), but excluding VAT):	£652,000.00 ex VAT in alignment with Schedule 2 and Annex 1 of the CR20110 Contract Terms. [redacted]
Insurance Requirements	Additional public liability insurance to cover all risks in the performance of the Contract, with a minimum limit of £5 million for each individual claim Additional employers' liability insurance with a minimum limit of £5 million indemnity Additional professional indemnity insurance adequate to cover all risks in the performance of the Contract with a minimum limit of indemnity of £2 million for each individual claim.

	Product liability insurance cover all risks in the provision of Deliverables under the Contract, with a minimum limit of £5 million for each individual claim.
Liability Requirements	**Suppliers limitation of Liability** (Clause 18.2 of the Contract Terms);
Special Terms	**There will be 3 break clauses in the contract as per the following dates:** • Wednesday 31st March 2021 • On delivery of the Phase 1 report – Friday 30th July 2021 • Thursday 31st March 2022 If any of the break clauses are initiated, we would expect the contract to draw to a close on the dates outlined above (providing 30 days notices for termination has been served, as per the terms of the contract.
Customer billing address for invoicing:	finance@services.uksbs.co.uk or Billingham (UKSBS Queensway House, West Precinct, Billingham, TS23 2NF).

FORMATION OF CONTRACT

BY SIGNING AND RETURNING THIS LETTER OF APPOINTMENT (which may be done by electronic means) the Supplier agrees to enter a Contract with the Customer to provide the Services in accordance with the terms of this letter and the Contract Terms.

The Parties hereby acknowledge and agree that they have read this letter and the Contract Terms.

The Parties hereby acknowledge and agree that this Contract shall be formed when the Customer acknowledges (which may be done by electronic means) the receipt of the signed copy of this letter from the Supplier within two (2) Working Days from such receipt

For and on behalf of the Supplier: **For and on behalf of the Customer:**

[redacted]

ANNEX A

Customer Project Specification

1. Background

In July 2020 the Chancellor announced a £3.05bn package of Green Economic Stimulus schemes to support economic recovery through the delivery of energy efficiency and low carbon heating measures[1]. The Green Homes Grant (GHG)[2] represents £2bn of this funding and targets the delivery of energy efficiency measures and low carbon heating installations to homes in England.

The Green Homes Grant is a new scheme which is additional to, and separate from, existing policies targeting energy efficiency or low carbon heating in homes such as the Energy Company Obligation (ECO).

The Green Homes Grant comprises two schemes:

- Green Homes Grant Vouchers Scheme – GHGS(V)
- Green Homes Grant Local Authority Delivery scheme – GHG-LAD.

This commission is for the evaluation of the GHGS(V) scheme. The GHG-LAD scheme is being evaluated separately.

The GHGS(V) scheme represents £1.5 billion of funding for installations in homes in England. The GHGS(V) is composed of two parts:

- **The general scheme**: funding to provide homeowners, and landlords with a two-thirds subsidy towards energy performance and low carbon heat measures, up to the value of £5,000 of government contribution.
- **The low-income scheme**: funding specifically targeted at low-income owner occupiers, funding up to 100% of the value of energy performance and low carbon heat measures up to the value of £10,000.

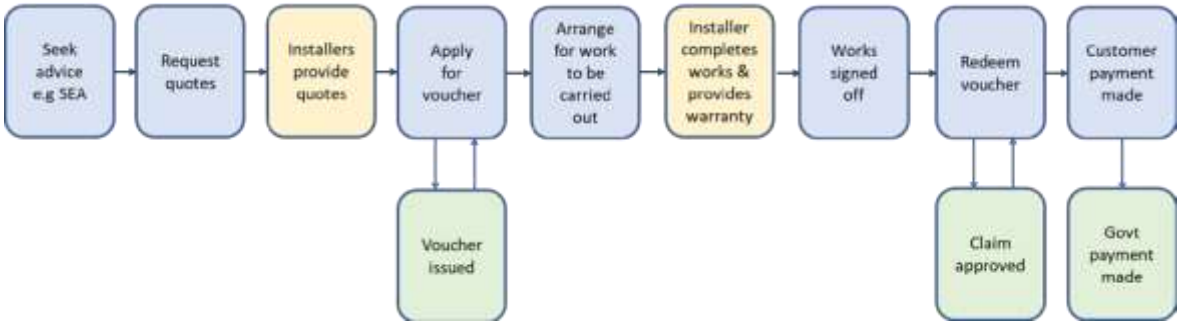
Green Homes Grant vouchers can be used to install a range of primary measures (insulation or low carbon heating). In addition, households can use their voucher for further energy-saving secondary measures, including double or triple glazing/secondary glazing thermostats and heating controls[3].
Details of the scheme were published online on 28 August 2020 via Gov.uk and the Simple Energy Advice websites. The main scheme is expected to launch on 30th September 2020 and is a time limited scheme, due to end in March 2021.

Customer Journey

From September 30th customers will be able to use the Simple Energy Advice (SEA) website to check their eligibility for the scheme and create a Green Homes Grant home improvement plan. On the SEA website they will also be able find suitably certified traders in their area and contact them to receive quotes. Eligible applicants will then be able to apply for a voucher from 30 September via gov.uk . Voucher applications and redemptions will be managed by the scheme delivery partner.

The outline customer journey from 30th September is described below:

[1] https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020
[2] https://www.simpleenergyadvice.org.uk/pages/green-homes-grant
[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/914892/Consumer_additional_information_0492020.pdf



Installer Journey

Installers are required to become accredited to Trustmark in order to be eligible to supply energy efficiency or low carbon heat measures under this scheme[4]. For energy efficiency measures, installers need to be certified to install measures under the Publicly Available Specification (PAS) standards 2030: 2017 or 2030: 2019. For low carbon heat measures, this includes certification with the Microgeneration Certification Scheme (MCS). There are two routes to accreditation for the scheme (TrustMark registration[5])

- *Existing members of a valid certification body*
  Where an existing certification body or scheme provider member wishes to become TrustMark registered, they can apply either directly to TrustMark, or through their certification body.

- *New applicant to valid certification body*
  Where a business is not yet a member of a certification body or scheme provider, they can identify a suitable scheme via the TrustMark website. From there they will be passed to the scheme for onboarding and registration.

Installers, once certified and registered as an approved installer on the TrustMark website will be added to a directory of certified installers on the SEA website. They will register their company and bank details with the administrator of the voucher scheme to receive payments. When selected by an eligible homeowner participating in the scheme the homeowner's voucher will name the tradeperson or business. The government, via the scheme delivery partner, will pay for costs covered by the voucher after the work is completed and the voucher has been redeemed (subject to meeting the scheme and voucher terms and conditions).

It is expected that additional training will be undertaken by some new entrants to the installer market. Although the key scheme aim is to support jobs, one of the secondary outcomes for the installer market is the development of skills and the take-up of training to be able to deliver the scheme.

2. Aims and Objectives of the Project

[4] https://www.gov.uk/guidance/green-homes-grant-scheme-register-as-a-certified-tradesperson-or-business
[5] https://www.trustmark.org.uk/ghgs

This evaluation contract sets an ambitious scope and timeline to support the rapid collection of evidence throughout the scheme and soon after the scheme ends on 31 March 2021. The relatively short length of the scheme requires us to collect evaluation data as early in the life of the scheme as possible so we can identify risks and issues while there is still time to adapt to them. This rapid evidence collection is combined with a longer term evaluation to fully evaluate the GHGS(V) scheme.

The evaluation will include process, economic and outcome evaluations. Research questions for each form of evaluation have been developed and are listed separately below, though the appointed contractor is responsible for reviewing the appropriateness and deliverability.

The overarching aims for the evaluation are as follows:

GHGS(V) Evaluation

The evaluation of GHGS(V) aims to:

1. Provide rapid evidence into how delivery of the scheme is progressing and provide early insight into delivery of outcomes;
2. Provide evidence to understand the barriers and opportunities experienced during delivery.
3. Provide a summary of outcomes achieved by the scheme, and how these vary across the scheme;
4. Provide additional evidence where available to understand impact and to support a cross-cutting evaluation being scoped outside this contract of the package of Green Economic Stimulus schemes.

Process Evaluation Aims and Questions

The process evaluation aims to understand what happens during the scheme implementation, what this has meant for the actors within the scheme and what worked more or less well and why. The timings for the Process evaluation are expected to run from evaluation start until July 2021.

The process evaluation will include primary research and secondary analysis of scheme data. It is expected to involve a cross-sectional survey and qualitative research with the following groups:

- Owner occupier applicants;
- Landlord applicants;
- Installers;
- Accreditation and installer register bodies;
- Installer training providers;
- Manufacturers and other parts of wider supply chain;
- Scheme Grant Administrator and other stakeholders.

The questions set out below cover five main areas:

- Scheme delivery
- Customers and applicants
- Installations
- Supply chain and economic recovery
- Cost effectiveness and future policy

Scheme Delivery

- What has been the awareness, take up and engagement by the public and installers under the scheme?
- What is the demographic make-up of applicant households?
- How effective has the scheme been at encouraging applications (and take up of installations) by low income or fuel poor households?
- What has been the impact of Covid19 on deliverability of the scheme for consumers and the supply chain?
-

Customers and Applicants

- What were the enablers and barriers to referrals, applications and installations? Who did this affect?
- To what extent do consumers and landlords have a positive experience (engagement, assessment, installation and usage), and how is this influenced by the scheme design?
- To what extent has installation experience been affected by COVID-19?

Installations

- Is the scheme delivering the number and type of installations originally expected?
- What has been the quality of installations under the scheme?
- Are there other measures installed as a follow up to these installations?

Supply Chain and Economic Recovery

- Does the energy efficiency / low carbon heating installer market have the capacity/ willingness to participate in these projects?
- What are the characteristics of the installer firms engaging with the scheme?
- How is the scheme supporting the creation and retention of energy efficiency/ low carbon heating jobs across the supply chain?
- How has any additional installer training interacted with the capacity required for the scheme and supported the skills installers needed to deliver quality installations?

Cost Effectiveness and Future Policies

- What are the costs incurred for installing energy efficiency/ low carbon measures in homes? How do these costs compare with industry averages?
- Is the scheme being delivered in way that represents value for money?
- To what extent has there been any inflation of costs under the scheme?
- What are the critical success factors and barriers behind the delivery of this scheme?
- To what extent has the scheme been affected by fraud and gaming? How effective was the scheme at minimising potential fraud and gaming?
- How did the voucher scheme interact with other BEIS schemes? What was the extent of duplication of funding? Were similar installers used for other stimulus schemes?

Outcome Evaluation and Questions

After the process evaluation, an outcome evaluation will be carried out to assess the extent to which scheme benefits have been achieved. It is expected that, while measures will be installed during and soon after the scheme, the majority of the outcomes (including energy impacts) will not be realised during the lifetime of the scheme (i.e. before March 2021). The outcome and economic evaluations will need to be scoped in more detail during the process evaluation. Interactions with other BEIS schemes (e.g. GHG-LAD, other domestic home energy retrofit and low carbon retrofit schemes e.g. ECO3, PRS MEES) will be investigated through a separate cross-cutting evaluation (commissioned outside of this evaluation).

The contractor is expected to support the development of the evaluation questions for this outcome evaluation as part of initial scoping work. However, the current outcome evaluation questions are likely to be:

- How effectively has the scheme supported the creation or preservation of FTE jobs involved directly and indirectly in delivering?
- How effectively has the scheme driven the development of skills needed to meet Net Zero?
- Did the scheme contribute to the creation of long-term growth in the energy efficiency/ low carbon heating supply chain?
- How effectively has the scheme driven consumer demand for installation of homes and low carbon heating measures?
- How effectively has the scheme delivered energy, carbon and bills savings?
- How effectively has the scheme engaged low income households, including those at risk of fuel poverty?
- To what extent did the scheme deliver energy efficiency installations which were high quality and represented good value for money?
- To what extent were installations delivered which were not possible through other policies?
- How effectively has the installation of energy efficiency/low carbon heating measures led to property occupants improved health and well-being and/or warmer homes?
- To what extent has the scheme been affected by fraud and gaming?

- What have we learned about consumer preferences from the choice of primary and secondary measures in combination with any additional unrelated building work?

A longitudinal follow up survey to that in the process evaluation phase and additional qualitative research will be required to gather evidence to address these questions.

Economic evaluation

An economic evaluation is included under this contract to be conducted alongside the outcome evaluation. We invite the contractor to scope out the key questions that can be answered with the data available. However key questions are expected to include:

- What is the average cost of installing measures in homes applying and redeeming vouchers under the scheme? How does this vary by measure, tenure or property type?
- What costs are incurred by the different actors involved in the scheme?
- What benefits have been achieved by voucher scheme?
- Have there been differences in costs and benefits between the different subgroups of participants/ installers?

This evaluation contract is not expected to deliver the full impact evaluation. This will be commissioned as a standalone contract once the appropriate methodologies have been confirmed(see below).. However we would like the evaluation to explore the early economic impacts as far as possible from the data available.

Timings

It is expected that the evaluation will be divided into three phases:

Phase 1 - Process evaluation (November 2020 to July 2021)

Phase2 - Follow up surveys and initial outcome and economic evaluations (August 2021 – March 2022)

Phase 3 - Continuing outcomes and economic evaluation and emerging impacts (April 2022 – March 2023).

