UKSBS
Shared Business Services

Commissioning Letter

WINNING MOVES LIMITED
Baskerville House,
Broad Street,
Birmingham,
England,
B1 2ND

Wednesday, 30 January 2019

Dear Sir/ Madam

BIS Research and Evaluation Framework Agreement – Lot 3
Evaluation of Local Supply Chain Demonstrators for Supporting Retrofit
CR18194

Thank you for your response to the Specification for the above commission by the Department for Business, Energy and Industrial Strategy (BEIS) (the Customer) through the BIS Research and Evaluation Framework dated 2 January 2016 between (1) Secretary of State for Business, Innovation and Skills; and (2) Winning Moves Limited (the Framework Agreement).

Appendix:	A.	Tender dated 16th January 2019
	B.	Specification for Evaluation of Local Supply Chain Demonstrators for Supporting Retrofit
Annex:	A	GDPR Special Condition

The Department for Business, Energy and Industrial Strategy (BEIS) accepts your Tender (Appendix A), submitted in response to our Specification (Appendix B).

The Call–Off Terms and Conditions for this Contract are those set out in Schedule 5 to the Framework.

The agreed total charges for this assignment are **£424,637.50** exclusive of VAT which should be added at the prevailing rate, as shown below;

SOURCING REFERENCE:	CR16194
SOURCING DOCUMENT TITLE:	Evaluation of Local Supply Chain Demonstrators for Supporting Retrofit
BIDDER NAME	Winning Moves

Please complete the shaded yellow sections only.

Section 1: Total Project Costs (Summary)

Objective - Phase 1/Year 1	Number of Days	Total Staff Cost Per Objective (ex VAT)	Total Cost (Ex VAT)
[redacted]			

Objective - Phase 2/Year 2	Number of Days	Total Staff Cost Per Objective (ex VAT)	Total Cost (Ex VAT)
[redacted]			

Objective - Phase 2/Year 3	Number of Days	Total Staff Cost Per Objective (ex VAT)	Total Cost (Ex VAT)
[redacted]			
Total Cost (ex VAT)			£ 424,037.50

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Job Title	Standard Rate/Fees excluding VAT (£/Day)	Discounted Rate/Fees excluding VAT (£/Day)	Objective Area (Please Select)	Number of Days	Travel and Subsistence, Overhead costs, cost of production of materials and any/all costs associated with the delivery of the project (ex VAT)	Total Staff Cost (ex VAT)	Total Cost (ex VAT)
[redacted]							
	£ -	£ -	Please Select		£ -	£ -	£ -
TOTAL STAFF COSTS						[redacted]	£ 424,637.50

The agreed invoice schedule is as follows:

Milestone	Date	Invoice amount
[redacted]		

As set out in the specification, the contract will include review and break points. At these points, the Department reserve the right to terminate the contract, amend the specific deliverables in line with the needs of the policy and the evaluation while remaining within the scope specified in the ITT.

All invoices should be sent to should be sent to finance@services.uksbs.co.uk or Billingham (UKSBS, Queensway House, West Precinct, Billingham, TS23 2NF) A copy of the invoice should be sent to [redacted]k

You are reminded that any Customer Intellectual Property Rights provided in order to perform the Services will remain the property of the Customer. The following deliverables have been agreed:

The Services Commencement Date is 30th January 2019

The Completion date is Friday 30th April 2021

The Contract may be terminated for convenience by giving 30 days' notice in accordance with clause 38 of the Call-off Terms and Conditions.

Your invoice(s) for this work must include the following information:
Commission number: CR16194

The Authorised Representative for this Commission will be [redacted] who can be contacted at [redacted]

Until the date of publication, findings from all Project outputs shall be treated as confidential. Findings shall not be released to the press or disseminated in any way or at any time prior to publication without approval of the Department.

This clause applies at all times prior to publication of the final report. Where the Contractor wishes to issue a Press Notice or other publicity material containing findings from the Project, notification of plans, including timing and drafts of planned releases shall be submitted by the Contractor to the Project Manager at least one week before the intended date of release and before any agreement is made with press or other external audiences, to allow the Department time to comment on factual accuracy. All Press Notices released by the Department or the Contractor shall state the full title of the research report, and include a hyperlink to the Department's research web pages, and any other web pages as relevant, to access the publication/s.

This clause applies at all times prior to publication of the final report and within one month from the date of publication. Where the Contractor wishes to present findings from the Project in the public domain, for example at conferences, seminars, or in journal articles, the Contractor shall notify the Project Manager before any agreement is made with external audiences, to allow the Department time to consider the request. The Contractor shall only present findings that will already be in the public domain at the time of presentation, unless otherwise agreed with the Department.

Congratulations on your success in being selected to undertake this Commission.

Yours sincerely

[redacted]
UK Shared Business Services Ltd

BY SIGNING AND RETURNING THIS COMMISSIONING LETTER THE SERVICE PROVIDER AGREES to enter a legally binding contract with the Customer to provide to the Customer the Services specified in this Commissioning Letter and Annexes incorporating the rights and obligations in the Call-off Terms and Conditions set out in the Framework Agreement.

Department for Business, Energy and Industrial Strategy (BEIS)

Name and Title	[redacted]
Signature	
Date	8-02-2019

Signed on behalf of WINNING MOVES LIMITED

Name and Title	[redacted]
Signature	
Date	6th February 2019

Appendix: A Tender dated 16th January 2019

PROJ1.1 Approach / Methodology

Introduction and background

BEIS are seeking to commission an evaluation to assess the extent to which the programme is set-up to deliver against a number of objectives (ex-ante) and the extent to which this is being achieved (ex-post). In particular the evaluation will seek to understand how and why different approaches have worked within individual pilots and thereby inform learnings for future interventions on the retrofit supply chain. Evaluation activity will include a process evaluation, alongside an outcome and impact evaluation of the programme.

- Through the process evaluation, BEIS are looking to: assess the customer experience of individuals who retrofit their homes via supported projects; review the experiences of those involved in managing the scheme; and identify the key characteristics of schemes which generated successful outcomes and those which were less successful.
- The outcome evaluation will seek to identify the effects of the projects on the local retrofit market in terms of generating an upskilled, coordinated and growing supply chain, with confidence to offer quality retrofit work. An important part of the outcome evaluation is to explore the extent to which outcomes are additional to those which might have been expected in the absence of the intervention. We will also look to capture insight into other outcomes such as increased awareness and knowledge of energy efficiency improvements, attitudes towards partnership and collaboration, improvements in confidence and interest in the potential of the retrofit market.
- The impact evaluation will seek to measure the energy reduction impact where feasible through understanding 1) Where retrofit work reduced the energy bills of treated households, and to what extent 2) Whether projects lead to increased retrofit activity in the demonstration project areas.

Winning Moves are pleased to present this proposal alongside CAG Consultants. Our partnership will be enhanced by Element Energy members of the Lower Carbon Futures Group at Oxford University's Environmental Change Institute.

Methods and rationale

Winning Moves and CAG are leading practitioners in theory-based evaluations within the energy sector. Given the contextual assumptions around the scheme as-a-whole, the complexity of some of the projects, and the focus in the evaluation questions on how and why outcomes occurred for different pilots, we agree with the specification's rationale that the evaluation should be theory-based. Theory-based evaluations may be pursued via multiple methodologies; realist and theory of change approaches are the two most commonly applied and we are familiar with using both. Although understanding the influence of different contextual factors implies realist thinking, we feel that the fact that outcomes may not yet be evident suggests a theory of change approach might be best in this instance. A theory of change approach provides clients and contractors with a common understanding of how a programme is intended to work and how it enables researchers to develop and target research instruments with a view to establishing what is / is not working, how and why.

Whilst there is one programme, requiring one overarching theory of change, there are six pilots, each is trialling new approaches in different contexts. To address this we will develop individual theories of change for each pilot ensuring that these are clearly linked to the

overarching theory. For example, the contextual characteristics that are predicted as favourable / unfavourable in the overarching theory and the implications of these should carry through to the pilot theories. To inform and test these theories for the outcome evaluation and to collect data to inform the process evaluation, we agree with the overall mixed method approach set out in the specification.

Following the inception meeting in phase 1, we will confirm the project plan and undertake the development of the theory of change for the programme as-a-whole. Following this, the work (and team) would be spit across two concurrent workstreams:

- Theory of change development and development of the overall evaluation methodology (including revisiting and confirming the evaluation questions). Part of this work will involve clarifying our understanding of each project and engaging with the individual pilots to understand what evidence might be available from the pilots to inform the evaluations. This understanding, alongside the theories of change will inform the proposed metrics for the outcome evaluation. The feasibility of measuring energy impacts will also be explored in this workstream.
- Light touch process evaluation - an assessment of data collected by the pilots, face to face interviews with funded beneficiaries and telephone interviews with the supply chain.

As set out in the specification, we will deliver the fieldwork element of the evaluation in Phase 2 in two waves. Each wave will involve:

- Collection and homogenisation of data collected by the pilot projects themselves
- Qualitative and semi-structured interviews with organisations (both funding beneficiaries and their partners / supply chain)
- Quantitative and qualitative interviews with consumer beneficiaries.