Process, economic and outcome evaluation milestones

Evaluation stage	Expected Timing	Key research methods	Analysis methods used in GHGS(V) and Crossovers with other projects (in grey)	Reporting
Phase 1 –Process evaluation	November 2020 – July 2021	Qualitative interviews and Wave 1 surveys with key subgroups Analysis of scheme and installer data (e.g. Trustmark / MCS)	Project setup and scoping to support real time monitoring Data scoping and outcome and economic evaluations Testing of analysis of smart meter data (alongside cross-cutting evaluation feasibility study)	Emerging evidence report: December 2020 Interim reports: March 2021 July 2021 Monthly high-level findings (unpublished)
Phase 2 – Follow up surveys and initial outcome and economic analysis	August 2021 – March 2022	Follow up (Wave 2) surveys with key subgroups and additional	Initial cost and benefit analysis	Interim report March 2022

		qualitative research Additional analysis of scheme and installer data (e.g. Trustmark / MCS)	Additional smart meter data analysis (if feasible)	
Phase 3 – Additional outcomes and economic analysis and emerging impacts	April 2022 – March 2023	Additional qualitative research with key subgroups (if required)	Additional cost and benefit analysis Additional smart meter data analysis Crossover with cross-cutting impact evaluation	Final report by March 2023
Cross-cutting impact evaluation (separate contract)	Q2 2022 - Early 2024		Impact evaluation using NEED and IDBR data	Expected Autumn 2022 and Winter 2023/24

Outputs
The main expected outputs from the GHGS(V) evaluation are:

- December 2020 – Emerging findings report focusing on the evidence to date, particularly on initial responses from applicants and installers. Given the timescales, we expect this report to be light-touch and will not be published.
- Jan/Feb 2021 – Interim Process Report on the additional evidence available to address further process evaluation questions
- July 2021 – Phase 1 summary report setting out the evidence against all of the process evaluation questions
- March 2022 – interim phase 2 report (follow up surveys and initial outcome and economic analysis)
- March 2023 – Phase 3 summary report (additional outcomes and economic analysis and emerging impacts).

There are additional unpublished outputs and the potential for additional outputs set out in Section 4.

A contract break point will be included at the end of each financial year and after the July 2021 report. This break point allows BEIS to manage the spend which extends into a new spending review period (from April 2021) and accounts for the uncertainty in the delivery of the scheme.

Engagement with 'real time' and additional monitoring of the scheme

Alongside the evaluation, the outcomes from and delivery of the scheme are being monitored through multiple projects outside of this contract. There is a contractor in place to develop 'real time' (i.e. fast, accessible and visual) monitoring of the stimulus schemes, focusing particularly on GHGS(V) to give key internal stakeholders insight into how the scheme is being delivered and emerging outcomes. The winning contractor will be required to work with these contractors during Phase 1 to determine the extent to which outputs from the evaluation may be able to contribute to 'real time' monitoring, for example, using data from surveys of installers to understand at speed the impact on supply chains. This will involve close partnership working not only with BEIS but the contractors on this project, from scheme start.

In addition, each month there is expected to be statistical monitoring of energy and carbon impacts and spending across the stimulus schemes produced by BEIS statisticians using the scheme and third party data.

There is less likely to be any overlaps with the evaluation and this project, for example, no data is likely to be transferred between statisticians and the contractors or vice versa. However, the methodology used by the statisticians to calculate energy savings might inform the methodology used for the measurement of interim evaluation outcomes.

Plans for separate, future cross-cutting evaluation

There is work underway under a separate contract to scope a future cross-cutting evaluation of the four Short-term economic stimulus schemes. The successful contractor on GHGS(V) will be expected to engage with the contractor on this scoping piece and ensure that the outcomes data collected about vouchers matches the requirements for this future evaluation.

For clarification, the Short-term economic stimulus schemes considered to be included in this cross-cutting evaluation are:

- Green Homes Grant Vouchers scheme – GHGS(V)
- Green Homes Grant Local Authority Delivery scheme – GHG-LAD
- Social Housing Demonstrator Programme - SHDP
- Public Sector Decarbonisation Scheme – PSDS

The cross-cutting evaluation of the Short-term economic stimulus schemes has the following aims:

1. Develop an evaluation framework to assess the impacts across the stimulus schemes
2. Confirm methodologies for demonstrating the impacts achieved across the stimulus schemes
3. Provide early insight into the impacts achieved across the stimulus schemes.

This cross-cutting evaluation contract is not part of this procurement and is expected to be commissioned as a standalone contract in the future. However we expect the contractor who wins this evaluation to collect data to inform the cross-cutting impact evaluation and co-operate with the contractors delivering the scoping exercise (commissioned as part of the GHG-LAD evaluation) and any future contractors working on the final impact evaluation. This is expected to include activities such as:

- Understanding the approach to obtaining smart-meter data
- Comparing sample frames to reduce duplication of contacts
- Sharing summary data to support collating of outcomes across the stimulus schemes
- Sharing barriers and successes in engaging with hard to reach groups
- Implementing agreed questions or permissions processes to ensure consistency across the schemes.

The outputs expected from the economic stimulus schemes cross-cutting scoping and early insight evaluation are:

- Evaluation framework – March 2021
- Early impact insights – June 2021 and June 2022
- Impact evaluation scoping report – September 2021

3. Suggested Methodology

Total number of Interviews (survey)	3000 applicant surveys (2400 household, 600 landlord) by June 2021. 2000 applicant follow up surveys between spring and summer 2022 Up to 500 installer surveys by June 2021. 300 installer follow up surveys between late 2021 and autumn 2022

Total number of Interviews (qualitative)	**Phase 1 process evaluation**: 70 applicant (homeowners, tenant, and landlords), 30 installer, 20 Accreditation and installer register bodies and those conducting audits/ assessments of installations, 5 installer training providers, 10 manufacturers and other parts of wider supply chain, 10 scheme grant administrator and other stakeholders, including BEIS e.g. on Communications and marketing of the scheme). **Phases 2 and 3 (outcome and economic evaluations):** 50 applicant (homeowners, tenant, and landlords), 20 installer, 20 Accreditation and installer register bodies and those conducting audits/ assessments of installations, 5 installer training providers, 10 manufacturers and other parts of wider supply chain, 10 scheme grant administrator and other stakeholders. Interviews will be approximately 45 minutes long.
Any other specific requirements	Cost and benefit analysis during Phases 2 and 3. Assessment of feasibility of using smart meter data for outcomes evaluation during Phase 1 and (if feasible) analysis of data during Phases 2 and 3. Additional scheme data analysis to support main research questions.

A suggested methodology is outlined below in order to highlight the range of methods that BEIS believe are appropriate and feasible to meet the aims set out above. However, BEIS would welcome bids which propose different methodologies or offer additional activities.

To deliver the aims set out above, it is expected that the evaluation will need to include the following workstreams:

- Process evaluation
- Outcomes evaluation
- Initial economic evaluation
- Synthesis

It is expected that the evaluation will be divided into three phases:

Phase 1 - Process evaluation (November 2020 to July 2021)
Phase2 - Follow up surveys and initial outcome and economic evaluations (August 2021 – March 2022)
Phase 3 - Continuing outcomes and economic evaluation and emerging impacts (April 2022 – March 2023).

The activities expected to be conducted under each part of the evaluation workstreams are described below.

Project setup

- Given the need for rapid insight into the GHGS(V) scheme, it is expected that a very short period of evaluation setup will be conducted. This would include a review of the evaluation questions to confirm appropriateness and deliverability.

- Set up meetings with BEIS will occur at the start of each phase to ensure BEIs and the chosen contractor are aligned in expectations of the required research and deliverables.

- An evaluation plan should be developed and agreed with BEIS to confirm the proposed workplan and timings.

- As mentioned in section 2 and below, Phase 1 will need to include feasibility assessments of data to support real time monitoring, smart meter analysis; and the outcome and economic evaluations in Phases 2 and 3.

Process evaluation

The activities listed below have been included in order to provide detailed insight into how the GHGS(V) funding is being used to deliver the scheme aims. The priority for the process evaluation is to highlight barriers and opportunities across the very initial and later scheme delivery. Bidders are encouraged to consider the activities proposed below, but to also consider additional activities or approaches which can provide the required learning.

A priority for this process evaluation is providing evidence in the first three months of the evaluation to support in-flight understanding of a scheme expected to last only six months. It is important that this evaluation is designed to recognise and highlight early issues so we can adapt the scheme if necessary. As some of these issues may be unexpected, we cannot provide a complete list but areas of interest are likely to be:

- Length of time that the steps in the process take
- Level of customer take up
- Capacity to deliver in the supply chain
- Mix of measures installed

For this reason, bids should clearly state delivery timelines and resources to ensure this can be met.

It is expected that evidence is collected, and findings can be presented, specific to each phase of the scheme. For this reason, the activities below are likely to be repeated multiple times to ensure the populations concerned with each phase are covered.

The process evaluation will include primary research and secondary analysis of scheme and other data. It is expected to involve a cross-sectional survey and a longitudinal follow-up survey and qualitative research with the following groups:

- Applicants (homeowners and landlords);
- Installers of measures under the scheme.

There will also be additional qualitative research with the following groups:

- Accreditation and installer register bodies;
- Installer training providers;
- Manufacturers and other parts of wider supply chain;
- Scheme Grant Administrator and other stakeholders, including BEIS.

Please see the section titled *Data sources for sampling frames and secondary data* below for details of the available sampling frames.

The primary data collection for the whole evaluation is described in this process evaluation section, however, the results from both follow up surveys and qualitative research will also form part of the evidence base for the outcome and economic evaluations.

Surveys

There are expected to be surveys between October 2020 and June 2021 (wave 1) with follow up interviews in spring/summer 2022 (wave 2). The rationale for the follow up survey approach is to be able to collect information about what happened after measures were installed, in particular supporting understanding of:

- Homeowners and tenants: demographics; use of installations, installation quality and warmth/ health impacts; additional costs incurred;
- Landlords: Additional costs incurred; plans for future installations across portfolios (if applicable); interactions with other BEIS policies;
- Installers: future and follow on work; medium-term job and skills impacts.

The scheme delivery partner will, as part of the application process and installer registration process, ask for consent for scheme participants (applicants and installers) to be re-contacted for research by the evaluation contractors.

BEIS welcome suggestions on the most effective way to deliver this survey, though we suggest a combination of telephone and postal surveys. Postal surveys will definitely be possible given the property address and occupant names will be known, phone and email details will be asked for but there is a chance that not every household will be willing to provide this information. Online would also be considered if contractors can confirm effectiveness, however, the target audiences are likely to include consumers who are less likely to have online access or capability. For telephone surveys, these are expected to be a 30 minute maximum length, with perhaps shorter timings for installers to ensure sufficient participation.

Proposals should state the sample sizes that are appropriate for the methodology they are suggesting and the expected confidence intervals around sample sizes. There should also be a discussion of the potential challenge of sample sizes allowing for robust standalone analysis of the sub-groups of interest and how the evaluation plan can mitigate this issue.

To support early insight, initial findings will be required within the first two months of the evaluation and at regular intervals throughout and after the scheme. Potentially this could take the form of a rolling monthly survey rather than waves at fixed time periods. Whatever the design, this method would need to ensure that robust results can be delivered quickly and that the final achieved sample is representative of the applicant and installer population by the end of the scheme. We would expect monthly outputs in the form of tables or notes to help the department pick up on issues that need to be resolved quickly (see deliverables section).

Applicant surveys (Wave 1)

During the scheme it is expected that up to 600,000 applications will be made by homeowners (including landlords), although potentially numbers could be low at the start of the scheme before it builds momentum. We welcome discussion on the most effective sample sizes but (based on the Energy Company Obligation (ECO) design) it is expected that an achieved sample of up to 3,000 participants (homeowners and tenants (2,400) , landlords (600)) will be required between scheme start and June 2021. A recent ECO survey suggests that a 20% response rate is feasible[6]. The budget does not currently include incentives for participation by applicants, but this will be reviewed if response rates are poor.

As a minimum, sample sizes will need to be large enough to analyse results by the following characteristics:

- Homeowners and tenants: by property type, EPC level, low income vs general scheme, tenure, region;
- Landlords: by property type, property EPC level, region (it is unlikely that other sampling characteristics will be available through the scheme data but this will need to be investigated by the appointed contractor).

[6] BEIS internal reports, due for publication 2020.

Where applicable, questions will follow a similar structure to a recent ECO household survey and the planned GHG-LAD surveys, allowing for comparison between schemes, this will include:

- Participant demographics – to understand who has been reached by the scheme, including fuel poverty status (property details should be provided by Scheme Delivery Partner;
- Customer journey, motivations and response to initial marketing;
- Homeowners and tenants' household contexts, including health conditions and disabilities within the household.

For landlords, the survey will focus on the following questions:

- Customer journey, motivations and response to initial marketing;
- Experience of contracting installers and the installation process, including any effect of Covid19;
- Perceived quality of installations;
- Interactions with other BEIS policies, especially private rented sector minimum energy efficiency standards.

BEIS will be able to provide a core set of existing questions which would ideally be replicated to allow for comparison to previous surveys. However, bids should include budget for packaging these into a bespoke questionnaire and designing new scheme specific questions.

Applicant follow up survey (Wave 2)

The follow up applicant survey is expected to take place between spring and summer 2022 to allow for households to have experienced a full heating season after installations. This survey will measure the changes experienced since the installations with topics including:

- Experience of and perceived quality of installations;
- Perceived comfort and health impacts of the measures installed;
- Energy bill savings;
- Additional spend post installation (e.g. additional energy efficiency/ low carbon measures, fittings);
- Consideration of additional installations of energy efficiency/ low carbon measures in the future.

The exact number of achieved interviews expected in the follow up survey will need to be agreed with the appointed contractor, along with an estimate of potential attrition rates. However, in planning the evaluation an estimate of 2000 applicant achieved follow up interviews has been used.

Installer surveys (waves 1 and 2)

It is expected that surveys with installers will support understanding of the extent of installer responses to the scheme, particularly for jobs, skills and the quality of installations. The challenge for this research is to provide evidence within the tight timeframe of the scheme and how this will interact with developing proposals for installer surveys as part of the 'real time' data project. Given the uncertainty around this workstream, bidders are asked to detail proposals on the basis set out below (surveys of up to 500 installers, with a follow up of 300) but to be prepared to alter and develop this (scale or timings) during the setup of Phase 1.

Again, we welcome discussion on the most effective sample sizes given the currently limited registered installer population at scheme start. It is uncertain how many installers will become involved in the scheme although the number is expected to increase during the scheme lifetime. Therefore, the survey design will need to account for a changing sample population. During planning for this evaluation, an achieved sample of around 500 installers was used as the expected maximum for surveys to be conducted between scheme start and June 2021 (wave 1).