Through analysis we will draw out outcomes (and potentially impacts) at the pilot project level. Thematic analysis will be used to undertake the process evaluation at both the pilot project and whole of project level. A broader analysis of the evidence will be conducted to identify lessons learned and to develop our conclusions and recommendations.

We anticipate that this method will meet the objectives for the project as follows:

- Outcome evaluation: Phase 1 will involve building on the high level theory of change in the ITT to develop a full programme theory that describes programme assumptions and external factors. Following this we will develop a set of linked, theories for each pilot. In phase 1 we will also identify what data will be available from each pilot to inform the outcome and impact evaluation (from their monitoring activities). The programme of research in phase 2 will then be designed and delivered to collect the evidence to inform and revise the theories. Again, the data will be brought together in a synthesis and reporting phase.
- Impact evaluation: In phase 1 we will review and determine the feasibility of potential methods for the impact evaluation and build in methods to collect this data in the Phase 2 fieldwork.
- Process evaluation: In familiarising ourselves with the pilot projects and undertaking some purposive qualitative research, we will be able to draw out some preliminary research findings in Phase 1. The targeted primary research in the Phase 2 fieldwork will draw out further data and insight to inform this evaluation from the perspective of funded beneficiaries, the supply chain and consumers. Again, the data will be brought together in a synthesis and reporting phase.

Approach to methodological challenges

Understanding additionality. This question that sits at both a micro level (would specific outcomes have been achieved in a specific area) and a macro level (what would have happened to the UK retrofit market). Despite the advice in the specification that little to no retrofit is occurring outside of government schemes in the owner-occupied sector, it cannot be assumed that nothing is happening. The theories of change for the individual pilots would look to capture such activity and other contextual factors likely to impact on pilot activity, and thereby help to inform an evaluation approach and research instruments that can identify 'additional' changes. The pilot level theories of change will also take into account the different starting points for each of the projects, for example the maturity of the partnerships, the experience of the delivery partner and the skills of the local supply chain. Also important in informing additionality (and in determining the 'success' of each pilot e.g. one model may be more immediately successful because it's building on something existing; another may need more time). However, expending a large amount of evaluation resource identifying the counterfactual will not necessarily create the learning that BEIS requires in terms of what is working and how. Therefore, in line with the theory-based approach, we are proposing a contribution-based approach to exploring additionality[1], with evidence drawn from 1) self- reported attribution of funded beneficiaries, 2) self-reported attribution of suppliers in the pilot areas – we would also use questions that seek to recall outcomes of interest prior to the trial as a 'pseudo' 'before and after' design; and 3) self-reported attribution of consumers who have undertaken retrofit in the pilot areas. This will result in a qualitative narrative of market effects of the funding at both a local and UK level. From this, we will be able to make an evaluative judgement of the extent to which pilot projects were responsible for identified outcomes.

Selection of a comparative methodology. Although not suggested within the specification during phase 1, we would consider the application of a Qualitative Comparative Analysis for phase 2. Qualitative Comparative Analysis (QCA) is a theory driven method which would allow us to make systematic comparisons across the pilots in order to explore what causes differences between a particular outcome or impact of interest between the pilots[2]. This would involve identifying a comprehensive list of contextual variables (the absence or presence of which might be evidenced with the different audiences we are researching) and then exploring them for ALL cases to see if they seem to be necessary / sufficient for the outcomes (or impacts) we are seeking to evidence. In QCA this is usually achieved through an iterative approach i.e. if something comes up as important in one of the interviews that wasn't explored in other cases, other cases are revisited. This can be supported via the fact that we are interviewing respondents on more than one occasion in the research[3]. This would be considered alongside the use of Latent Profile Analysis (a suggestion made in the specification). However, our initial assessment is that QCA would be better suited to answering the evaluation questions. Whereas Latent Profile Analysis seeks to understand the probability of different contextual variables being present for a specified outcome, QCA seeks to understand the configuration of contextual variables that are present for a specified outcome (which we determine would be better for understanding how and why different approaches have worked within their target areas).

Measuring energy reduction impacts. Direct measurement would be resource intensive and limited in scale. Other options include:

- Asking participants for bill savings. This would rely on participants regularly reading their meters and not relying on estimates, and not switching to a cheaper tariff. Most people are on direct debits and these are only adjusted annually or thereabouts (to reflect changes in consumption but also changes in price), making it very difficult to gauge savings.
- Use of qualitative measures e.g. warmth / comfort. This can be very weather dependant (e.g. last winter we had a severe cold snap; this winter is very mild so far). However, we do propose to explore using this as a metric for the outcome evaluation. In the absence of

[1] For example contribution analysis, an approach for assessing causal questions and inferring causality in real-life program evaluations (see for example: https://www.betterevaluation.org/en/plan/approach/contribution_analysis)

[2] See for example: https://www.cecan.ac.uk/altee/default/files/2018-01/DAVE%20B%20PPN%20v2.1.pdf

[3] In informing any QCA process, we will draw on current work on the BEIS Climate Change Adaptation evaluation and recent practical experience of implementation of QCA for an evaluation of the DBEIS Electricity Demand Reduction (EDR) Pilot scheme[3] which was on the basis of qualitative and quantitative research with a range of participants and non-participants to understand the barriers to, and incentives for, participation and investment in energy efficiency measures.

direct measurement of energy, some outcomes (such as increased comfort) may provide a reasonable indication that the benefit exists.

- Use of NEED. We appreciate that this will require further conversations with BEIS and may not be feasible within the timescales however, we recognise that this would provide us with the opportunity to get assessment of the counterfactual for energy use metrics.
- Use of meter data. We would explore the potential for collecting meter numbers from beneficiary customers which may mean we are able to track energy use over time for customers (assuming BEIS permit use of the meter data for this evaluation). As an alternative we could consider use of address data to facilitate this.

Delivering phase 1 at pace. The timeframe for the first phase is very tight and the pilots themselves are under pressure to deliver outcomes before the end of the financial year. We have designed our response to accommodate this, including:

- Structuring our approach so that after development of the theory of change for the programme-as-whole, development of the theories of change for the individual pilots refinement of the research questions and overall method development can occur concurrently with the process evaluation.
- Selecting primary research methods to inform the process evaluation that can be delivered in tight timeframes e.g. interviewing suppliers by telephone rather than face to face. However, we do think it important to visit each pilot and interview the main delivery organisation(s) face to face during phase 1.

To further facilitate the need to deliver at pace, we will need prompt sign off from BEIS on research instruments and other decisions required to proceed.

Collecting evidence of outcomes. If the evaluation proceeds into Phase 2 then it will be essential to: ensure that we understand what types of project monitoring data are being collected by the pilots; ensure that such collection activity is undertaken during the project (rather than at the end - a common fault of such projects); and ensure that it is collected in a consistent fashion. As part of phase 1, we propose to review the pilots existing processes for monitoring and data collection. We would then explore, with BEIS and the pilots, the possibility of adopting common approaches to data collection (using existing metrics, but with these being supplemented where this abets the research). Evidently the differences between the pilots will mean that not all pilots would be expected to collect the same types of data, but we would expect some overlap, between at least some of the pilots and the development of a consistent approach to data collection will better enable programme level evaluation.

Encouraging open and honest response amongst funded beneficiaries. There is a risk that funded beneficiaries may perceive that reported outcomes might influence future investment in their pilots, which may lead to there being a potential vested interest in overstating the benefits of a contract. We will limit this by: wherever possible asking respondents to refer to data sources (rather than giving estimates), to adopt a common approach to data collection and sense checking and triangulating evidence with wider evidence from the evaluation. Further to this, the use of paired interviews with funded

beneficiaries may, in some cases, result in interviewees not raising contentious issues. The use of face to face interviewing will help here as it will provide non-visual cues that can be probed. We will also revisit the methodology at the outset of phase 2 if we feel that it is not generating the insight required, perhaps using one to one interviews as an alternative.

Delivering a large-scale consumer survey. BEIS are expecting a large-scale consumer survey in both fieldwork periods in phase 2. To secure an achieved sample of 1,200 interviews will require a sample 3-4 times this number. This will require that each pilot maintains effective and accessible systems for capturing customer contact details, alongside consent to be re-contacted from the outset. As part of our planned review of processes for research and data collection in phase 1, we will review the pilot's current approaches and make any suggestions for how they could be optimised (e.g. in terms of the rationale for re-contact) to facilitate a large number of contacts.

Synthesising evidence from all pilots over the lifetime of the project to produce a comprehensive set of findings. There will be challenges associated with the large volumes of data and the different types of data that are being collected. To help facilitate a comprehensive analysis we are proposing:

- That a senior individual 'leads' the investigation of each pilot. They will conduct the qualitative fieldwork with each pilot as well as the desktop review and therefore generate a good understanding of both the pilot and the data available to inform its evaluation. They will also be the first point of contact for each pilot, to ensure clarity in communications.
- For the outcome and impact evaluation, use of a theoretical framework both for the programme as-a-whole and for each of the pilots.
- A number of structured debriefs between the team to help bring all the evidence together.