As a minimum, sample sizes will need to be large enough to analyse results by the following installer characteristics: existing and new entrants, size of firm, expertise (energy efficiency/ low carbon heating), region.

Bids should specify a sample design to best meet the multiple needs and challenges of the evaluation: 1. Demand for detailed and very frequent data on how the scheme is influencing the support for jobs within the energy efficiency and low carbon market; 2. the need to minimise research burden on the supply chain as far as possible 3. the need for data to meet the needs of a future cross-cutting evaluation.

Contractors' bids should propose ways of ensuring sufficient engagement with installers as well as a representative sample (e.g. by characteristics above, particularly size of firm and expertise). Response to previous BEIS installer surveys and qualitative research has been mixed, with some projects experiencing no substantive issues and others struggling with engagement or use of gatekeepers. Therefore, we accept that the proposed methodologies may include installer incentive payments to boost response and we welcome designs that minimise the use of gatekeepers.
Key questions for the installer survey will include:

- Installer firm context and experience (including years' of experience, previous firm size and trades, motivations for Trustmark/MCS and scheme registration);
- Approach to meeting increased demand from scheme, e.g. increase in firm employees / FTE hours of installations under scheme
- Skills and take up of training
- Perception of stability of demand for energy efficiency / low carbon market

The follow up survey (Wave 2) will measure the change in these metrics for installers. The exact number of achieved interviews expected in the follow up survey will need to be agreed with the appointed contractor, along with an estimate of potential attrition rates. However, in planning the evaluation an estimate 300 installer achieved follow up interviews has been used.

Qualitative research

In addition to the survey research set out above, the evaluation will include qualitative interviews with a range of stakeholders to support in-depth understanding of responses by different groups (for process and outcome evaluations). It is proposed to include research with the following subgroups:

Subgroup	**Number of interviews**	
	Phase 1 (Nov 2020 to July 2021)	**Phases 2-3 (Aug 2021 to March 2023)**
Applicants (homeowners, tenants and landlords)	70	50
Installers	30	20
Accreditation and installer register bodies and those conducting audits/ assessments of installations	20	20
Installer training providers	5	5
Manufacturers and other parts of wider supply chain	10	10
Scheme Grant Administrator and other stakeholders	10	10

We propose that these qualitative interviews will be conducted by telephone or online, with an expected length of up to 45 minutes.
Proposals should set out the expected timings for these interviews to meet demand and support understanding of survey findings. It is expected that initial qualitative research should be conducted early in the project to support the output in December 2020. There is a need to be flexible to explore through the qualitative research any issues or additional subgroups of interest that arise during the scheme or evidence from other evaluation activities.

Collation and review of additional data

The evaluators are responsible for collecting or collating additional evidence that would add value to the process evaluation. This is not expected to require primary data collection, but instead would draw on data that stakeholders may be able to provide. For example:

- Analysis of Trustmark/ monitoring data to identify the nature of organisations that are delivering installations under GHGS(V), for example are they new or existing in the market?
- Analysis of monitoring data collected by the delivery partner (see Appendix 1- Microdata).

As with the rolling survey results, we would expect regular outputs from this analysis outside of formal reporting.

Scoping for outcome and economic evaluation

During the Phase 1 (process evaluation phase) there will need to be scoping work conducted to support the outcome and evaluation workstreams during Phases 2 and 3 described below.

Outcome Evaluation

The outcome monitoring and reporting is central to BEIS having up-to-date insight into the outcomes achieved by the scheme, without having to wait for a full impact evaluation to be conducted.

The outcomes reported provide insight into how each of the economic stimulus schemes in the cross-cutting evaluation is performing against its objectives, however, due to the overlap and commonalities across the schemes these outcomes should not be added across the different schemes due to the risk of double counting or incorrect attribution of the true cause driving each outcome (i.e. there may be an additive effect where delivery under GHGS(V) has benefited from the presence of the other schemes).

We will require the evaluation contractor to draw comparisons of the reported outcomes against expected delivery or other policies, where it is appropriate to do so. The full counterfactual evaluation is reserved for the cross-cutting impact evaluation.

We expect the evaluation to include quantitative analysis of the scheme data and that of third parties such as Trustmark to understand the effectiveness of scheme delivery and outcomes under the scheme (see aims section above for full list of Outcomes questions). If available, it will also draw on external analysis of Smart Meter data.

Market outcomes

To assess the number of installers working to install GHGS(V) measures, and the number of jobs supported, the evaluation will draw on data from a range of stakeholders in the sector, including:

- A high-level count of the number of installation companies is provided by the scheme delivery partner and the evaluation surveys of installers will improve estimates of the number of jobs supported.
- The installer numbers can be validated against the Trustmark and Microgeneration Certification databases where the installer company name is recorded for each installation. This also allows a high-level process of deduplication to take place, where installers working under multiple government schemes can be identified.
- Qualitative research (see Process Evaluation methodology above) with other parts of the supply chain (e.g. manufacturers) will help to unpack the impact on jobs throughout the supply chain and validate the assumptions made in modelling the multiplier effect of energy/low carbon spend.

Delivery and Customer Satisfaction Outcomes

To assess customer satisfaction with the scheme and the number of installations delivered, the evaluation will draw on data from the Delivery Partner as well as the applicant survey.

Additional analysis of outcomes data

The evaluation contractor is expected to conduct additional analysis of the outcomes data to provide further insight and answer the key aims of the outcome evaluation. This could include analysis against targets set by BEIS's modelling of scheme take up, as well as analysis between regions or between the low income or main schemes . It may also be appropriate to use the quantitative survey or qualitative interview data to provide further insight on the outcomes data, or vice versa.

Smart meter data analysis
There are two parts to any smart meters analysis for the GHGS(V) scheme. 1) Assessment of the feasibility of using smart meter data for the future cross cutting evaluation, which is included as part of the separately commissioned GHG-LAD evaluation. 2) As part of **this contract**, to assess whether it is feasible to use smart meter data to produce an initial assessment of the energy impacts of GHGS(V) (under Phase 1) and to conduct this standalone analysis during Phases 2 &3.

The reason for this overlapping approach is to ensure that BEIS can understand of the effect of the vouchers scheme as soon as possible. As a result, for the GHGS(V) evaluation standalone smart meters analysis, the contractor team will need to be able to work with the contractors on the cross-cutting scoping (to understand feasibility and consent) as well as working with the academics who currently have access to smart meter data.

Data sources for sampling frames and secondary data
The key data sources for use in the evaluation are:

- Scheme delivery partner – Provision of scheme data, performance data and (after GDPR compliant permissions) contact data for applicants and installers for the purposes of the evaluation has been included in the contract for the delivery partner to run the scheme. The full list of data requested from the bidders for the delivery partner contract are listed in Appendix 1 - Microdata. The evaluation team will be engaging with the delivery partner once they are in place to agree the exact data and format required for evaluation data. A separate data sharing agreement is being put in place.

- Trustmark/ Microgeneration Certification Scheme (MCS) –Some scheme data (e.g. number of registered installers by location) is already available publicly or is shared with BEIS on a regular basis currently. Additional discussions are underway to obtain further data from these two installer registration bodies.

- Websites (Simple Energy Advice / Gov.uk) – Data is already collected by BEIS on the level of website traffic and other analytics (e.g. access of individual website pages) from these websites to monitor the initial response to the scheme.

- Smart meter data (following consent) – Access to smart meter data is governed by GDPR and the Smart Energy Code (SEC) and requires specific technical functionality to facilitate, along with clearly documented and approved consumer consent and management processes. The vouchers delivery partner has been asked to obtain initial consent from applicants to be approached by a future smart meters subcontractor to gain all of the consents required for analysis of smart meter data..

Initial economic evaluation
Initial value for money analysis will be conducted as part of this evaluation using outcome level data. This will aim to set out the initial costs and benefits under the scheme to feed benefits management for the GHGS(V). The key tasks for this workstream are:

- Collect data to support the final cross cutting Impact Evaluation
- Scope out and provide suggestions of the most effective method to develop the understanding of costs and benefits during the evaluation
- Provide a summary of the costs and benefits generated by analysis of the outcomes data

This workstream would supplement the economic evaluation which may be conducted as part of the cross-cutting evaluation.
The evidence collected under the economic evaluation should also allow for a valuation of the economic outcomes of the scheme. The outcomes which are expected to be monetised are listed below, and monetisation is expected to follow Green Book guidance to allow comparison to the benefits monetised under the scheme impact assessment.
Benefits which are expected to be monetised:

- Direct and indirect FTE Jobs supported
- Carbon savings
- Bill savings
- Health impacts
- Productivity benefits

Proposals should outline plans for the economic evaluation and any foreseen limitations to analysis or additional methodology which could be employed to meet the economic evaluation questions.

Evidence synthesis and reporting

The evaluation contractors will be responsible for the data collection described above, the associated analysis as well as the reporting. The reporting will include synthesis of evidence across the different data sources, for example connecting evidence from the scheme data and applicant interviews to understand why the customer journey may differ from that originally expected.
A priority for this evaluation is the timely provision of evidence to support the design of the scheme. The current interim outputs are timed to provide emerging evidence during the scheme as well as ongoing evidence for benefits reviews. In particular, the emerging evidence report planned for December 2020 is an important first point to review how the scheme has progressed in its first few months. Given the high profile, pace and scale of the scheme, bidders are invited to suggest additional reports or outputs which could be delivered to BEIS to support understanding of scheme progress and delivery.

Ethical considerations

Some of the survey participants are likely to be vulnerable in some way, especially given the existence of the low income scheme. This may include individuals who are elderly, disabled, living in very low income households, or who are vulnerable for other reasons.
Proposals are required to indicate the steps that will be taken to ensure the safety and well-being of all participants and interviewers, as well approaches to address any further ethical issues they identify as relevant to this project.

4. Deliverables

Evaluation reports
Section 2 sets out the outputs required and expected timings. BEIS recognise that this is a challenging timeline and expect all bids to confirm proposed reporting dates, and all subsequent, reports that align with the proposed methodologies.
The bids should be clear about what content will be included within each report. BEIS accept that the evidence available for the first reports in December 2020 and early 2021 will be relatively limited.
All reports should be of a publishable standard, with technical annexes and data tables provided where appropriate. Reports should use the BEIS Microsoft Word reporting template for published reports. Bids will benefit from providing additional outputs that support dissemination across BEIS, for example presentations, slide packs, interactive dashboards or infographics.
Additional outputs
In addition to the evaluation reports, it is expected that raw datasets will be provided to BEIS to support further analysis. This will include fully disclosive data from surveys. This is especially

important in the context of the delivery of the full cross-cutting evaluation which will be commissioned as a separate contract.

The provision of high level findings from consumer and installer surveys, and analysis of additional data on a monthly basis before March 2021, and at regular intervals during fieldwork after this point is required. These would likely feed into internal reporting to BEIS Ministers on the progress of the scheme. BEIS accept that provision of regular updates is dependent on the proposed survey methodology. Bids will benefit where they can provide regular updates, however BEIS's priority is to commission a methodology that can demonstrate robust data collection and a reliable delivery model.

Workshops and Presentations

Each Phase in the evaluation is expected to start with a workshop with BEIS and other stakeholders to agree the key elements in that Phase. For Phase 1 this will be part of the inception meeting.

BEIS expect there to be presentations of findings alongside each of the reports outlined in Section 2. In addition, up to two presentations per year may be required at BEIS Programme Board meetings.

Quality Assurance

All bids should state the quality assurance processes that will be applied to different activities and outputs. Where necessary and deliverables that provide evidence of QA should be specified.

All published impact evaluation reports will be subject to review by the BEIS Peer Review Group (at no additional cost to the appointed contractors). Bids will benefit where they can propose additional peer review throughout the delivery of the evaluation.

Project Management

All bids should include a summary of their project management approach, proposed frequency of project management meetings and how progress will be reported to BEIS.

ANNEX 8

Supplier Proposal

To be determined at Call for Competition stage

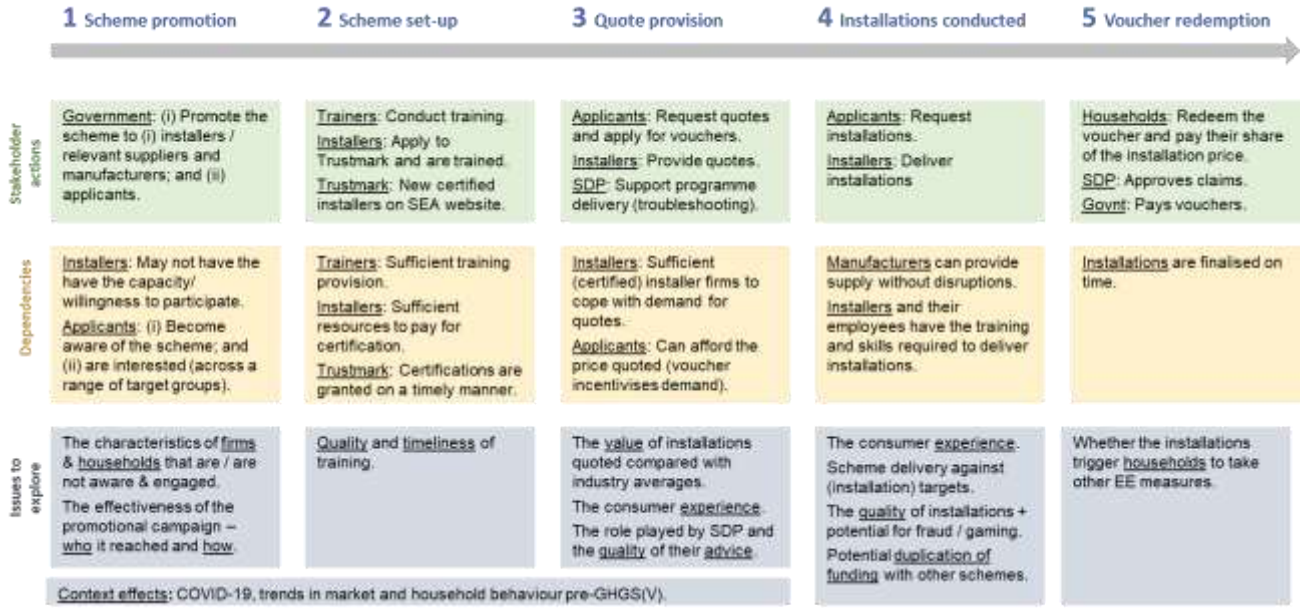
A. Objectives and aims

The objectives of the evaluation of GHGS(V) are to provide rapid evidence on scheme delivery and early insights into outcomes (Phase 1) and to assess outcomes, early indications of impacts, and how these were achieved (Phases 2&3). The evaluation thus comprises a **process evaluation**, an **outcomes evaluation** and an **economic evaluation** of the scheme's cost and benefit characteristics (to inform subsequent cost benefit analysis (CBA) work). The evaluation will also **inform the cross-cutting impact evaluation** which was been commissioned separately and successfully awarded to the Ipsos-UCL-BRE consortium.