Detailed description of methods and resources

Phase 1

At the outset, we suggest a short programme of work to scope the requirement and develop and finalise project management arrangements, including the overall timetable. This would start with an inception meeting to cover context, agreement of overall approach, discussion of key challenges and project management arrangements for phase 1. Immediately following the inception meeting, we would prepare draft project management tools for sign-off. This would focus on phase 1; noting that there is no expectation that the pilot projects (and thereby the evaluation) would be funded beyond this. Following this, the work (and team) would be spit across two concurrent workstreams:

Theory of change development and development of the overall evaluation methodology
CAG will lead the development of the theoretical framework, drawing on the expertise of other consortium partners as required. Key stages in theory development will be:

- Reviewing the high-level theory of change outlined in the specification and any other relevant non-published materials that BEIS can provide.
- Undertaking scoping interviews with key 4-6 key stakeholders (such as BEIS, delivery bodies, academics).
- Reviewing relevant evidence gathered from familiarisation with the activities of the pilots themselves and from key literature sources.
- Running a theory-building workshop with the BEIS policy team, the focus of which will be testing an updated 'straw man' theory of change.

The findings from these activities will then inform our development of a draft theoretical framework, which would include an overarching theory of change for the programme as a whole, as well as initial theory development for the individual pilots.

Winning Moves will undertake the work to familiarise ourselves with each of the pilots and in particular progress with their plans for research and monitoring of pilot activity (the specification refers to this as 'open book accounting'). This would be a largely desk-based exercise. Alongside, this we will consider the opportunities for work to understand the energy impact of each pilot e.g. understanding more about the data that pilots hold / are likely to be able to share and the viability of collecting /sharing meter numbers.

Informed by the above steps, we would revisit the proposed set of evaluation questions to determine the extent to which these can be addressed and to consider whether there might be benefit in refining or otherwise adjusting them. In the evaluation plan itself, the methodologies that will be used to explore / answer each question will also be outlined.

Light touch process evaluation

We agree with the suggestion of a light touch process evaluation at this point. Pilots are likely to be very busy, not least because of the end of the financial year, therefore a proportionate commitment to the evaluation at this stage will support collaboration going forward. As a result of previous work the team have contacts within most of the pilots and would expect this to help us to secure their engagement with:

- A face to face paired depth interview with the individuals best able to talk about the activities of the pilot to date.
- Suggestions for members of the local supply chain (or their representatives) who can reflect on early engagement activities with the supply chain. We would interview four by telephone for each pilot.
- Sharing key documents that will help the team understand how the pilots are being delivered e.g. operational plans.
- Providing evidence to inform the metrics they are required to report against (which will be reviewed in the first workstream from a quality and method perspective and here from a content perspective).

The findings would be shared with BEIS in a written report and via a workshop.

Phase 2

In order to meet the challenging timescales of phase 1, and to reflect the fact that it is not known which, if any, of the pilots will be taken forward into the 2019 / 20 financial year, we propose to review and finalise some activities from the phase one workstream 'Theory of Change development and development of the overall evaluation methodology' at the start of Phase 2 including:

- Revisiting the theory of change for the pilot initiative as-a-whole and the initial theory of change for each pilot in light of findings from the light touch process evaluation
- Refinement and finalisation of the theory of change for each pilot. Pilot projects will be given the opportunity to feedback on a project specific draft version prior to finalisation. This process will be managed centrally, to ensure consistency of approach, but we anticipate that it will be led by the designated lead consultant for each pilot.
- Providing guidance to each pilot around the data that we would be looking for them to share to inform the evaluation and our proposals regarding how this should be collected and presented. Some pilots may need more support if this deviates from their existing plans, e.g. in terms of how the data may be collected and stored. The specification asks that we seek to quality assure, homogenise, and coordinate the data from pilots to

maximise its utility for the evaluation as a whole. Phase 1 will provide the understanding of both what is available and what is required to issue some guidance around this at this stage.

- Developing the research instruments for the different methods proposed. We would expect BEIS to comment on at least one version prior to finalisation.

We will also revisit the overall methodology and research instruments at the outset of the second part of phase 2 – although we anticipate this will be less resource intensive. There will be two rounds of fieldwork in phase 2 each comprising:

A desktop review of data collected by each pilot. We will undertake to collate and review the data collected and shared by each pilot to inform the evaluation and anticipate some interaction with the project team whilst this is undertaken for the purposes of clarification.

Prior to thinking about this further during phase 1, we anticipate this will largely consist of activity and output-based data (e.g. who has the pilot engaged, how and in what volumes) as well as customer satisfaction and other process data.

Face to face paired depth interviews with those running each pilot. We propose to conduct a series of 2 – 3 paired depth interviews with those responsible for running each pilot. These would cover 1) the rationale for the activities undertaken and their fit with the wider local and national context, 2) evidence of achievement of outcomes, 3) reflections on the process of setting up and managing the projects – both challenges and successes and

4) lessons for replication, scale-up and roll-out of the pilot activity

Face to face interviews with a sample of the supply chain for each pilot. We have resourced for five face to face interviews with key members of the supply chain (or their representatives) for each wave of fieldwork. There is a risk that this is not appropriate to reflect the scale and nature of activity (as determined in phase 1 / outset of phase 2); we could therefore convert the resource for any or all of the pilots to telephone interviews (10 – 12 per pilot) or an online survey. Apart from any reflections on the process and nature of the pilot activity itself, we would expect the main purpose of these interviews to evidence the outcomes of pilot activity by focusing on any changes in the awareness, knowledge, understanding and skills of the supply chain with respect to retrofit activity. As well as behavioural change in terms of what they are doing (e.g. whether and how they advise customers of opportunities) and how they work (e.g. co-ordination with other members of the supply chain).

A quantitative survey of consumer beneficiaries of the pilots. We agree with the suggested sample size of 1200 on the basis that it should be sufficient to detect statistical differences between the pilots as well as between the two waves of fieldwork between for an individual pilot. Should project targets be met, this would mean that over a quarter of beneficiary consumers will have been surveyed through the evaluation. The sampling approach will be informed by our review of available project data but, where possible, we would seek to:

- Sample similar numbers in each wave of fieldwork (there is a risk however, that due to the natural ramp up of activity in pilots of this nature, there may be insufficient sample during the first wave of fieldwork and sample sizes will need to reflect this).
- Sample the same number of customers in each pilot (given targets are the same). However, there is a risk that if some pilots are not successful, there may not be sufficient customers to do this[4].
- Over-sample / boost the sample of consumer where the impact of the projects might be

largest (e.g. because of the nature of the support received) to make sure our efforts to measure impact are proportionate and focused;
- Reflect the demographic profile of beneficiary customers;
- Consider the timing of the support (i.e. ensuring that the sample selected have received the support with sufficient time to reflect on the impacts that might result).

We are anticipating surveys of 15 minutes in length using a CATI approach. In the main, closed questions would be used to explore the customer experience of the pilots and also (whether or not the energy impacts of the scheme could be modelled), the impacts of retrofit activity e.g. in terms of comfort. We would pilot out proposed methodology as part of development of the method at the outset of Phase 2.

Qualitative interviews with consumer beneficiaries of the pilots. The specification suggests that a sample of 60 customers (10 from each pilot) would be interviewed qualitatively during each wave of fieldwork. These interviews would take the form of 30-minute telephone interviews for which the respondent would receive a £30 e-voucher as a thank you for their time. This will increase the ease of securing participation thus mitigating the risk of not being able to recruit sufficient interviewees according to the agreed sampling

[4] In this instance, we may consider diverting some of the resource for the quantitative survey to qualitative work, to get further detail around why the pilot was not as successful.

criteria. They would be scheduled after the quantitative survey in each phase to allow the sample to be drawn from those who agree to a further interview in the quantitative interviews. This would also allow us to explore emergent issues from the quantitative survey (including some tailoring for each pilot). As such, we would not finalise the sampling approach until after the quantitative survey has been conducted and initial analysis completed. We agree with the suggested sample size, we think this would be sufficient to sample 10 customers who represent the cross-section of pilot customers; however, we may want to explore certain groups or themes as a result of initial analysis of quantitative work, which would suggest a more purposive approach. In which case, the sample size would allow us to investigate two issues / customer types for each pilot (on the basis that a minimum of five qualitative interviews is generally sufficient to surface key issues whilst minimising the risk of a singularly divergent view taking precedent).

Analysis and synthesis

Qualitative analysis. Qualitative data for analysis will be derived from the interview transcripts. Our preference is to use NVIVO. An initial coding frame would be developed from the interview guide headings. We will then read and code up to 5 randomly selected interview scripts for each fieldwork element to develop further emergent codes and refine our existing codes. Data will then be extracted from each transcript. However, we will need to revisit this method if we opt for a QCA approach to support more open exploration.

Quantitative analysis. Data from the consumer survey will be analyses in SPSS. The benefit of developing a syntax to for the analysis means that we can ensure consistency across the pilots and between the analysis conducted for each year. We envisage a number of levels to the analysis both for the programme as-a-whole and for each of the individual pilots including descriptive statistics and statistical tests to identify differences between pilots and then between each survey (e.g. to determine whether satisfaction with a pilot has changed from the first wave of fieldwork to the second).

Synthesis. We will use an analysis framework to collate and co-ordinate the findings from the different data sets; this will also enable cross-referencing of findings. We will draw on all the evidence to make an assessment of which pilot projects have made a difference and the reasons for this. A broader analysis of the evidence will be conducted to identify lessons learned, and to draw out implications for further intervention in this area. This will involve drawing out key themes and learnings from the fieldwork, as well as use of contextual evidence (drawing on our wider experience as a consortium and reflections from BEIS).

Disseminating emerging and final findings to stimulate policy debate

Report. We would propose and agree a report structure with BEIS prior to drafting. In drafting we would use a mix of narrative, charts, diagrams and case studies to communicate findings and insight. We will use a structure which includes a clear executive summary, findings in the main section and further detail in appendices.

Presentations. Three types of presentations are proposed 1) Interim presentations of findings to the project team and internal stakeholders; 2) the final presentation of findings to the project team and internal stakeholders and 3) a lunchtime seminar for wider BEIS staff (and wider stakeholders as invited). BEIS will have the opportunity to comment on draft slides and the presentations themselves will be delivered by experienced and engaging presenters (who will be familiar with BEIS's context through regular discussion). We would also be open to working with BEIS to disseminate the findings to wider stakeholders e.g. running a webinar that could potentially be promoted by ALEO or ADE to encourage a high level of attendance. Findings would also be of interest to the city regions; we could run a joint session with BEIS for this audience.

PROJ1.2 - Staff to deliver

Winning Moves is a research and evaluation consultancy specialising in the evaluation of government policy and practice. **Winning Moves** will be lead contractor for the work, with responsibility for **project management**, the **overall evaluation and analysis** plan, assessment of the **data collection plans for each pilot, the consumer survey and analysis, analysis of energy impacts** and **evidence synthesis** and **dissemination** (both reports and presentations). **CAG Consultants** will be responsible for development of the **Theories of Change** and **qualitative work with consumers.** We will select team members from both Winning Moves and CAG who will be responsible for data collection in each pilot area (i.e. interviews with funded beneficiaries and their supply chain and desktop review of documents) Our partnership will be enhanced by; 1) **Element Energy** who, through their specialism in the intelligent analysis of low carbon energy, will assist in determining the feasibility of measuring energy reduction impacts (and implementing this where feasible) and 2) members of the **Lower Carbon Futures Group** at the Environmental Change Institute at the University of Oxford who will enhance the outcome evaluation through their understanding of the UK retrofit market.

In summary the core team members and their responsibilities are:

- [redacted] (Director of Research and Evaluation Winning Moves) will be the Project Director for the work, responsible for ensuring the quality of the evaluation overall but particularly that the evaluation design is practical and fit for purpose. [redacted] is fulfilling the same role on the BEIS funded evaluation of the public sector energy efficiency loan scheme and has recently directed a project for DCMS to characterise the supply chains in a number of their key sectors.
- [redacted] (Consultant, Winning Moves) will be the main consultant for the work, lead author of the final report and undertake qualitative research for the Oxford pilot. She has excellent experience in leading outcome and process evaluations of grant funded government programmes; doing so for both the Waste and Resources Action Programme (WRAP) and Zero Waste Scotland. Both have also required modelling of energy impacts.
- [redacted] (Senior Research Executive, Winning Moves) is an experienced qualitative researcher who will lead qualitative work for the Bristol and Cornwall pilots. She was a core part of the team who undertook a multi-year evaluation of a programme of work in the South West to develop the supply chain for retrofit in the region and therefore had a good understanding of / contacts with the key organisations in the area.
- [redacted] (Analyst, Winning Moves) recently re-joined Winning Moves after a brief period within the consumer insight team at HSBC. His expertise lies in the field of quantitative research, mainly designing surveys (including online) and undertaking advanced data analysis. He would lead design and analysis of the quantitative survey, a role he is now taking on the RHI evaluation.
- Field team. Winning Moves' field team is led by [redacted] (Field Manager) Winning Moves have internal capacity to deliver the volume of quantitative interviews required with eight permanent CATI stations and the ability to flex to twelve as required we can comfortably deliver 400 – 600 interviews a week. Our team of telephone researchers are of graduate calibre and are confident, articulate and persuasive.
- [redacted] (Projects Operations Manager, Winning Moves) will be the project and resources manager for the project, co-ordinating the team. She will also act as the key point of contact for BEIS. She is currently fulfilling this role on the BEIS funded evaluation of the public sector energy efficiency loan scheme, with experience of project managing multi-year, multi-method, multi-stakeholder projects for BEIS, DCMS, Welsh Government, WRAP and Zero Waste Scotland.
- [redacted] (energy policy) (CAG Partner) will be the Project Manager with responsible for leading and coordinating CAG's input. [redacted] will oversee the development of the qualitative research tools and will lead on the qualitative research for

the London pilot. [redacted] has 22 years experience of working in domestic energy retrofit and has worked on evaluations of: the GLA's RE:NEW retrofit programme; the CERT and CESP; and the Retrofit London project.

- [redacted] (CAG Partner) will be the Project Supporter for CAG's role, leading on the Theory of Change Development and on the qualitative research for the Manchester pilot. [redacted] specialises in undertaking complex policy and programme evaluations and other forms of social research on behalf of Government and other clients. He brings particular expertise in the development of theories of change and has led or contributed to the development of these on multiple projects, including BEIS projects.
- [redacted] (CAG Partner) will assist with the development of the Theories of Change and with the research tools and will lead on the qualitative fieldwork for the Sussex pilot. [redacted] has led a number of BEIS evaluations including the current Renewable Heat Incentive evaluation.
- [redacted] (CAG Partner) will assist with the development of the Theories of Change and with the research tools. She will also undertake some of the qualitative consumer fieldwork. She is currently leading an evaluation of the Transitional Arrangements for BEIS and is a core member of the Renewable Heat Incentive evaluation team.

This core team will be supported by:

- [redacted] Senior Principal, Element Energy Built Environment Team). He has delivered numerous studies for BEIS/DECC, the Sustainable Energy Authority of Ireland (SEAI), the Irish Department of Communications, Climate Action and Environment (DCCAE), the Committee on Climate Change, the Government of Morocco and others.
- [redacted] (Director, Element Energy's Built Environment and Energy Networks teams). Who has directed various policy development and techno-economic analysis studies for the UK Government on energy efficiency and low carbon heating, including work on the Green Deal, the Feed-In tariffs for renewable electricity, the Code for Sustainable Homes and multiple recent studies to inform BEIS's heat decarbonisation policy analysis.
- [redacted] (research associate, Oxford University's Environmental Change Institute) is currently working on deep renovation policy initiatives and policy mixes across the world including both technology-focused and people-focused policies. She is a steering group member for the British Standard Institute's PAS 2035: 2019 Retrofit standards, being developed for BEIS under the Each Home Counts review.
- [redacted] (Senior Researcher, Oxford University's Environmental Change Institute) is engaged in research for a more sustainable built environment, using a broad 'socio-technical systems' approach to investigating how technology and behaviour evolve and affect each other. He joined the ECI in 2004 after working for 10 years on energy efficiency and building-integrated renewable energy projects in the voluntary and public sectors.

The **external support** our team would need includes:

- Review and sign-off of research plans and instruments from BEIS so that we can commence fieldwork.
- Feedback on reporting outputs from BEIS, including co-ordination of internal comments and assisting us with any areas of disagreement in comments.
- Co-operation from the pilot projects themselves. We note that their teams will include someone with responsibility for liaison with the evaluation contractor and will nominate team members from our side in return. We will require support in accessing monitoring / reporting information and project delivery information, setting up interviews with funded beneficiaries, identifying members of the supply chain to interview (and introducing us where appropriate) and sharing customer contacts for the consumer research work.