B. Evaluation approach: process, outcomes and economic evaluations

Process evaluation The focus of the process evaluation will be on understanding how GHGS(V) is being / has been delivered. In particular it will focus on understanding: the critical role that each stakeholder and GHG beneficiary will play in delivery, the dependencies underpinning successful delivery and some of the potential barriers. From the ITT, it is clear that BEIS already has a good understanding of these mechanisms and processes and the kinds of 'journeys' that consumers and installers take in participating in the scheme. The process evaluation will systematically test these theories and assumptions. For the purpose of the proposal, we have begun to draft some of these in Figure 1.1 below, and we propose to further elaborate this initial draft in the initial weeks of the evaluation in order to use this as a framework for the process evaluation. The primary source for the process evaluation will be surveys and interviews with different audiences, monitoring and microdata from the scheme delivery partner and other sources (e.g. Trustmark) and data collected by BEIS e.g. web traffic.

Figure 1.1: Draft process evaluation framework mapping scheme delivery hypotheses



Outcomes evaluation During the process evaluation, the methodologies and approaches for the outcome evaluation will be scoped in more detail. We consider, however, that an overarching theory-based approach will provide the most viable and robust way to assess outcomes. We have ruled out an experimental approach, as there is no way of randomising who can and cannot get vouchers; and quasi-experimental approaches would also present some challenges in terms of sample size, because the creation of a large robust comparison group is not straightforward (for example, if we use non-participating Trustmark-registered firms as a comparator, the number may be small given that GHGS(V) is expected to incentivise higher Trustmark registration). Instead, we have proposed an approach combining Contribution Analysis (CA) with comparative analysis. These approaches are detailed further

below, together with how we'd apply both to each outcome type. The outcome evaluation approach will also achieve robustness through **triangulation**.

Contribution Analysis: Utilising the six steps developed by Mayne (2008), we would first co-develop, with the Evaluation Steering Group, a theory of change which reflects all of the causal pathways and assumptions underpinning how the programme expects to achieve each outcome. We suggest that this would build upon the process evaluation framework in Figure 1.1, with outcomes and further causal assumptions and barriers mapped onto it. The theory of change would here represent the anticipated 'contribution story'. On the basis of the agreed theory of change, we would then specify a number of causal hypotheses ('contribution claims') to be tested. The contribution claims would then be tested through iterative stages of data collection and analysis (i.e. in Phase 1 and 2) and – where necessary – refined / revised in order to strengthen the contribution story. CA has been applied by the evaluation team in several evaluations and works well when integrated with techniques that predefine and assess the 'strength' of evidence available – e.g. process tracing, or other techniques such as the 'Evidence Assessment Database' developed by Delehais and Toulemonde (2012).

Comparative analysis: Whilst this would not entail a true counterfactual comparison, as we would not be controlling for all variables which might affect change (e.g. issues related to self-section into treatment), we would attempt to qualitatively 'match' the groups in terms of characteristics, such as region of residence, household type, etc. This, we consider, fits well with the requirements of this assignment, which state, as per the ITT, that a full counterfactual analysis will take place as part of the separately-commissioned *cross-cutting evaluation*. Such an analysis would prove more robust than a simple pre-and post-comparison of observed impacts, which would be likely to produce misleading findings given the likely distorting effect that COVID-19 will have on behaviour. Our comparative analysis will therefore inform the subsequent cross-cutting evaluation. The options for comparator groups will be explored during Phase 1, though initial considerations are outlined below.

Opportunities for cross-evaluation learning and efficiencies: As the proposed team have already been commissioned by BEIS to conduct the evaluation of GHG(LAD), there will be several opportunities for cross-assignment synergy, e.g.:

Sample frames: If we deliver both contracts we may be able to deduplicate across schemes and samples ourselves (creating efficiencies for BEIS): while households and landlords who have received grants under GHG(LAD) are unable to additionally claim vouchers, installers are very likely to be represented in both schemes and would need to be deduplicated. In this case, there may be benefits to asking installers to compare their experiences of both schemes within the same survey or qualitative interview.

Cost and time savings: We anticipate that there will be considerable overlap in the coverage of the householder/landlord questionnaires/topic guides for GHG(LAD) and GHGS(V). Having the same contractor designing both questionnaires brings about cost and efficiency savings in design and scoping, and in scripting, testing and analysis.

Synthesis and coordination: The GHGS(V) findings will feed into the cross-cutting evaluation under GHG (LAD), so having our proposed consortium deliver both will mean a smoother process and ensure key findings aren't missed. Some activities such as analysis and dissemination workshops with BEIS and wider stakeholders may be more efficient and less of a burden on BEIS if our consortium was to deliver both.

Additionality of GHGS(V): In order to assess to what extent installations were delivered which were not possible through other policies, we will take a predominantly theory-based approach. We will map out as part of the outcome evaluation scoping phase the overlaps between GHGS(V) and other programmes (e.g. ECO, RHI, state aid). Through the applicant surveys we will assess which did or could have benefitted from (or applied to) more than one scheme. We will further map the % of installations carried out (and if possible applications

received) through GHGS(V) into those which *could* have been eligible for other schemes vs those eligible only through GHGS(V) only. This analysis will also help us to create a formula / proxy which is also applied to all conclusions drawn on outcomes – i.e. if 70% of all beneficiaries also benefitted from other schemes, then we may estimate that 30% or 65% of the GHGS(V) outcomes are attributable to GHGS(V). As part of Task 1.2 (below) we will work with BEIS' contracted Real Time Monitoring contractor to ensure we apply consistent methodologies (if relevant). We will also collect evidence of additionality by exploring with applicants (and other stakeholders) why they opted for GHGS(V) over other schemes.

Creation/ preservation of jobs: As stated in the ITT, a high-level count of the number of installation companies is provided by the scheme delivery partner. Iteratively, through Phases 1-3, we will collect data from installers on the number of jobs they estimate to have been created through GHGS(V) and other drivers of job creation over the evaluated period. As per the GHG(LAD) evaluation, we propose triangulating this with TrustMark data on certifications to estimate numbers of new installers entering the market. Where possible, this will be further triangulated with data on employment retrievable from the Inter-Departmental Business Register (IDBR) for participating installer firms and a comparator group. We consider that one of the following groups could work as a comparator: (i) Trustmark/MCS registered installers in another country (e.g. Wales), assuming that an equivalent of the GHGS(V) scheme does not start to be implemented there; and (ii) Trustmark/MCS registered installers that have not participated in the scheme (only if eligible for GHGS(V)). The potential effects of COVID-19 lockdown/restrictions on job creation will be taken into account.

Skills: Analysis of this outcome will be largely qualitative. We will triangulate longitudinal data gathered through interviews and surveys with installers and manufacturers and interviews with trainers. Where these stakeholders have quantitative data on number of trainings given / received that will enable a pre-/post-intervention analysis, we will use this to also conduct a quantitative analysis of training. We will also explore through interviews the nature and extent of effects on the enhancement of such skills (especially learning-by-doing).

Effects on the market / supply chain: Interviews with manufacturers will focus on their perceptions of change in demand and supply over the GHGS(V) delivery timeframe and the perceived drivers of this. Additionally, for comparative analysis, we propose to use the Annual Business Survey (ABS), accessible from the ONS Secure Research Services, to gather data on GHGS(V) installer expenditure on intermediate goods (i.e. goods/services necessary to perform the final installation). The analysis, if feasible,[1] would provide a proxy of the value of B2B transactions triggered by the scheme, which could potentially be compared with the value of other transactions (e.g. originated by businesses not participating in the scheme).

Consumer demand: Data on installations requested (by type) and the drivers of demand (i.e. whether GHGS(V) drove / accelerated it) will be gathered via the multi-Phase household survey. We may also explore the potential to compare the experience of participating households with households who seek advice from SEA and request a quote but do not apply for a voucher, who apply for a voucher but do not redeem it, or who apply too late (if the vouchers run out). We assume the delivery partner holds contact details for these applicants, who could be invited to participate in the research (*not currently included in costs)*. A quantitative trend analysis of scheme micro-data on demand for installations will support this.

Energy savings: We will scope the feasibility of assessing smart data analysis to estimate energy, bills and CO_2 savings by linking smart meters to a number of other datasets. UCL leads the smart meter data feasibility study for the GHG(LAD) cross cutting evaluation and will incorporate relevant work there on feasibility and consent. UCL has experience and a proven effective approach for collecting, analysing and linking smart meter data scale, which is being used on the Smart Energy Savings (SENS) Competition. Processes are fully approved and compliant with GDPR, Smart Energy Code and research ethics. If the approach proves feasible, further analysis will be conducted in Phase 2 or 3 (to be confirmed with BEIS).

[1] The ABS includes a sample of 64,000 business. However, its utility for this evaluation depends on the number of GHGS(V) installers covered in this sample..

Relevant comparator groups will be provided from a UCL project, funded by UKRI, analysing the impact of COVID-19 on domestic energy demand. Should the approach not be feasible, we propose considering BRE's proprietary SAP model to determine the pre- and post-improvement SAP rating and EPC band for each of the homes included in the sample (using data from the scheme delivery partners). We will cross-check our finally-proposed method with BEIS statisticians to ensure consistency and complementarity with the methodology they use.

Fuel poor households: We will model the fuel poverty status of participating households using the same fuel poverty proxy methodology currently being developed as part of the GHG(LAD) evaluation and produce a poverty flag for those most likely to be defined as fuel poor. It will be crucial to use a consistent methodology across both the GHG(LAD) and GHGS(V) evaluations so that BEIS can combine and compare the results of the two projects. Our extensive knowledge (with BRE) of the official calculation methodology, alternative measures, and approaches to producing proxies, ensures we are perfectly placed to produce fuel poverty identifiers for this work. We will ensure that the necessary information is collected in the questionnaire to determine status (e.g. LIHC, LILEE, depending on requirements).

Quality of installations: Quality and delivery of installations will be assessed via a combination of data from consumers, scheme administrator, accreditation body and assessor interviews and surveys, cross-referenced with data from our installer interviews and surveys to identify any disparity or conformity. As part of this we will explore customer experience and any evidence of gaming and fraud (e.g. installations made by non-accredited installers under the umbrella of accredited firms). To further triangulate the qualitative data, we will review microdata on the number and type of measures and propose requesting more data fields from the Trustmark Data Warehouse GHGV(S) lodgements which include compliance and subsequent monitoring and evaluation outcomes. Acquiring this data will provide access to readily available case-by-case assessments of measures delivered through GHGS(V) from the perspective of PAS:2030/35 evaluators. These will then be aggregated to provide insight at the national level. GHGS(V) lodgements will also be cross-referenced with ECO lodgements of a similar profile (if data or summary report of ECO lodgements is available from Trustmark) to determine high-level differences and establish GHGS(V)'s relative performance in terms of customer value for money, quality of installation and additionality compared to other schemes.

Health outcomes: As with the other outcomes, we will utilise a theory-based approach to assess health outcomes, which assumes a causal relationship between fuel poverty and health. Via the surveys and interviews, we will collect data from households on data that is a proxy for fuel poverty as well as data on thermal comfort preferences and system control, which will populate the assumptions, as well as data on household health. We propose to triangulate this approach with comparative analysis of the GHGS(V) household dataset with evidence from HEEEAT project databases which utilise the English Longitudinal Study of Ageing and energy use and expenditure alongside the potential benefits in reported health and temperature conditions and energy performance standards among households. Finally, we propose to conduct health impact and economic modelling would be undertaken using HIDEEMv5 to evaluate the potential impacts on health of adopting the energy efficiency measures according to the PAS standards and their potential costs and savings in energy, CO2 emissions and impact on the NHS expenditure.

Economic evaluation In Phases 1 and 2, the initial analysis of costs will focus on scheme data, benchmarked to other schemes, survey and qualitative evidence from installers and registration bodies. By matching this data to IDBR, and if feasible to ABS, we will gain a detailed characterisation of installers to see how key cost components vary across installer types. Included benefits will depend on findings from the outcome evaluation but as a minimum we will include energy, bills and CO2 savings, impact on heath and productivity. Matching applicants to EPC data will provide a comprehensive characterisation of properties where installations took place which will supplement data from the scheme.

As part of Phase 3, we will deliver an initial indicative cost-benefit analysis (CBA) monetising the impact of the scheme on bill and carbon savings, supported jobs, health and productivity

impacts, air quality damage costs. These indicative 'pathway' estimates will inform subsequent more detailed CBA work to be carried out in the full impact evaluation, and the technical challenges revealed will usefully inform the subsequent CBA work. As such, we will frame our results as a set of 'propositions' regarding cost and benefit characteristics and patterns that can be tested, validated and updated in the subsequent full CBA study. Particular attention will be paid to what the evidence and costs and benefits tells us about the intervention's success and failure modes: what appears to be working as expected and what does not, in economic benefits realisation terms. Potential margins of error in these indicative cost and benefit estimates will be provided to inform decision-making. We will follow HMT Green Book guidance and use standard values for carbon prices, electricity and fossil fuel carbon emissions factors, long run variable costs of energy supply, air quality damage costs, etc.