The table below outlines the contribution that each team member will make to the work programme – to avoid duplication, this is a summary table of the delivery plan in PROJ1.5:

	[redacted]												
Phase 1													
Inception and refine project plan	0.5	1				2		1	0.5				
Method development													
Development of overall ToC and ToC for each pilot													
Familiarisation with / 'assessment' of pilot MBE plans			4	4				2	7	2	2		1
Assessment of feasibility of measuring energy reduction impact		1		1									
Refine evaluation questions / develop evaluation	1	2		1					1	1		1	1
Process evaluation													
Development of research tools								1			2		
Contractor f2f qual interviews		1	2					1	1	1			
Desktop review		1	2					1	1	1			
Supply chain telephone qual interviews		1	2					1	1	1			
Early findings workshop	1	2									1		
Interim report (inc. QA and proof reading)	2	3		1					1				1
Project management and liaison (inc. with pilots)			1.5			1		2.5	0.5	0.5			
Phase 2													
Revisit / refine overall ToC and ToC for each pilot								5	5				0.5
Revisit / refine evaluation plan	1	4											0.5
Analysis of contractor collected data		1	2	4				2	2	2			
Contractor f2f qual interviews		1	2					1	1	1			
Supply chain f2f qual interviews		2.5	5		4			2.5	2.5	2.5			
Consumer telephone survey		4		15	22		180						
Consumer qualitative work					15			10	7		5		
Measuring energy reduction impact	1			2								10	
Synthesis of evidence	2	5	2	1				2	2				4
Light touch report (inc. QA and proof reading)	1	3	2					1	1				1
Two meetings with BEIS	1.5	1.5						1.5					
Project management and liaison (in. with pilots)	2	2	4			10		6	2	2			
Phase 2													
Revisit / refine overall ToC and ToC for each pilot								3	3				0.5
Revisit / refine evaluation plan	1	3											0.5
Analysis of contractor collected data		2	3	6				2	2	2			
Contractor f2f qual interviews		1	2					1	1	4			
Supply chain f2f qual interviews		2.5	5		4			2.5	2.5	6.5			
Consumer telephone survey		2		12	20		180						
Consumer qualitative work					15			9	7		5		
Measuring energy reduction impact	1			2								8	
Synthesis of evidence	2	3	2	1				2	2				6
Light touch report (inc. QA and proof reading)	1	5	2					3	3				1
One meeting with BEIS	1	1						1					
Analysis and reporting													
Synthesis of all evidence	1	5	4	5				6	6				2
Report drafting (inc. QA and proof reading)	2	10	6					2	2				1
Presentation slides	1	3						1					
Presentation	1		1					1					
Project management and liaison (inc. with pilots)	2	2	4			14		7	2	2			

Delivery of theory-based evaluations in a policy evaluation context

- **Evaluation of the public sector energy efficiency loan scheme (Salix) (BEIS, 2017-ongoing)** Winning Moves is leading this multi-year theory-based evaluation, with CAG as a key partner. CAG own development of the Theory of Change and theoretical framework and Winning Moves own the overall evaluation plan. Both structured and ad-hoc discussions between the two organisations provide a level of peer review as well as ensuring these two work elements are fully integrated.
- **Evaluation of the reformed Renewable Heat Incentive (BEIS, 2016-present)** – CAG, in partnership with Winning Moves, is leading this large-scale, multi-year, complex, theory-based evaluation. CAG is leading on development of the theoretical framework and evaluation plan.
- **Evaluation of the arrangements for managing local flood risk in England (Defra, 2014-2016)** This was a large scale, complex evaluation, involving all lead local flood risk authorities in England (County and unitary authorities). The project aimed to evaluate the operation of the arrangements for managing local flood risk put in place by the Flood and Water Management Act (2010) which was undertaken using a theory-based approach.

Designing and undertaking the types of primary and secondary data collection outlined in the specification

- **Ready for Retrofit Warmer Greener Homes Programme Evaluation (Regen SW, 2013 – 2015).** Winning Moves led an evaluation of this initiative to support growth in the retrofit market. The method included assembling and quality assuring programme monitoring information, undertaking research with the local supply chain (to assess changes in approach and performance) and qualitative interviews with programme managers.
- **Retrofit for the Future evaluation (Technology Strategy Board, 2011-13).** Winning Moves led the primary and secondary data collection for this two phase evaluation which included face to face interviews with householders to understand their experiences of intensive retrofit undertaken on their homes. We also undertook over 120 qualitative and quantitative interviews with the supply chain including architects, developers, builders and installers exploring the key market structures, drivers and barriers to intensive retrofit across the UK. We reported business benefits (e.g. jobs), attributable to the programme.
- **Interim CESP evaluation** (DECC, 2011-12) CAG led the qualitative research workstream within the evaluation of CESP. CAG undertook in-depth interviews and case studies involving installers, local authorities, housing associations, suppliers, managing agents and other stakeholders involved in the supply chain for solid wall insulation.
- **Growing Green Homes evaluation (Broadlands District Council, 2013 - 2015):** Wining Moves led the three year evaluation to assess impact on the local supply chain of an ERDF funded local retrofit programme on social housing. The research involved over 200 qualitative and quantitative interviews with retrofit contractors and their supply chains.
- **Evaluation of domestic retrofit programme (Plymouth Energy Community (PEC), 2017-2019).** CAG are leading a two year evaluation of (PEC) Simple Energy Efficiency Measures programme. The evaluation is theory based (theory of change) and involves the collection of quantitative programme data and qualitative interviews with householders, landlords and the supply chain.

Delivery of high quality synthesis, reporting and communication of complex policy research. The above examples all provide evidence of this. In addition:

- **Evaluation of the Smart Systems and Heat Phase 2 (SSH2) Programme (Energy Systems Catapult (2017 – present).** Winning Moves are undertaking this evaluation on behalf of ESC. SSH2 is a complex, multi-faceted innovation programme which is seeking to develop and evaluate examples of potential new service offerings in terms of low-carbon heating. As part of this evaluation complex concepts and wide-ranging views need to be distilled for both a policy and external stakeholder audience.
- **Evaluation of CRC Energy Efficiency Scheme, Phase 1 (DECC, 2014-2015)** CAG, in partnership with Winning Moves, led a mixed-methods, theory-based evaluation of Phase 1 of the CRC Energy Efficiency Scheme for DECC. There were separate reports for each work element as well as a synthesis at both the interim and final stages.
- **Evaluation of the Heat Networks Delivery Unit (BEIS, 2014-2016)** CAG led a two-year evaluation of the heat networks development for BEIS. The research considered barriers and enablers for heat network development and the impact of the HNDU and other government interventions.

In agreeing the proposed resource commitments for the project, consortium members have included this in their respective business resourcing plans, thus ensuring the availability of resource. Maintaining our ability to deliver these skills and expertise involves:

- Ensuring continuity in the team. Winning Moves have excellent staff engagement and very low sickness, absence and attrition rates; half of our consultants have worked for us for over ten years. CAG regularly works on large scale multi-year evaluations, aided by the very low turnover rate of Partners. It is our standard policy to ensure that multiple Partners are involved, in core roles, for any major programme.

- Keeping up-to-date with innovations and advancements in research methodologies and developments in the policy or sector domains we work in. Each organisation in the consortia pride themselves on their learning culture and ability to keep abreast of relevant domain areas.

PROJ1.3 – Understanding the Environment Introduction

The objective of the Local Supply Chain demonstration programme is to test six differing approaches for increasing the uptake of energy efficiency measures within the 'able to pay' domestic housing market, particularly alongside renovation work (a so called 'trigger point' at which some researchers have suggested that householders are more receptive to implementing energy efficiency measures[1]). The intention is that the pilot projects will target able-to-pay owner-occupiers with attractive and more affordable opportunities for energy retrofit work, leading to increased uptake in retrofit work in target areas. The programme's main objective is to identify sustainable business models that could be rolled out nationally.

The current UK energy policy landscape

The UK was one of the first countries to recognise and respond to societal challenge posed by climate change. The Climate Change Act, passed in 2008, committed the UK to reducing greenhouse gas emissions by at least 80% by 2050 when compared to 1990 levels.

As reported in the Clean Growth Strategy[2], homes (including their electricity use) currently account for just over a fifth of the UK's emissions[3]. Much of this is associated with heating; the Committee on Climate Change estimate that heating and hot water for UK buildings make up 40% of our energy consumption and the decarbonisation of heat is recognised as being both essential and highly challenging[4].

In addition to climate mitigation, improved energy efficiency also offers substantial health benefits; cold homes are now well recognised as exacerbating existing health conditions such as respiratory illnesses or mental health conditions. The Building Research Establishment has estimated that the cost of cold and damp homes to the NHS alone is approximately £760 million per year[5]. Whilst these impacts will be felt mostly by the fuel poor whom it is recognised are not the target audience for these pilot projects, they are felt most acutely by older householders, many of whom will fall into the able to pay category.

Reducing emissions through increased efficiency also cuts the cost of fuel bills. Upgrading the efficiency of a home from Energy Performance Certificate (EPC) Band E to an EPC D reduces energy costs by £380 per year on average, while upgrading it to Band C would save

£650 on average (compared to Band E)[6].

The UK has some of the oldest and least efficient housing stock in Europe and, due to low levels of construction and demolition, Britain is likely to be near the top of the European table for many years to come; it is estimated that around 80% of the homes that will be in existence in 2050 have already been built[7]. The majority of British homes were built before the introduction of energy performance regulation (first introduced in 1966 when the Building Regulations introduced the first limits on the amount of energy that could be lost through the fabric of new houses[8]).

[1] Organ S, Squires G & Wood M (2016) What works in encouraging the uptake of low carbon products and services in households?
[2] HM Government (2017) Clean Growth Strategy.
[3] BEIS (2017) Annex 1990 – 2015 Final emissions by end user and fuel type r
[4] Committee on Climate Change (2016) Next Steps for UK Heat Policy
[5] Building Research Establishment (2011) The cost of poor housing to the NHS BEIS analysis based on English Housing Survey data
[6] BEIS analysis based on English Housing Survey data, as reported in the Clean Growth Strategy
[7] Royal Academy of Engineers (2010) Engineering a low carbon built environment: The discipline of Building Engineering Physics
[8] https://www.eci.ox.ac.uk/research/energy/downloads/40house/background_doc_f.pdf

Government ambition – EPC Band C by 2035

The Clean Growth Strategy states an ambition to reduce emissions from homes while ensuring that everyone has a home that is comfortable, heathy and affordable to run. The objective is to ensure that government policy encourages people to improve their homes where it is cost effective and affordable for them to do so. "Our aspiration is that as many homes as possible are improved to Energy Performance Certificate (EPC) Band C by 2035, where practical, cost-effective and affordable".

The English Housing Survey found that, in 2016, only 25% of owner-occupied homes were EPC band C or higher (3.7 million).[9] Around 10.4 million homes were D or E rated and around 0.8 million F or G rated. This means that 11 million homes will need to be improved to band C by 2035 to meet this ambition. This equates to 625,000 homes every year, or 12,000 homes every day.[10]

The Industrial Strategy Grand Challenges includes an ambition to halve the energy use of new buildings by 2030 and, in relation to this, to halve the cost of renovating existing buildings to a similar standard as new buildings, while increasing quality and safety[11].

Current policies and programmes

There are a number of existing policies and programmes that will contribute to meeting the ambition of as many homes as possible being EPC C by 2035. Key ones are the Energy Company Obligation (ECO), Minimum Energy Efficiency Standards in the private rented sector and the Each Home Counts review on consumer protection, installer standards and enforcement.

<u>Energy Company Obligation (ECO)</u>

Supplier obligations (currently the Energy Company Obligation, ECO), administered and enforced by the Ofgem, have been in place since 1994 following the liberalisation of the energy market. They are currently the principal instrument to reduce carbon emissions in the UK's housing stock and have delivered a range of energy efficiency measures such as cavity wall insulation, loft insulation and boiler installations[12]. Between 2013 and 2016, ECO drove the installation of 2.1 million energy efficiency measures in 1.7 million properties[13]. In particular, progress has been made to upgrade the homes of those living in fuel poverty: the number of fuel poor households in England living in homes at energy efficiency rating E or below reduced from 1.8 million in 2010 to 920,000 in 2015[14]. The current ECO offers the following types of funding:

- Carbon Emissions Reduction Obligation – focused on hard to treat properties (available to all households); and
- Home Heating Cost Reduction Obligation – focused on low-income households.[15]

No funding is available through ECO for 'able to pay' householders who do not live in hard to treat properties. The government has committed to continuing ECO at current levels until 2028.

Minimum standards in the private rented sector

[9] Ministry of Housing, Communities and Local Government (2016) English Housing Survey
[10] Ministry of Housing, Communities and Local Government (2016) English Housing Survey, Energy Efficiency, Chapter 1, Figure and Annex table
[11] BEIS (December 2018); Policy Paper; The Industrial Strategy Grand Challenge Missions
[12] Mallaburn P & Eyre N (2014) Lessons from energy efficiency policy and programmes in the UK from 1973 to 2013. *Energy Efficiency*, 7(1): 23-41.
[13] BEIS (August 2017) Household Energy Efficiency National Statistics
[14] BEIS (2017) Fuel Poverty Trends
[15] https://www.ofgem.gov.uk/environmental-programmes/eco/support-improving-your-home

The Energy Efficiency (Private Rented Property) Regulations introduced Minimum Energy Efficiency Standards in the private rented sector from April 2018, meaning that landlords cannot rent out F&G rated properties unless they undertake energy efficiency works, or claim an exemption (of which there are many).

Each Home Counts review

The Each Home Counts (originally known as the Bonfield Review[16]), was commissioned by BEIS, and proposes new codes of conduct and standards for installers, designers and assessors to work with to improve retrofit quality. It is expected to be launched early in spring 2019. The standards are expected to support a revised ECO scheme, and also work with the Construction Industry Training Board to improve workforce skills and knowledge.

Understanding of the UK supply chain and retrofit market

In tandem with the publication of the Clean Growth Strategy, in October 2017 the government issued a call for evidence (CforE) entitled, 'Building a Market for Energy Efficiency[17], which aimed to assess the state of the market for owner occupier energy efficiency. According to this CforE[18], most energy efficiency measures involve changes to the fabric of properties, and so should be viewed in the context of the wider market for home improvement. 70% of British householders own the home they live in[19], and in 2017 owner- occupiers in the UK collectively spent around £22 billion on repair, maintenance and improvement to their homes[20]. The CforE also found that most households undertaking home improvements (79%) are planning to finance them through their savings, with 10% taking out a bank loan and a further 10% using a mortgage extension.[21]

Research has shown that there is untapped potential in 'trigger-point' opportunities to include energy improvements in other work offered by general home repairs, maintenance and improvements (RMI). It has been estimated that approximately 45% of the total RMI market value is a good opportunity or 'trigger' for energy efficiency improvement, representing roughly £11 billion per year for all homes, and over £7 billion of private investment in owner- occupied homes[22]. Projects may be 'whole home' retrofits or done on an 'over time' or room- by-room basis[23]. It is equally true that these trigger points, if missed, mean that the opportunity can be lost for many years: it makes no sense to rip out a new kitchen in order to insulate the floor and walls, but the cost and disruption of the work is massively reduced when done at the same time as fitting a new kitchen. Pioneers of low-energy retrofit in the owner-occupied sector have shown the importance of seizing these opportunities when they arise[24].

RMI of owner-occupied homes is largely served by SMEs or sole traders, working at a very local level, with limited knowledge of energy efficiency or low carbon heat measures. They may not see the benefits of upselling energy efficiency as an add-on to their typical work,

[16] Bonfield P (2016) Each Home Counts: Review of Consumer Advice, Protection, Standards and Enforcement for Energy Efficiency and Renewable Energy
[17] BEIS (2017) Call for Evidence: Building a Market for Energy Efficiency
[18] BEIS (2017) Call for Evidence: Building a Market for Energy Efficiency
[19] Energy Saving Trust, Trigger Points: An Inconvenient Truth, Promoting Energy Efficiency in the Home, 2010, viewed 11 January 2019
[20] Construction Products Association, Construction Industry Forecasts 2018-2019, spring 2018 edition [21] Energy Saving Trust, Trigger Points: An Inconvenient Truth, Promoting Energy Efficiency in the Home, 2010, viewed 11 January 2019
[22] Killip G. (2011) Latent market opportunities for low-carbon housing refurbishment. Energy and People: Futures, Complexity and Challenges conference, University of Oxford.
[23] Fawcett, T. (2013) Exploring the time dimension of low carbon retrofit: owner-occupied housing. *Building Research and Information*, 42(4): 477-488.
[24] Fawcett T & Killip G (2014) Anatomy of low carbon retrofits: evidence from owner-occupied Superhomes. *Building Research and Information*, 42(4): 434-445.

and do not always have the skills or experience to do such improvements themselves.[25] Ambitious energy reductions from retrofit have been shown to be possible, but the work requires a level of design integration and attention to detail on site which far exceeds normal industry practices[26].

SME construction firms are nonetheless very influential on the design and specification of renovation projects, especially the smaller projects where there is not an architect or design professional involved[27]. Manufacturers in the construction supply chain are very aware of the influence of installers, and invest much time and money in trying to build installer brand loyalty[28]

Moreover, while some builders may be keen to promote energy efficiency, they need support to overcome a trust barrier. They are wary of being seen to be selling unwanted extras to homeowners who have employed them on a particular refurbishment project[29].

The local nature of building trades' RMI activity indicates a good fit with local delivery of integrated energy efficiency schemes, including energy advice and assessments, and community-scale awareness raising and partnerships[30].

Barriers to uptake and previous policies in this space

To date, the most persistent domestic energy efficiency initiatives have focused on the fuel poor. The Green Deal, launched in 2013, was intended to stimulate the wider market, but proved unattractive to private households and landlords. As a result, the programme stopped in July 2015 having issued only about 15,000 Green Deal loans over the 2.5 years the programme was open[31]. The scheme was relaunched in 2017 under private ownership; figures on the number of loans granted under the new scheme are not, to our knowledge, publicly available but we understand the company is currently facing financial difficulties.

Around 11 million owner occupied properties need to be improved to meet the government's ambition of as many homes as possible reaching EPC C by 2035, and we know that current levels of retrofit, outside of ECO funded measures, are very low.[32] For example, recent research published by Nottingham Trent University[33] found that progress on improving the UK's housing stock is currently far too slow to meet the government's climate change targets. It is clear therefore that the need for some form of market intervention remains.

The Clean Growth Strategy includes reference to the need for building the market for energy efficiency, but acknowledges the failure of past schemes and stresses the "need to make it as easy as possible for people to pay for and make home energy efficiency improvements".