C. Methodological challenges and limitations

The following challenges and limitations will need to be taken into account:

Opportunities for course correction: The process evaluation will generate lessons for BEIS from programme delivery. Given the short (4-month) overlap between the evaluation and programme delivery, the opportunities for it to inform course correction may be limited, but we anticipate being able to provide (in the Interim Process Report) initial insights into drivers/barriers of uptake which could be potentially addressed before programme close.

Attribution: As a counterfactual approach will only be taken for the (separately commissioned) cross-cutting impact evaluation, a contribution analysis approach (with comparative analysis) has here been proposed. Confidence in the conclusions we draw on causation will be increased through triangulation of evidence.

Accessing information from public databases: The project team has experience of matching scheme data to the EPC public database (through work on PRS MEES) and matching the public information in Companies House (through work on the CCA evaluation). However, we know that access to these databases can sometime be delayed when new projects begin. For this reason, it will be necessary to work closely with BEIS to obtain the necessary permissions in a timely manner.

Measuring indirect effects: Producing quantitative measures of indirect effects is more and more challenging the further effects are removed along the supply chain. Ideally, one would use Input-Output coefficients but these are not available at the required sectorial level and not promptly updated to be used with the timeframe of the evaluation. The collection of impact multipliers can be undertaken though the survey of accreditation and installer register bodies, manufacturers and other parts of wider supply chain and stakeholders, validated by impact estimated from other policies such as ECO and RHI.

Timing of the initial economic evaluation: As per the ITT, we recognise the urgency of providing insights into the cross-cutting economic evaluation that we are delivering as part of the GHG(LAD) evaluation. For GHGS(V), this will require us to carefully scope the outcome data which is likely to be available by September 2021 as part of the Phase 1 exercise. At this stage, critical barriers will be identified and methodological options set out. As noted above, the findings from our economic evaluation will be presented as 'propositions' regarding cost and benefit characteristics and patterns that can be tested, validated and updated in the subsequent full CBA study.

Other project risks (and how they will be mitigated) are outlined in PROJ 1.4

D. Step by step evaluation methodology

Phase 1 - Task 1.1: Kick-off meeting. A kick-off meeting, attended by Ipsos MORI, UCL, BRE, EST and BEIS, will ensure clarity of the research objectives. We will discuss key design issues and BEIS' early thoughts on the suitability of our suggestions for the survey and qualitative interviews. Immediate next steps for the scoping phase would be agreed to ensure a rapid turnaround on the evaluation plan post-scoping (see Task 1.2).

Task 1.2: Scoping work and the evaluation plan. As early as possible, we propose to hold a scoping workshop with the BEIS steering group to answer key questions about the GHGS(V), to ensure we have a clear understanding of the scheme (building upon Figure 1.1 above) and to refine the evaluation questions and agree upon the methodology. We will also conduct familiarisation interviews with the scheme delivery partner and certification bodies to better understand the consumer journey and the installer journey, respectively. On this basis we will be able to finalise our methodology, working arrangements, initial risk register, initial timetable and quality assurance plan for submission as the evaluation plan. In line with the ITT, this will be a **very short and intense period of evaluation setup** (we propose 2 weeks). Through this task we will also **work collaboratively with the scheme delivery partner** to determine which outputs from the evaluation will contribute to **real time monitoring**.

Task 1.3: Retrofitting and low carbon markets analysis. The second priority of Phase 1 will be a mapping of the market (how many installers there are in the market, where they are located, who their providers are, and which contextual factors may affect the delivery of the scheme). This will involve a mapping and analysis of other policies and their potential synergies/overlaps with GHGS(V) based upon emerging findings from the GHG(LAD) evaluation (and other relevant evaluations) and the team's strong understanding of the market. The analysis will be reviewed and updated throughout the contract.

Task 1.4: Fieldwork (wave 1). Qualitative interviews and surveys will cover a range of stakeholders, as shown in the data collection overview. Materials for qualitative discussion guides and survey questionnaires will be developed by Ipsos MORI in collaboration with UCL, BRE, EST and BEIS. They will be informed by findings from the scoping phase and market analysis and will be aligned with the questionnaires produced in the GHG(LAD) evaluation and cross-cutting scoping work to allow comparison and feed into the future impact evaluation. Anonymised datasets (surveys) and analysis grids (qualitative work) will be provided to BEIS.

Task 1.5: Analysis of monitoring data. We will analyse data provided by the scheme delivery partner, website statistics, Trustmark and MCS data, and other data made available (e.g. as shown in ITT Annex 1). This analysis will inform all evaluation questions in all phases.

Task 1.6: Scoping feasibility of using smart meter (SM) data and other databases to assess outcomes. UCL will assess the feasibility of identifying and collecting electricity and gas (where available) smart meter data (including >13 months historic) for treated GHGS(V) households, of linking to contextual data including data collected under the scheme's evaluation, and of using this data to produce an initial assessment of energy consumption, energy bills and CO_2 impacts. UCL leads the smart meter data feasibility study for the GHG(LAD) cross-cutting evaluation and will incorporate relevant work there on feasibility and consent.

Task 1.7 Scoping feasibility for Outcome and Economic evaluation. A scoping analysis will be conducted for the economic evaluation and for outcome impacts related to supply chain and economic recovery. The data scoping will focus on assessing feasibility of matching microdata to IDBR and ABS, ultimately to compute employment and supply chain multipliers for firms active in delivering the GHGS(V) funded interventions. Given that ONS Input-Output data does not use relevant sector definitions we will explore the option of using synthetic combinations of similar sectors to infer supply chain and multiplier characteristics. This could prove to be useful for estimating how future technological changes may transform domestic heating supply chains (electrification in particular) – as it is doing in automotive supply chains.

Task 1.8: Reporting and synthesis. We understand a key objective of the process evaluation is to provide regular and up-to-date information to BEIS on the effectiveness and efficiency of the scheme. The contract foresees several deliverables in a short period of time: Early Learning Report (Dec 2020 / Jan 2021), an Interim Report (March 2021) and Summary Report (July 2021), in addition to monthly high-level findings from surveys. These reports will be ~15-20 pages with boxes highlighting key emerging findings, to facilitate BEIS' review.

Phase 2 and 3 tasks will be scoped and defined towards the end of Phase 1 (Task 1.7 above); however, we anticipate that these will broadly be as follows:

- Task 2.1: Refine evaluation plan.
- Task 2.2: Fieldwork (wave 2).
- Task 2.3: Initial cost and benefit analysis as set out section B (Economic Evaluation).
- Task 2.4: Outcomes evaluation as outlined above (Section B Evaluation Approach).
- Task 2.5: Synthesis and reporting (interim Phase 2 report).
- Task 3.1: Refine evaluation plan As per Task 1.2 and 2.1, involving a workshop with BEIS.
- Task 3.2. Additional Smart Meter Analysis.
- Task 3.3. Additional cost and benefit analysis.
- Task 3.4: Reporting and synthesis (Phase 3 summary report).

At the start of each phase, a workshop will be held with BEIS to refine the evaluation plan. For the wave 2 fieldwork, using similar approaches and data collection tools development to Phase 1, we will look at changes over time: assessing medium term impacts on all key players and understanding whether outcomes occurred for applicants (increased comfort, reduced bills) and other groups (market growth, job creation, increased quality of installations). In addition it is likely that the applicant survey will explore experiences/reasons for any non-redemption of vouchers (Why? Did the installations happen? Who assumed the costs? What impact did this have?). Reporting and dissemination are covered below and in PROJ1.4.

Key principles for synthesis and reporting throughout the contract: As part of our evaluation plan we will elaborate a **detailed analytical framework** which will set out the full list of evaluation questions and sub-questions, hypotheses to be tested, data sources and analytical techniques. Draft considerations for these frameworks were detailed in section B above. At each reporting milestone, using the evaluation framework as the 'checklist' the summative findings of each research strand will be reviewed and – in an internal analysis meeting – key arguments formulated. In developing the arguments illustrative quotes and survey graphs will be inserted, if useful. To support efficient and effective analysis/reporting we have designed and costed each research strand in such a way as to ensure each produces outputs in an analysed, accessible format, ready for further analysis and synthesis.

E. Data collection plan

The evaluation will depend to a large extent upon the collection of **primary data** from key groups interacting with the scheme: applicants (owner occupiers, tenants, landlords), installers, accreditation and installer registration bodies, installer training providers, manufacturers (and other members of the broader supply chain), scheme grant administrators, and other stakeholders. Primary data collection will supplement secondary data analysis of programme documentation, data provided by the scheme delivery partner and gathered through existing databases (e.g. MCS and TrustMark). Key aspects of our primary data collection plan are outlined below. These align with the approach proposed in the ITT: in particular we welcome the opportunity to take **a longitudinal approach** to data collection to enable us to assess outcomes on the basis of individual households and installers.

The need for high quality data inputs suggests the use of **probability based sampling and interviewing methods** and the need to **maximise response** by employing methods flexible to respond to participant needs. To this end, the applicant survey is digital first employing push to web (P2W), whereby applicants are contacted and invited to complete surveys online (if appropriate in return for a monetary incentive). P2W methods are increasingly used on high-quality government surveys[2] because they offer a cost-effective way of providing probability-based samples while enabling complex data collection: they are also fully compliant with COVID-19 restrictions. We are also using P2W on the evaluation of GHG(LAD). Initial contacts

[2] E.g. FSA's Food & You, Sport England's Active Lives, DCMS's Taking Part, and ONS' Labour Force Survey. Our experiments on P2W studies show P2W is effective in engaging vulnerable and disadvantaged participants as expected for the householder surveys (e.g. incentive experiments on DfE's push-to-web parent and pupil omnibus showed greatest impacts among those eligible for free school meals). We would follow best practice in implementing the study as laid out in Ipsos' Best Practice Guide to Push to Web. This draws on our own experiments on large scale P2W and postal surveys and Dillman's research. Anticipated response rates are shown in the data collection overview.

can be by post and/or email depending on availability of contact details: clarifications stated that email addresses will be available, but we suggest a flexible joint email/postal first approach. Targeted **reminders** by post will include a paper version of the questionnaire. Questionnaires will focus on the evaluation's core requirements, targeted to reflect participants' individual experiences, **responsive and short to minimise participant burden**. For **installers**, we propose a **wholly telephone approach** (with postal and email advance letters): this is because we anticipate that GHGS(V) installers will comprise mainly larger firms and we feel an in-person telephone approach would be more likely to generate response. Further, we understand that BEIS has conducted a number of recent online surveys with installers, and we are concerned about installer fatigue, so feel that a telephone approach would help the GHGS(V) study to stand out and maximise engagement. **Targeted qualitative work and/or cognitive piloting will be used to test research instruments**, ensure data collected is valid and reliable, and to optimise participant experience.

We have assumed that **all contact lists will be provided by BEIS**: in a consistent format and as a single file per sample group per delivery period. We have assumed that all relevant data sharing agreements, consents and privacy policies will be in place to enable BEIS and the grant administrator to share contact lists and sample files: we would work with our Business Excellence and Data Security/Compliance teams to audit processes and ensure that all data sharing and transfers are **fully compliant with GDPR, DPA and Codes of Conduct**. We will also conduct a **full ethical review**: particularly important given the focus on fuel poor and vulnerable households. The microdata (Annex 1) indicated that the applicant sample file will include significant information about the applicant, their property, the nature of the application (e.g. measures applied for) and installation outcomes. This information would be used to construct detailed **sampling specifications** that will enable us to balance requirements to provide analysable samples within key sub-groups, and to produce representative samples of the key groups. We have assumed that similar levels of detail will be available for installers to draw/analyse samples based on accredited industry profile and installation profile.

For all householder and landlord surveys, we will take a **customer journey approach**, as used on the evaluation of the Green Deal and ECO (designed by members of the Ipsos team, and updated by BRE in the ongoing ECO evaluation), and as being developed for the householder/landlord surveys on the evaluation of GHG(LAD). This chronological approach is logical for participants to complete and enhances response. Where possible we will draw on the design of the GHG(LAD) questionnaires, as there is real benefit to being able to directly read across from the two evaluations, though GHGS(V) householder/landlord customer journeys will differ as the application is a more proactive process, so the customer journey will have additional stages (awareness, information search, quote process) with examination of motivations at each stage. BRE's involvement will ensure accurate assessment of fuel poverty status. We will use the Ipsos MORI MAPPS behavioural model for behavioural analysis.

While the surveys cannot quantify **drop-outs** at very early stages of their customer journey (initial awareness, intentions), other data sources may help fill gaps: the BEIS Covid-19 Household Behavioural Survey (ran by Ipsos MORI using a similar P2W method) includes questions on awareness of GHG, intentions and some key barriers to applying (e.g. willingness to have contractors in home, lack of awareness/understanding of appropriate improvements, tenure as a barrier). Targeted qualitative work could also be used to understand barriers to application amongst non-applicants (e.g. recruited from the BEIS C-19 Household Survey), *though not included in our costs at present*. It is likely that some applicants will not have redeemed their vouchers at the time of sampling for the first (W1) interview or go on to at all. Non-redeemers may form a further counterfactual group for the evaluation. We would work with BEIS to understand likely redemption rates at the point of drawing each sample to ensure we achieve the required numbers of redeemers/non-redeemers.

The ITT suggests applicant **fieldwork** be conducted on a **rolling basis**: following up with applicants at a consistent point in time in their customer journey. The timescales in the ITT suggest this should be around 8-12 weeks after the application is made: we assume to allow

sufficient time for the application to be processed, the voucher issued and the installation to take place. We can discuss approaches during inception, but uncertainty about flows and throughputs of applications may make the balance difficult. For example, the new COVID-19 national restrictions may impact on initial enquiries and installations and very cold weather conditions may prevent the installation of some measures (e.g. solid wall insulation). These may lead to a squeezing of installations to the end of the GHG Voucher period (to mid-late March), but such a squeeze may cause installer capacity issues resulting in some applicants being unable to redeem vouchers. There are also likely differences in customer journeys, engagement and views between early adopter applicants, and those who come to the scheme later: we would also need to balance these issues in the sampling plan.