The CforE identified a number of barriers to improving energy efficiency on both the demand and the supply side. On the demand side, these include:

[25] Maby C & Owen A (2015) Installer Power, the key to unlocking low carbon retrofit in private housing [26] Topouzi M, Killip G. & Owen . (2017) Learning from 'horror' stories: a plan of work to reduce the performance gap in deep retrofit. Proceedings of 33rd Passive and Low Energy Buildings (PLEA) International Conference, 2th-5th July 2017. Edinburgh, NCEUB
[27] Owen A, Mitchell G & Gouldson A (2014) Unseen influence: The role of low carbon retrofit advisers and installers in the adoption and use of domestic energy technology. *Energy Policy*, 73. 169 - 179.
[28] Killip G, Owen ., Topouzi M. (In press) Exploring the practices of UK construction manufacturers and merchants in relation to housing energy retrofit, *Journal of Cleaner Production*
[29] Energy Saving Trust, Trigger Points: An Inconvenient Truth, Promoting Energy Efficiency in the Home, 2010, viewed 11 January 2019
[30] Maby C & Owen A (2015) Installer Power, the key to unlocking low carbon retrofit in private housing
[31] Rosenow J & Sagar R (2015) After the Green Deal
[32] As identified by the BEIS (2017) Call for Evidence: Building a Market for Energy Efficiency
[33] https://www.theiet.org/policy/media/press-releases/20161010.cfm

- Low awareness of many energy efficiency measures and their benefits;
- Lack of trust in the quality of installation;
- Lack of trusted, salient, tailored advice;
- High up-front cost / few finance offers - the average cost of improving a property with all EPC recommended measures is £15,000; and
- High hassle / disruption factor.

Supply side barriers include:

- Within much of the supply chain, a lack of the necessary skills to deliver some measures in some locations; and
- A historic lack of long-term signals from government, reducing confidence to invest in the energy efficiency market and to invest in innovation and new services.

The CforE found that many of these barriers are particularly problematic in the owner-occupier sector[34]. In particular:

- SMEs or sole traders carry out much of the owner-occupied homes maintenance/ improvement work. They may have limited knowledge of energy efficiency measures and do not always see the benefits of upselling energy efficiency as an add-on to their work, nor have the skills to do such improvements themselves[35].
- Where energy retrofit work is carried out, a failure to take a 'whole house approach' can result in unintended negative outcomes. For example, adding insulation may change the air tightness and require a ventilation retrofit as well. This requires coordination across trades and quality advice to homeowners that the workforce is not equipped to deliver. This leads to a lack of quality installations and in turn a lack of trust in the sector[36].
- The provision of information and financing alone is insufficient to drive widespread uptake of retrofits[37]. The disruption of delivering such projects may outweigh the perceived benefits, particularly as the homeowner may have to coordinate multiple tradesmen to get work done.

Local Supply Chain Demonstrators – overcoming barriers

BEIS recognises the significance of non-financial barriers to the development of the domestic retrofit market and, as made clear in the ITT (and associated supplier day) for the Local Supply Chain Demonstrators for Supporting Retrofit, the programme is a direct response to the 'Building a Market for Energy Efficiency Call for Evidence'.

The six pilot projects will test different approaches to achieving increased uptake of energy efficiency measures within the able-to-pay domestic housing market, particularly alongside renovation work. It is intended that the pilot projects will target able-to-pay owner-occupiers with attractive and more affordable opportunities for energy retrofit work, leading to increased uptake in retrofit work in target areas. They will engage with SMEs in the construction sector, bringing together the different trades required for low carbon retrofit and will support retrofit coordination by working with stakeholders including assessors, retrofit coordinators, financial institutions, energy companies and local authorities.

Ultimately the aim of the programme is to develop one or more domestic housing retrofit business models that will sustain beyond the project period and could potentially be rolled out nationally. This will in turn, help to deliver government objectives in relation to energy reduction and carbon reduction without the need for government-funded financial support.

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[34] National Audit Office (2016), Green Deal and Energy Company Obligation
[35] Maby C & Owen A (2015) Installer Power, the key to unlocking low carbon retrofit in private housing [36] Department of Energy and Climate Change (2017) Green Deal customer journey survey: summary report - quantitative survey wave 5, 2015,
[37] Merrian Fuller (2010) Driving Demand for Home Energy Improvements - LBNL-3960E

PROJ1.4 - Project plan and timescales Project management approach

We have based the timetable on the start and completion dates provided in the specification, albeit we anticipate that the inception meeting with BEIS would provide more context as to what is required and when.

Key milestones and deadlines are highlighted in **bold**. We see most elements in this timetable as important to successful completion but have highlighted any areas where significant BEIS involvement is required and where draft outputs would be submitted. Suggested meetings have also been indicated.

The following process would be used to ensure the project stays to the proposed timescales. Specifically, [redacted], as Project Manager will be responsible for monitoring the project to ensure it is delivered in terms of quality, timeliness and planned resource. This involves:

- Preparing a project plan (building on the timeline proposed below) setting key dates for milestones and deadlines, which will be reviewed at Director-level within our organisation before being agreed with BEIS in the first stage of the project. The project plan will outline specific dates at which input is needed from BEIS
- Regularly reviewing the project plan, project risks, and identifying mitigation actions. We will use a simple risk register to identify and track key risks to delivery and quality throughout the project.
- Ensuring all aspects of the project delivery are in line with our quality control

procedures e.g. ensuring project outputs and are reviewed at Director-level for quality control.

- Addressing any problems / challenges promptly and openly with BEIS, with a description of the issue and suggested actions to rectify it.

Our recommended approach to progress reporting for this project would be as follows:

- A weekly catch up with BEIS [redacted] and other members of the team over the phone to discuss updates from the preceding week, actions planned for the next week, including input required from BEIS. [redacted] would minute key decisions and actions from these meetings and share them with BEIS following the meetings. Prior to these catch-ups / to inform the discussion, [redacted] would send weekly progress reports via email.
- Additional conversations and / or meetings would be arranged in advance with BEIS where required, for example, to discuss reporting expectations, feedback on an output etc.
- If there were periods where there was not much activity required on the project, catch up with BEIS could be less frequent, for example, fortnightly, or monthly.

Detailed timetable

Phase/Area	Task/key deadline/milestone	BEIS involvement – progress updates/meetings	Due date
1 – Inception	Project inception	Face to face meeting with BEIS	28th January 2019
	Draft project management tools for phase 1	Comments on tools	1st February
	Finalise project management tools	Sign off on tools	8th February
1 - Theory of Change & development of overall	Review high level theory of change from specification and other information from BEIS	Provision of relevant non-published materials	1st February
	Scoping interviews with 5-7 key stakeholders	Signpost to and participate (where relevant) in interviews	18th February

evaluation methodology	Review relevant evidence gathered from familiarisation with pilot activities	Suggest any relevant evidence/information	16th February
	Theory building workshop	Workshop at BEIS	22nd February
	Draft theoretical framework – including overarching ToC for programme incl. initial theory development for individual pilots	Provide comments on framework	1st March
	Revised theoretical framework and initial theory development for individual pilots		29th March
	Confirm evaluation questions	Discussion with BEIS if required to confirm and comment on document	6th March
	Draft evaluation plan	Provide comments promptly	15th March
	Final evaluation plan	Sign off	29th March
1 - Light touch process evaluation	Familiarisation with each of the pilot (largely desk based exercise) incl. delivery, metrics	Suggest any relevant information and contacts at pilots if points of clarification needed	8th February
	Draft research instruments	Comments on instruments	8th February
	Final research instruments	Sign off	15th February
	Face to face paired depths with key individuals re pilot activities	Help secure engagement	28th February
	24 interviews with local supply chain members (or their representatives) – 4 for each pilot	Suggest members or their representatives	28th February
1-Interim reporting	**First draft interim report**	Provide comments	1st March
	Second draft interim report	Provide comments	15th March
	Third draft interim report	Provide comments	25th March
	Signed off interim report	Sign off	27th March
	Presentation/workshop to provide early findings and recommendations for ongoing policy development	Face to face meeting with BEIS	29th March
2	Review point in contract	Face to face meetings to review and regroup assuming contract goes ahead	April
2a	Revisit ToC for programme as-a-whole and initial theory of change for each pilot in light of findings from process evaluation	Provide comments	May
	Refine and finalise ToC for each pilot		May
	Provide guidance to each pilot around data requirements	Assist with queries	June
	Develop draft research instruments for different methods proposed	Provide comments	August
	Finalise and sign off research instruments for different methods proposed	Sign off	September
	Desktop review		October
	Quantitative fieldwork		October/November
	Qualitative fieldwork		End January 2020
	Fieldwork complete		End January
	First draft interim report	Provide comments	Mid February
	Second draft interim report	Provide comments	End February
	Third draft interim report	Provide comments	Early March
	Signed off interim report	Sign off	Mid March
	Presentation to BEIS	Face to face meeting	Mid March
2b	Revisit ToC, overall methodology and research instruments and refine as required	Provide comments	July/August
	Sign off any amends to methods and research instruments	Sign off	September
	Desktop review	Signpost to relevant materials	October
	Quantitative fieldwork		October/November
	Qualitative fieldwork		End January 2021

	Fieldwork complete		End January
	Analysis and Synthesis of evidence from all evaluations		End February
	First draft final report	Provide comments	Early March
	Second draft final report	Provide comments	Second week March
	Final presentation to BEIS	Face to face meeting	Mid March
	Draft final report	Provide comments	End March
	Final report	Sign off	End April