Given that around 600,000 applications are expected, the sample sizes set out for W1 applicant survey are achievable. The ITT requests 20% of all interviews be with landlords: it is likely that some landlords will make multiple applications and this will need to be taken into account in the sampling plan, though this will be flagged in the sample database. The ITT suggests 3,000 W1 interviews with applicants (including 600 with landlords), and a response rate of around 20%. The W1 interview would map the customer journey from awareness through application to installation and initial impacts, though not all installations may have been completed at this stage so for some applicants questions could examine intentions to install. We would also gather detailed profile data (including fuel poverty and health status). Applicants participating at W1 would be asked permission to recontact them.

The ITT suggests around two thirds of those completing W1 will go on to complete Wave 2 (W2): our extensive experience of studies of this type suggest that this is. Other similar studies covering tens of thousands of participants for FSA, Sport England and DCMS recorded permission to recontact rates on P2W studies of around 50-60%, and only those giving permission can be approached for W2. Of those agreeing to be recontacted, we anticipate that around 45-50% will complete the interview (For the Green Deal/ECO evaluation, 5-10% moved home between waves and 55% of non-movers completed the W2 survey). Taken together, this indicates around 25-30% of W1 participants will complete W2. We would maximise uptake and engagement by offering tiered incentives (£10 at W1, £15 at W2) and a 'keep in touch' exercise (e.g. newsletter, links to help/advice) between waves. A lower sample size at W2 may limit analytical opportunities, so if BEIS prefers for us to provide the 2,000 follow up interviews requested at W2, we can provide costs for a larger W1 sample which maximises the likelihood of delivering this larger W2 sample. We can also explore the value of using a mix of longitudinal and fresh sample at W2 to deliver the target sample sizes. *To enable you to compare costs across tenders, our costs are based on delivery of 3,000 applicant interviews at W1 and 2,000 longitudinal follow up interviews at W2, even though these follow up numbers cannot be realistically achieved.*

The installer surveys would be conducted by telephone by **experienced business telephone interviewers** who are skilled at working through gatekeepers and maximising response. We would not pay incentives for businesses to complete the survey but suggest offering a donation to an appropriate charity for each interview completed. We suggest fieldwork be conducted in two tranches at each wave to ensure we gain response from the full range of accredited installers and reflect changes in the market across the scheme period. The precise profile of the sample would be agreed following examination of sample databases, and we would discuss whether any boosts or skews may be appropriate to balance analytical opportunities with representativeness. We would again take a longitudinal approach: though feel that the numbers of follow up interviews requested in the ITT are unachievable. As for the applicant surveys, *we have provided costs based on the specification*, but would be pleased to discuss the best approach to enable us to deliver the balance of interviews needed at both waves (e.g. a larger W1 sample, or a mix of fresh and follow up sample at W2).

There is also a need to **deduplicate applicant and installer samples**: within this study, and across other studies (e.g. GHG(LAD), BEIS policy installer studies) where participants are involved in more than one scheme. Clearly, having Ipsos as a supplier for both GHG(LAD)

and GHGS(V) evaluations makes deduplication of samples across schemes easier, as we can explore a range of strategies (e.g. geographic targeting, wave on wave deduplication). Analysis across the two study databases will assess the extent of overlap and implications in more detail (e.g. if sampling for GHG(LAD) is prioritised because of tighter sample ratios, the GHGS(V) sample may under-represent fuel or poor and deprived applicants).

Qualitative data collection brings opportunity to **explore GHGS(V) experiences in detail**. Participants will be asked to take part in a 45-minute telephone or video interview which are fully compliant with COVID-19 restrictions. Applicants and installers will be offered incentives to encourage participation. During Phase 1 we will stagger fieldwork to ensure we capture experiences across the scheme period and allow for changes in the market. We propose a small number of interviews in December (dependent on sample availability) amongst applicants and installers: early insights will inform the evaluation plan and survey design. We then suggest two tranches of fieldwork across audiences. For Phases 2/3 we suggest following-up with some Phase 1 participants to understand longer term experiences and impacts. However, we have also built in capacity to engage fresh participants. A full data collection overview is provided below.

F. Dissemination

The primary research outputs will be designed to meet the required timeliness and accessibility of outputs. We anticipate a mix of **written and PowerPoint reports**, and **a monthly dashboard of quantitative survey findings** will be provided (online or static, depending on your requirements). All reporting will be accessible and appealing to policy makers and other industry stakeholders, concise (c.30 pages/slides) with a stand-alone executive summary. To bring the research to life and help stakeholders to engage with findings, we will include a mix of **verbatim comments and case studies** to highlight applicant and installer experiences. We will generate policy recommendations based on the findings from the research. Other optional outputs, not included in our costs which may be relevant are: **publicity** via Ipsos MORI's website, publications and social media; a **policy workshop** (bringing together BEIS staff and industry stakeholders in a virtual setting to workshop the findings and develop future priorities and actions); a **one-page infographic**; and GHG **journey maps** to detail the experience of a consumer or installer.

P1 = Process evaluation P2 =Initial outcome evaluation P3= Emerging impacts evaluation		Qualitative data collection					Quantitative data collection				
		Sample	Method	Sample considerations	Length / Incentives	Outputs	Sample	Method	Sample considerations	Response rate/ Length/ Incentives	Outputs
Household applicants **Lead: Ipsos MORI**	P1	40	Telephone/ video call Aim to complete small number of interviews in December for early insights. Remaining Ph 1 fieldwork carried out in two tranches.	Sampled from BEIS supplied list, aiming for a mix of demographics and measure. Ph 2/3 fieldwork assumes re-contacting 15 participants from Ph 1 with remaining 15 interviews with fresh sample.	45 mins/ £30	Analysis grid, PowerPoint report c. 20 slides (incorporating findings from across applicants) alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.	2400	P2W, 3 reminders including paper questionnaire with second mailing. Rolling monthly fieldwork with longitudinal follow-up W1 c.8-12 weeks after application. W2 c.6-9 months after W1 (tbc) 8-10 cognitive interviews to test q're, includes GHQ12.	Sampled from programme database following examination of profiles for measure applied for, property type, EPC level, scheme (low income vs general), region	20% / 20 mins / £10 W1, £15 W2	Monthly dashboard of KPIs through data portal, PowerPoint report after each Ph (30 slides per report) Datasets, tabulations, SPSS
	P2	30					1600				
	P3										
Tenants of landlord applicants **Lead: Ipsos MORI**	P1	15	Telephone/ video call Aim to complete small number of interviews in December for early insights. Remaining Ph 1 fieldwork carried out in two tranches.	Sampled from BEIS supplied list, aiming for a mix of demographics and measure. Potential to focus on fuel poor tenants (based on area where they live). Ph 2/3 fieldwork assumes re-contacting 5 participants from Ph 1 with remaining 5 interviews with fresh sample.	45 mins/ £30	As above for applicants						
	P2	10									
	P3										
Landlord applicants **Lead: Ipsos MORI**	P1	15	Telephone/ video call Aim to complete small number of interviews in December for early insights. Remaining Ph 1 fieldwork carried out in two tranches.	Sampled from BEIS supplied list, aiming for a mix of region and measure. Ph 2/3 fieldwork assumes re-contacting 5 participants from Ph 1 with remaining 5 interviews fresh	45 mins/ £40	As above for applicants	600	P2W, 3 reminders including paper questionnaire with second mailing. Rolling monthly fieldwork with longitudinal follow-up W1 c.8 weeks after application. W2 c.6-9 months after W1 (tbc) 2-4 cognitive interviews to test q're Questionnaire linked to specific application, but considers other applications.	Sampled from programme database following examination of profiles for measure applied for, property type, EPC level, scheme (low income vs general), region. Deduplication for multiple applicants.	20% / 20 mins / £10 W1, £15 W2	Monthly dashboard of KPIs through data portal, PowerPoint report after each Ph (30 slides per report) Datasets, tabulations, SPSS
	P2	10					400				
	P3										
Installers **Lead: Ipsos MORI**	P1	30	Telephone/ video call Aim to complete small number of interviews in December for early insights. Remaining Ph 1 fieldwork carried out in two tranches.	Sampled from BEIS supplied list, mix of installer size, region, measure. Ph 2/3 fieldwork re-contact 10 participants from Ph1 remaining 10 interviews fresh	45 mins/ £80	Analysis grid, PowerPoint report c. 15 slides alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.	500	Telephone. Fieldwork in two tranches at each wave, and longitudinal follow up. W1 Jan-Jun 21, W2 Aug 21-Feb 22 4 cognitive interviews to test q're.	Broadly representative of installers at each Ph (by region, business size, measure).	15-20% / 15 mins / charitable donation	PowerPoint report per wave. Dataset, tabulations, SPSS
	P2	20					300				
	P3										
Accreditation and installer register bodies **Lead: EST**	P1	20	Telephone/ video call.	Sampled from mix of BEIS supplied list and EST contacts. Ph 2/3 fieldwork may include re-contacting participants from Ph 1	45 mins/ no incentive	Analysis grid, PowerPoint report c.10 slides alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.					
	P2	20									
	P3										
Installer training providers **Lead: Ipsos MORI**	P1	5	Telephone/ video call.	Sample developed in collaboration with BEIS. Ph 2/3 fieldwork assumes re-contacting 2-3 participants from Ph 1, remaining 2-3 interviews fresh	45 mins/ no incentive	Analysis grid, PowerPoint report c. 5 slides alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.					
	P2										
	P3	5									
Manufacturers and other parts of wider supply chain **Lead: EST**	P1	10	Telephone/ video call.	Sampled from mix of BEIS supplied list and EST contacts. Ph 2/3 fieldwork may include re-contacting participants from Ph 1.	45 mins/ no incentive	Analysis grid, PowerPoint report c. 8 slides alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.					
	P2	10									
	P3										
Scheme Grant Administrator/other stakeholders (inc. BEIS) **Lead: Ipsos MORI**	P1	10	Telephone/ video call. Aim to complete some interviews in December for early insights.	Sample provided by BEIS. Ph 2/3 fieldwork may including re-contacting participants from Ph 1.	45 mins/ no incentive	Analysis grid, PowerPoint report c. 8 slides alongside Ph 1 interim report, Ph 1 summary report and Ph 2 report.					
	P2	10									
	P3										

A. Our understanding of the project environment

In July 2020 the Chancellor announced the introduction of the Green Homes Grant (GHG) scheme, a £2bn funding stimulus for energy efficiency improvements in the housing sector. The scheme is part of the Government's response to the current economic crisis and has two main objectives – to improve the energy efficiency of homes and to stimulate the creation of green jobs. Improving the energy efficiency of homes will also help achieve a range of other Government objectives such as reducing fuel poverty and progressing towards the UK's commitment to net zero carbon by 2050.

The GHG scheme comprises two main elements – a £500M GHG Local Authority Delivery scheme (GHG(LAD)) and a £1.5bn GHG Vouchers scheme (GHGS(V)). The GHGS(V) scheme aims to stimulate the installation of a range of energy efficiency and renewable energy measures in around 600,000 homes and will cover up to two-thirds of the cost of investments.

The current UK energy policy landscape

Improving the energy efficiency of homes is essential to delivering the Government's overall target of net zero carbon emissions by 2050, as they contribute approximately 23% of UK CO_2 emissions[1] and it is estimated that over two thirds of these 'inefficient' properties will still be standing in 2050. In 2017, the Government's Clean Growth Strategy (CGS) set out an aspiration for as many homes as possible to be EPC Band C by 2035 where 'practical, cost effective and affordable'. The UK Industrial Strategy was published in 2017 and set out a long-term plan to boost the productivity and earning power of people throughout the UK. Underpinning this strategy are five Grand Challenges, each focussing on solving a specific problem. Missions have been developed to tackle these Challenges, one of which concerns clean growth. The Clean Growth Mission will seek to at least halve energy use in new buildings by 2030 and to drive down the cost of retrofitting existing buildings to modern energy standards. The GHG is the first taxpayer-funded domestic energy efficiency scheme since 2013 and will stimulate progress towards the achievement of these key UK energy policy targets. Previous policies (several evaluated by Ipsos MORI), such as the Energy Efficiency Commitment, Community Energy Saving Programme and Carbon Emissions Reduction Target, were funded through energy bills with a focus on low income households and continue today with the Energy Company Obligation (ECO). The other main policy in this space has been the 2013 Green Deal scheme, which unfortunately failed due to a lack of take-up.

The industry landscape

Our consortium has a solid understanding of the energy efficiency supply chain. Our team brings a wide range of expertise relating to the UK domestic energy efficiency supply chain and has participated in various projects such as the Code for Sustainable Homes, the Each Home Counts Review and the PAS 2030/2035 Working Groups. Members of the consortium develop and administer domestic energy efficiency grant schemes for the Welsh, Scottish and Northern Ireland Governments and provide detailed energy efficiency advice to homeowners.

There are distinct supply chains serving different parts of the domestic retrofit market in the UK: (i) the **energy efficiency supply chain,** which includes specialist manufacturers and installers of insulation and heating systems, Domestic Energy Assessors and retrofit co-ordinators; (ii) the **energy services supply chain,** which comprises specialist product and service providers who service a range of public and private markets, including boiler installers, heating engineers, and renewable energy installers; (iii) the **home improvement supply chain,** which includes architects, general builders, specialist builders, kitchen and bathroom installers, other specialist trades and surveyors.

The UK supply chain faces several **key challenges in increasing the energy efficiency of the UK housing stock** to the level required to meet Government emissions reduction targets. These include the need to increase consumer awareness, a lack of skilled tradespeople, a

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/511698/20160331_1990-2014_UK_GHG_final_end_user_emissions_and_uncertainties.pdf

lack of training provision and a need for more end-to-end services promoting retrofit routes to market. GHGS(V) seeks to address these issues.

Another primary barrier to the uptake of domestic energy efficiency measures at present is a **lack of demand**. There are currently not enough adequate drivers or incentives for people to take action. Energy bill savings alone are not a sufficient driver for many homeowners to undertake measures that are perceived to be disruptive. The GHG will therefore provide a much-needed stimulus to the domestic energy efficiency sector. Other barriers include **a lack of** good, impartial **customer information** and advice and **insufficient numbers of installers**.

Challenges for the delivery of GHGS(V)

Three of the most pressing challenges will be as follows.

Installer capacity: The requirement to be registered to the consumer protection scheme Trustmark will support good quality installation but reduces the number of eligible installers available to carry out the work. Investment and recruitment in the supply chain will be required to successfully deliver GHGS(V) (and subsequent energy efficiency retrofit schemes). Indeed, in 2019/20, prior to the introduction of GHGS(V), the market for retrofitting energy efficiency measures was at its smallest since 2012 following the 2015 reduction to the ECO scheme[2]. Within the six-month timeframe of the scheme it may be challenging to **train up installers** to a sufficient level. If demand is high and a proportion of installations are conducted by inexperienced installers, this may impact on the quality (and sustainability) of the installations. Installer capacity may also be varied across the market, e.g. with some SMEs not being able to fund the accreditation process, leading to **skewed market benefits**[3]. Finally, if demand outweighs supply, then there may be **an incentive for companies to be non-compliant**, conducting installations with a non-accredited or only partially-accredited team (and therefore fraudulently). This was found to be an unintended effect of ECO and is a risk which BEIS have expressed an interest in evaluating as part of the GHGS(V) evaluation.

Lock-down disruption: Many installers have a backlog of work from the spring lockdown, and the new national restrictions will lead to further disruptions. There may also be a nervousness amongst installers in taking on too much work in case they cannot complete it in time for the March 31st deadline.

The stimulus of green jobs: Government forecasts are for the scheme to support 100,000 jobs. The proposed evaluation project will establish progress towards this target and assess whether scheme extensions and follow up initiatives are required to generate the confidence to invest in and support jobs in the energy efficiency retrofit sector.

B. Our understanding of the project requirements

We welcome BEIS' plans to **generate learning** around the delivery of this flagship programme and to **ensure accountability** at this economically challenging time. The objective of this evaluation is to support BEIS during the delivery of the GHGS(V), by providing early insights and regular updates on how well it is being implemented, and afterwards, in assessing the outcomes and early impacts of this scheme alone. These findings will feed into the cross-cutting impact evaluation, also being developed by our consortium. As per the ITT, the evaluation has an ambitious scope and timeline and aims to support rapid collection of evidence throughout the scheme and soon after the scheme ends in March 2021.

Our methodological design (see PROJ 1.1) follows a theory-based approach, tracing and validating causal pathways (and their underpinning assumptions) to anticipated outcomes, taking into account the influence of other schemes / contextual drivers.

In evaluating the overall outcomes of the GHGS(V), we will need to consider: (i) contextual factors, (ii) potential geographical imbalances, (iii) other potential negative impacts, and (iv) the rationale underpinning impacts:

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[2] https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf

[3] https://www.homebuilding.co.uk/advice/green-homes-grant-what-is-it

- **Previous experience, combined with the short duration of the GHG package, may disincentivise providers to partake in the scheme.** Installers' experience with previous programmes may affect the effectiveness of GHGS(V). The evaluation of the Green Deal found that PAS2030-registered installers (PAS2030 is the predecessor of PAS2035) invested a significant amount of capital in preparing for the Green Deal and the ECO, which led to undermined confidence in the policy landscape when changes to ECO where announced. Installations under GHGS(V) will be delivered in a 6-month window. The National Insulation Association (NIA) is calling for the government to extend the scheme and clarify the long-term plans for improving domestic energy efficiency, as its members have received a large number of enquiries, and the timeline of the scheme is deemed too short. The assumptions in our theory of change account for and test such potential barriers.
- **Geographical imbalances**: The scheme requires applicants to obtain a quote from accredited installers that are listed on the official Simple Energy Advice (SEA) website. However, there is shortage of accredited installers in some areas (e.g. Cornwall), which may lead to inequalities if homeowners in these areas are not able to obtain a quote before the scheme, with limited number of vouchers, runs out.
- **Other unintended effects:** (1) Installers may be incentivised to **offer quotes at a higher price** than normal. The evaluation of the Green Deal Communities PRS funding (2017) found that landlords' existing networks of installers could often complete private installations more quickly and at a lower overall cost than the subsidised installations. (2) The scheme intends to generate a positive impact across the value chain; however, manufacturers may be located overseas (**leakage**). (3) Consumers might also demand installations that would have taken place anyway without the subsidy (**deadweight**). (4) There may be **shortage of manufacturers** (e.g. due to COVID-19), meaning that installers lack materials to deliver installations. We have anticipated these potential unintended impacts and our data collection activity will investigate them.

C. Successful Project Delivery

The following aspects of our evaluation design will be critical to successful delivery:

- A **robust**, **far-reaching research design** which will gather (and compare / triangulate) the views and experiences of the full range of stakeholders involved in, affected by and benefiting from GHGS(V). Our multi-stakeholder consultation plan, paired with desk-based research, will enable data gathering and triangulation (see PROJ1.1).
- **A transparent, trusted and collaborative working relationship with BEIS** so that programme challenges, such as those discussed above, and others which may affect evaluation design and delivery are identified and discussed as soon as possible with BEIS. This will be crucial given delivery timeframes. We have set out our systems for project and quality management in PROJ 1.4. The team comprises several highly skilled research directors with substantial experience of delivering evaluations for BEIS. We also expect build upon existing relationships developed through the GHG(LAD) contract.
- A **close working relationship and exchange of information** and emerging findings (as well as discussion of opportunities for economies of scale in research design and delivery) between the **existing GHG(LAD) evaluation team** within Ipsos' consortium and the proposed GHGS(V) evaluation team. The two teams already work together daily and we will set up regular internal meetings to discuss exchange and learning opportunities.
- Also because of the short timeframes and the possibility that the scheme timeframes may change, the evaluation team will need to be **responsive and flexible**. The methodology we have designed and set out in PROJ 1.1 enables this: we have been sufficiently detailed already in our design and preparation that a quick design, set-up and research launch would be feasible. We have also included in our design regular meetings with BEIS to discuss progress, emerging issues and the need for amendments. Again, having the GHG(LAD) evaluation contract with BEIS will speed up project-set up times.

A. Introduction to the consortium

Our consortium brings together **evaluation and research specialists** with energy efficiency and data analytics expertise. Overall, our team brings:

A well-established and smooth-running partnership, plus an **existing relationship with the BEIS delivery programme**: The consortium proposed is running the evaluation of GHG(LAD) and developing the cross-cutting evaluation. Ipsos MORI (IM) have existing relationships with consortium members Buildings Research Establishment (BRE), Energy Savings Trust (EST) and University College London (UCL). Recent BEIS projects delivered by the consortium include the Energy Follow-up Study (IM&BRE), Covid-19 Household Research (IM&BRE), Boiler Plus (IM&EST) and evaluations of the Smart Meter Energy Savings competition (IM,EST&UCL), Energy Savings Opportunity Scheme (IM&UCL), Warm Front (IM&UCL) and CERT/CESP (IM). Because of this the consortium will hit the ground running and deliver best value for money, at the speed needed, in this research programme.

A deep understanding of the UK energy policy landscape: IM has delivered several energy efficiency evaluations for BEIS (see above) and is currently delivering ongoing research work for Ofgem. BRE has detailed knowledge of energy policy locally and nationally, with engineers and domestic energy efficiency experts who bring an understanding of contemporary domestic heating and efficiency. EST is extremely well networked through industry (manufacturer, installer, training/accreditation). The UCL team has worked in several evaluations assessing the outcomes (including economic) of BEIS policies aimed at increasing energy efficiency e.g. PRS MEES, CCA, Salix Finance, RHI. Overall, the team has unparalleled familiarity with the evaluation methodologies, data availability and management and the demanding analysis and reporting requirements involved in these assignments.

Expertise designing and managing large-scale evaluations: Lead partner, IM has a strong track record in the delivery of multi-year, multi-stranded evaluations. The Project Director (PD), [redacted], is currently directing two multi-year evaluations for BEIS of their smart meter innovation competitions (NDSEMIC, SENS), which have also involved all other IM members of the evaluation team. This has involved her leading a consortium of technical (energy data modelling) and evaluation expert teams, employing and synthesizing data from a mixture of research methods (including energy consumption modelling, several waves of quantitative surveys, qualitative case studies, sectoral workshops and desk-based research). Before joining IM, [redacted] project-managed the Evaluation and Learning programme of the UK's £1.2 billion cross-Government Prosperity Fund. [redacted] will be supported by a highly skilled evaluation team and two Research Directors [redacted]).

Process and impact evaluation expertise: The evaluation project team will be led by IM's Policy and Evaluation Unit. With over 25 evaluators, we have delivered many process and impact evaluations for BEIS and other departments/ agencies, including applying Contribution Analysis and other theory-based approaches, and experimental/quasi-experimental methods.

Technical data modelling and analytical expertise: BRE has extensive experience of fuel poverty modelling, including producing the national fuel poverty statistics, and works with BEIS to develop the fuel poverty calculation methodologies and models, most recently contributing to the development of the Low-Income Low Energy Efficiency (LILEE) indicator. BRE helped develop the fuel poverty proxy questions for the ECO Evaluation project and is currently refining the methodology for GHG(LAD). As developers of the SAP methodology, BRE is uniquely experienced in the type of modelling work that could support this project. UCL has introduced BEIS to two new methodologies, the Synthetic Control Method and Changes-in-Changes, the former making QEA evaluation of Salix Finance possible, the latter adding important insights to the PRS MEES evaluation. The UCL evaluation team is complemented by UCL Smart Energy Research Lab, which uses smart meter data to progress energy efficiency innovation.

Expertise in gathering and analysing market data: Many of EST's projects (including the Boiler Plus study being implemented currently for BEIS with IM) involve obtaining sales and market data from the supply chain and other stakeholders. Examples include Solent Achieving Value through Efficiency (SAVE) Regulatory Report, Digi-label research for Scottish Government into impacts of new retrofit standards and research into the Home renewable

advice service (including impact on installers). EST work with GOGLA to deliver bi-annual collection of sales data for off-grid appliances, involving outreach to manufacturers / distributors.

World-class qualitative and quantitative research capabilities and experience with key audiences: IM is one of the three largest social and market research organisations in the UK and globally, with extensive experience of all data collection methods proposed, including probability-based push to web interviews with households and work with installers and industry stakeholders. EST has developed relationships throughout the sector with key audiences, including manufacturers, installers, retailers and major trade bodies such as HHIC, BEAMA and CIPHE and has in-depth knowledge of the heating sector supply chain gained through its advice network, product endorsement and certification activity. These relationships and understanding will facilitate the required data collection activities.

Delivery of high quality synthesis, reporting and communication of complex policy research: Our consortium has strong expertise in energy efficiency policies and a strong track record in working with BEIS. We place great importance in research utility and most, if not all, of our research outputs involve recommendations for policymakers. Examples include a Toolkit for energy companies to support energy efficiency advice during SM installation and our work to help Oxford City Council identify ways to reach net zero sooner than 2050.

Proven track record of delivering high quality research for BEIS on time and to budget: Collectively we have delivered numerous high-profile research and evaluation programmes for BEIS, demonstrating our familiarity working with BEIS, and our experience and understanding of the requirements around working with policy/analytical teams, external peer review/steering groups and provision of high-quality published outputs. Recent projects include the SM Customer Experience Study and Research on Energy Audits and Reporting, including ESOS and Non-Domestic Smart Energy Management Innovation Competition.

B. Project and quality management

Our Quality Assurance plan ensures a clear and multi-staged process for senior-level sign-off on all aspects of the study, including data collection, analysis and reporting. A first review by the senior activity lead ensures outputs fully draw on evidence available at that stage and data collection tools align with the theoretical framework. The second review by PD[redacted] ensures outputs are fit-for-purpose against study objectives and BEIS' reporting and other guidelines (e.g. modelling). We are committed to working closely with policy, analysis and methods experts at BEIS, and externally appointed advisors and peer reviewers. In our timings (PROJ.1.4) we have allowed for substantial review periods for outputs to pass full BEIS review processes. In the eventuality that BEIS express dissatisfaction with performance we propose a face-to-face (if possible) meeting be held asap with [redacted] which can also involve [redacted] (IM Managing Director) if needed. A written summary of key points discussed at the meeting will be circulated to BEIS alongside an Action Plan for rectifying the issues raised.

C. Delivery team

The assignment will be delivered by four dedicated teams:

1. **Ipsos MORI programme management (PM) team** – primary point of contact, responsible for overall team coordination, time/risk management and quality assurance of all outputs.
2. **Process and outcomes evaluation team** – includes experts in quantitative modelling (BRE & UCL) and theory-based approaches (IM); in-depth knowledge of low carbon/retrofitting providers' market (EST); experts in SM analysis (UCL).
3. **UCL Economic Evaluation team -** economists and experts in quantitative evaluations of energy policies, familiar with costs and benefits arising from schemes such as GHGS(V) and with in-depth familiarity with datasets used in economic evaluations including IDBR.
4. **Primary Data Collection team** –thematic experts from Ipsos MORI's Energy & Environment Team with cross-cutting methodological support from the specialist Probability Surveys (PSU) and Qualitative Units, and EST's specialist research.

1. Ipsos MORI PM Team

[redacted]

[redacted]

3. UCL Economic Evaluation Team

[redacted]

4. Primary Data Collection Team

[redacted]

[redacted]

D. Continuity arrangements

[redacted]

E. External support needed

BEIS support will be needed in facilitating access to programme documentation, timely access to datasets and endorsing the research programme, as well as managing deduplication across studies and manage steering groups and oversight/peer review.

A. Key deliverables and milestones: We will deliver **five main outputs**: an emerging evidence report, an interim process report, a summary process report, an interim outcome and economic evaluation report and a final report. The timing and content of these, as well as the research tasks which feed into them, are outlined in the table below.

To support ongoing scheme optimisation and the dissemination of findings, we will provide the following **additional outputs**:

- **Evaluation Plan** setting out our methodology (per phase), evaluation approach, research questions and work plan.
- **Monthly dashboards** of top line findings from surveys: 5-10 slides, delivered from end first fieldwork month until end P1, and during fieldwork periods in P 2/3. Covers c. 15 key questions from installer and applicant surveys, showing changes as the scheme progresses and summarising main themes from associated qualitative interviews.
- **A slide-deck** summarising key findings (c. 30 slides per audience) at the end of each Phase to provide top line findings and facilitate dissemination for BEIS.
- **Raw survey data** (Excel/SPSS) monthly (applicants) or per tranche (installers), including access to our **intuitive data portal**, to visualise data and run ad-hoc analysis.
- **Presentations** to BEIS stakeholders (1 hour), alongside the interim and summary reports.

Phase	Deliv-erable	Timing	Themes to be covered	Research tasks
Phase 1: Process Evaluation	Emerging Evidence Report	Dec / Jan c. 4 wks after BEIS sample delivery	• Customers & applicants • Installations	• Inception / Kick-off meeting • Scoping activities • Qualitative interviews with key audiences
	Interim & Summary Reports	Interim Report: March 2021 Summary Report: July 2021	• Customers & applicants • Installations • Scheme delivery • Supply chain, economic recovery • Cost effectiveness • SM data feasibility • Scoping outcomes & economic evaluation	• Inception / Kick-off meeting • Interviews with all audiences • Surveys of applicants & installers • Analysis of scheme & installer data • Data scoping, inc Smart Meters
Phase 2: initial outcome and economic analysis	Interim Report	March 2022	• Customers & applicants • Installations • Scheme delivery • Cost effectiveness • Outcome & economic evaluations • Supply chain & economic recovery	• P2 Kick-off workshop • Interviews with all audiences • P2 follow-up surveys: applicants, installers • Analysis of scheme / installer data • Outcomes analysis • Cost & benefit analysis • SM data analysis
Phase 3: Additional outcomes & economic analysis, emerging impacts	Final Report	March 2023	• Outcome & economic evaluations • Emerging Impacts	• P3 Kick-off workshop • SM data analysis • Additional qualitative interviews • Cost & benefit analysis • Outcomes analysis • SM data analysis

- **Two presentations per year** to the BEIS Programme Board summarising findings from the process, outcome and economic evaluations.

Additionally, we propose holding **weekly client meetings**, particularly in Phase 1. At the beginning of each Phase **Evaluation Plan Workshops** will be held to discuss and make any necessary revisions to planning. The Gantt at the end of this document shows when these will take place.

B. Ensuring timely and accurate delivery

Our project plan is **designed to provide rapid evidence**. A lot of the work Setting up quickly will be key to providing early insights and highlighting issues in time for scheme adaptations to be made if necessary. Our **consortium is currently delivering the GHG(LAD) evaluation**; learnings and efficiencies will be transferred over to speed up project set-up and deliver efficiencies throughout the project. We also expect the following advantages from this: (i) our team will be designing GHG(LAD) evaluation research materials, recruiting similar audiences (applicants and installers), and familiar with data requirements through the cross-cutting evaluation; (ii) our scripting team can work from the same base survey script as there will be likely similarities in structure and questions covered, significantly reducing set-up time; and (iii) the same sampling team will manage the sample frames from GHG(LAD) and GHGS(V), enabling efficiencies through deduplication and sample management. To ensure high quality project delivery to agreed timeframes and within budget, we will adopt the following **project and quality management measures**:

- **A central point of contact**: Our team (see PROJ 1.2) has clearly defined roles and responsibilities. The Project Director [redacted] will lead, supported by [redacted] (PM), acting as key contacts and responsible for managing the Ipsos MORI team and consortium coordination. UCL, EST and BRE have also named contact points to ensure clear lines of communication and accountability internally and externally.
- **Dedicated leads per research strand / audience** for efficient, dedicated and high-quality management of research and analysis.
- **Regular client meetings** (c. 30 minutes weekly) to ensure the project runs to schedule and BEIS are informed of progress., with extra time at inception and reporting periods. We expect these to be less frequent between phases when activity will be reduced. Prior to the call we will send an update document outlining progress against milestones, upcoming decision/ sign-off points, inputs needed, and any emerging risks.
- **Effective consortium management**: [redacted] will lead regular internal calls with UCL, BRE and EST to ensure delivery plans are aligned and resourced, feeding into weekly BEIS updates. Project tasks will not be siloed, with all work packages will be supported by at least one other partner, providing constant communication channels and joint understanding of tasks and objectives.
- **Careful Quality Assurance procedures**: We have extensive experience of delivering large multi-stranded studies for BEIS, so are familiar with BEIS' processes and requirements, including reporting guidelines, modelling QA processes, stages of internal review (e.g. Peer Review Group and the Communications team), and use of independent peer reviewers. We have accounted for these processes in the Gantt at the end of this document and in our pricing for this evaluation. We have allowed for two rounds of comments from BEIS on deliverables. The PD will have overall responsibility and oversight to ensure high quality design/delivery, ethical standards and meeting BEIS' specifications. She will oversee design decisions on all research processes, materials and outputs and will review all outputs before delivery to BEIS. As appropriate, she will assign the relevant team members to support her in the review of quantitative and qualitative analyses and research deliverables.
- The highest **ethical and data security standards**: The Ipsos MORI Information Security and Compliance Team ensures adherence to ethical/legal requirements and data safeguarding. We have been awarded ISO 27001, with regular external/internal audits maintaining standards, and are fully committed to complying with all relevant legislation and standards, with staff regularly trained in associated issues. The Ipsos MORI dedicated **Ethics Group** will support the project. The Group comprises staff members with highly relevant experience with vulnerable audiences. All new Ipsos MORI projects complete an Ethics Review Form and the Group provides advice on research and recruitment materials, content for interviewer briefings, and introduction materials for surveys. The Ethics Group also develops our policies on safeguarding, disclosure and researcher safety. Training on ethics in research practice is mandatory and regularly delivered to staff of all levels.
- A regularly updated **risk register**: An outline is shown below and will be developed further during inception and assign risk 'owners' responsible for monitoring and mitigation. The risk register will be a 'live' document, updated as new risks are identified and raised. The PD will retain overall responsibility for risk management, working to find solutions for project or delivery risks.

C. Key risks and challenges

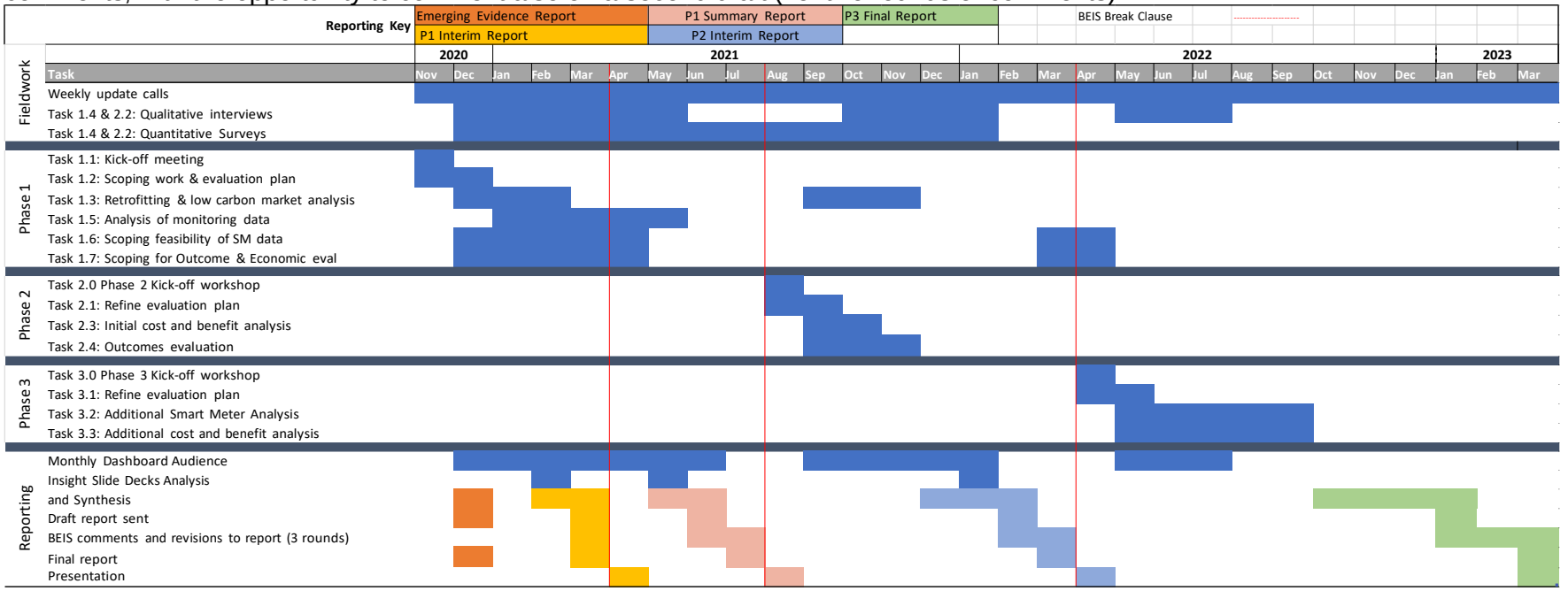
We adopt a systematic approach to risk management. We know from experience that the management of multiple strands of project design and delivery involve dealing with multiple logistical challenges, complexities and risks. We will adopt a systematic approach to risk management, centred around the risk register. The register covers the main/key risks only; a more complete register will be provided at inception.

Description of risk	Impact	Prob-ability	Controls in place / actions to reduce risk
Covid-19 effects limiting the sample for fieldwork	High	Possible	Fewer installations may take place due to Covid-19, with households anxious about letting installers into homes (especially during lockdowns) or with delays due to quarantine etc. The subsequent economic downturn may affect businesses' ability to grow/respond to new opportunities like GHGS(V). Covid-19 may also limit the sample sizes (participating in research may not be a priority or shielders may be unwilling to leave home to post questionnaires). To mitigate, we will incentivise interviews, monitor rates, issue reminders/telephone chases & be flexible in fieldwork modes/timings to maximise response.
Key team members for both Ipsos MORI, BRE, UCL or EST may be absent for extended periods due to illness or self-isolation.	Medium		We have deputy PD & PM roles & 200+ social researchers at Ipsos MORI to fill gaps. New team members receive full briefings from PD. The consortium meets weekly, ensuring lessons are passed on. QA processes require full documentation to minimise loss of knowledge/disruption. For BEIS team absences, we offer video/tele-briefing to new/temporary members. Written weekly updates will include completed/upcoming tasks and deadlines, actions points & risks, getting new team members up to speed.
Lack of clarity/understanding about project objectives	High	Unlikely	At initial set up, we will discuss, clarify and agree project objectives / research questions. Subsequently, we will hold regular meetings, teleconferences and project updates (especially at key milestones) to ensure outputs meet overall objectives. All materials, plans & outputs will pass internal and BEIS QA processes.
The research does not enable /support scheme improvements and policy recommendations			Consortium members have successfully delivered numerous projects for BEIS and have a good understanding of BEIS' remit and how this study fits. Our consortium has extensive experience of producing actionable, policy-focussed research. Additional outputs, e.g. dashboards, will ensure emerging findings are accessible, impactful & can be disseminated across BEIS.
Sample data incomplete or low quality			There may be variation in format and quality of sample provided for applicants and installers. We assume BEIS' delivery partner will clean and package the information. We will review sample frames regularly for completeness, identifying issues or omissions that may affect effectiveness or representativeness.
Access to secondary data from existing databases			We assume BEIS' established relationship with TrustMark will result in few access issues: we will also seek access to MCS. For smart meter data, we will scope access during Phase 1 with UCL (who have extensive experience in accessing & handling smart meter data).
Unable to recruit sufficient participants due to lack of interest (e.g. disinterest in participating or high research burden on the sector from ongoing research activity).			The consortium is highly experienced in recruiting for research. Data collection modes are flexible and varied to accommodate participant needs/preferences. Incentives and reminders will boost response, and the testing of research instruments will optimise participant experience and minimise drop-out. EST has a significant network and presence in the industry, and we will work together to assess pools of installers, assessors and co-ordinators. To mitigate for overburdening participants, we will deduplicate against samples in other scheme evaluations and use interviewer led methods to target installers.

Lower than expected response rate for longitudinal surveys	Medium	Possible	We will increase incentives for the second wave of fieldwork to increase response rates and employ a 'keep in touch' exercise between waves to encourage ongoing engagement. Our estimates of response rates are realistic and based on substantial evidence. Where we cannot deliver required follow up samples, we may recruit fresh samples with further questions on self-reported changes since installation.
Participants unable to clearly recall details of measures & purpose of these at follow-up			During the scoping phase we will consider appropriate cut-off points for post-interviews / plan sample / fieldwork accordingly. We will ask participants to revisit paperwork ahead of the interview to remind them of expected benefits (such as lower bills) and refer to these in discussion guides, using timelines as prompts.
Scheme delivery extended or delayed: applicant/installer surveys do not represent population at current timings		Unlikely	We are flexible and plan fieldwork to ensure the full population is represented; if some of the population applies later than anticipated, the fieldwork period can be extended to include though there may be resource, cost or contract implications. For example, PM costs are based on the project length in the ITT, if this is extended, we may be required to scale back some PM activities (updates, regular catch-up calls)

E. Project work plan

The Gantt chart illustrates the timing of evaluation activities, meetings and deliverables, as well as the break clauses (red line). We propose a report drafting period of 3 weeks for the P1 summary report and the P2 and P3 reports, and to give BEIS a period of 2 weeks for first round of comments, with the opportunity to comment also on a second draft (i.e. two rounds of comments).



Part 2: Contract Terms