Detailed delivery plan

		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Project director	Consultant	Consultant	Consultant Analyst	Field manager	Project mgr	Researcher	Senior consultant	Senior consultant	Senior consultant	Senior consultant	Director	Expert adviser
Phase 1														
Inception		0.5	1				1		0.5	0.5				
Refine and agree project plan							1		0.5					
Method development														
Development of overall ToC and ToC for each pilot									2	7	2	2		1
Familiarisation with / 'assessment' of pilot MAE plans				4	4									
Assessment of feasibility of measuring energy reduction impact			1		1								1	
Refine evaluation questions / develop evaluation		1	2		2					1	1			1
Process evaluation														
Development of research tools									1			2		
Contractor f2f qual interviews			1	2					1	1	1			
Desktop review			1	2					1	1	1			
Supply chain telephone qual interviews			1	2					1	1	1			
Early findings workshop		1	2									1		
Interim report (inc. QA and proof reading)		1	3		1					1				1
Project management and liaison							1		1					
Liaison with pilots				1.5					0.5	0.5	0.5			
Phase 2														
Revisit / refine overall ToC and ToC for each pilot									5	5				0.5
Revisit / refine evaluation plan		1	4											0.5
Analysis of contractor collected data			2	2	4				2	2	2			
Contractor f2f qual interviews	Research tools										2			
	Fieldwork		1	2					1	1	1			
	Analysis										2			
Supply chain f2f qual interviews	Research tools										2			
	Fieldwork		2.5	5		4			2.5	2.5	2.5			
	Analysis										3			
Consumer telephone survey	Research tools		4		5	2		4						
	Fieldwork					20		100						
	Analysis				10									
Consumer qualitative work	Research tools								2					
	Fieldwork					15			5	4		5		
	Analysis								1	1				
Measuring energy reduction impact		1			2								10	
Synthesis of evidence		2	3	2	3				2	2				4
Light touch report (inc. QA and proof reading)		1	8	2					1	1				1
Two meetings with BEIS		1.5	1.5						1.5					
Project management and liaison		2					8		4					
Liaison with pilots			2	4			2		2	2	2			
Phase 2														
Revisit / refine overall ToC and ToC for each pilot									8	3				0.5
Revisit / refine evaluation plan		1	3											0.5
Analysis of contractor collected data			2	2	4				2	2	2			
Contractor f2f qual interviews	Research tools										2			
	Fieldwork		1	2					1	1	1			
	Analysis										2			
Supply chain f2f qual interviews	Research tools										1			
	Fieldwork		2.5	5		4			2.5	2.5	2.5			
	Analysis										3			
Consumer telephone survey	Research tools		2		2									
	Fieldwork					20		100						
	Analysis				10									
Consumer qualitative work	Research tools								2					
	Fieldwork					15			5	4		5		
	Analysis								3	3				
Measuring energy reduction impact		1			2								8	
Synthesis of evidence		2	3	2	3				2	2				4
Light touch report (inc. QA and proof reading)		1	5	2					1	1				1
One meeting with BEIS		1	1						1					
Liaison with pilots			2	4			2		2	2	2			
Analysis and reporting														
Synthesis of all evidence		2	5	4	5				4	4				2
Report drafting (inc. QA and proof reading)		2	10	6					2	2				1
Presentation slides		2	3						1					
Presentation		1		1					1					
Project management and liaison		2					12		6					

PROJ1.5 – Risk management

Tools and processes to mitigate risks

As Winning Moves are taking overall project management responsibility for this consortium, we are also responsible for the review, analysis and management of risk at all stages of the project lifecycle, from the initial point at which we develop the project plan, through to project planning, delivery and data collection, and final reporting. As part of every project, our Project Manager and team go through a standard process of risk identification, risk management and risk monitoring.

As part of the process of putting the project plan together we will consider the key risks in delivering the project. In identifying the key risks, we think about potential human, operational, technical, reputational, procedural and financial factors which could affect the outcome of the project. We would discuss these risks with BEIS at the project inception meeting and include a final set of risks (and mitigation strategies) in our project plan. We see this as a dynamic list which will be revisited throughout the project e.g. at weekly project level catch-ups. We anticipate multiple risks to timely and effective delivery of the work given the reliance on timely cooperation from the pilots, with multiple contingencies in fieldwork delivery arising from what data / information pilots are able to share, when, and to what level of quality.

Risk register

Risks	Likelihood / Impact	Proposed mitigation
Method risks		
Integration of multiple evaluation activities and evidence sources	L / M	This is a complex evaluation involving a large number of different research activities with different audiences at different times. We will develop and regularly update our detailed evaluation plan, which will set out how the research activities will gather, analyse and synthesise evidence to answer the evaluation questions and test the theoretical framework.
Timely and comprehensive input from pilots to deliver the evaluation	M / M	We fully appreciate that pilots will be balancing a number of competing priorities and that there will be a number of pressures on the pilots particularly during phase 1. As far as possible, we will look to anticipate the delivery realities and risks in working with each pilot once we are more familiar with their plans and agree with BEIS (and the pilot where possible) about how they might be managed. A responsive progress management approach will enable us to respond flexibly to the evolving project needs and re-prioritise resource allocation in consultation with BEIS if pilot priorities or realities change.
Project management risks		

Inability to meet the requirements of the project / deliver project milestones project within the agreed timescale	M / H	We have outlined a high-level project plan and specified where we would be producing documents like methodologies and reports. At the start of each phase, a detailed plan will be set out outlining where we would require BEIS input in order to keep to the timeline. For phase 1 (where the timescales are particularly challenging), we will agree the scope of phase 1 in the inception meeting, and what can be moved to the outset of phase 2. The availability and requirements for comments on outputs will also be discussed at the inception meeting. We have proposed a large and highly skilled project team, with sufficient capacity to undertake this work.

Managing conflicting demands on project team resources with other projects members of the consortium are delivering	L / H	As Project Operations Manager, [redacted] has oversight of all projects Databuild undertake, including resource available. We use weekly project management meetings to discuss issues of resourcing with the Director of Operations and have an established route to escalate issues to the management team on the basis of a RAG rating. Samina will be regularly discussing progress with the other consortium members ensuring that they are integrating resource requirements into their planning.
Unexpected absence of key team members	L / H	Our collaborative approach, and the involvement, in core roles, of multiple individuals from each partner, provides a high degree of resilience as it ensures that there is a pool of substitutes who can provide cover in the unexpected absence of core team members.
Consortium members do not deliver work as required – either to time or to quality	M / H	The Project Manager and Project Director will liaise closely with consortium members to ensure that they are delivering work according to the project plan and quality. Due to the number of members in the consortium we would like to allow a minimum of two weeks to produce any deliverable to ensure that sufficient time is factored in for each consortium member to work on any element of an output, and there is sufficient time for QA and proof reading before being sent to BEIS for comment. This will not be feasible in phase 1 – and we will need to discuss the trade-offs with BEIS.

Data protection breach	L / H	Data will be stored securely. Data sharing will only be conducted via encrypted devices and transit mechanisms. Data will not be shared outside of the research team. In the event of a loss of data, unauthorized transmission or a breach of our systems the Project Manager will alert the Project Director immediately to agree remedial action and if necessary alert BEIS and other relevant parties.

UKSBS
Shared Business Services

Appendix B Specification

1. Background

Context

As part of the wider programme of work to improve the energy performance of owner-occupied and privately rented properties, BEIS has commissioned demonstration projects to test up to six different approaches for increasing the rates of energy efficiency improvements in non-fuel poor homes, particularly alongside renovation work, by providing support for local supply chain integration and project coordination. These projects will target able-to-pay owner-occupiers with attractive and more affordable opportunities for retrofit work, leading to an increased uptake in retrofit work in target areas.

These projects will run from January 2019 until April 2021,
These projects will take place in Greater Manchester, Bristol and Bath, Greater London, Cornwall, East West Sussex, and Oxfordshire. Each project will perform market research of the able-to-pay owner-occupier sector in target areas, draw together the existing supply chain for retrofit materials and works, work with financial partners to develop financing offers, and pull together a package of works for consumers. A brief description of these projects is included in Appendix A to this tender and evaluation bidders should recognise that each project has approached the project brief in different ways. As a result these projects each:

- Builds upon existing relationships within the target areas in establishing their activities to co-ordinate the supply chain and build a quality brand for the delivery of retrofit work
- Places different relative weight on the consumer and supplier dimensions of the existing marketplace (as the primary barrier to delivering further retrofit work)
- Builds upon the (unique) local housing-stock and geography to combine urban, peri-urban, and more rural localities in different ways

Furthermore, while each project seeks to coordinate existing actors in the supply chain, the level and scale of the coordination already in place at the onset of the projects is highly differential, as is the existing skills base within the supply chain and the condition of the housing stock within the target areas. For example, certain of the projects have access to advanced digital tools for home assessment and customer-relationship management, while others are seeking to develop bespoke software to support a system of installer referrals. Finally, there are differences in the number of core staff engaged in each project and the amount of time each is expected to dedicate to the project where they have additional responsibilities.
Despite differences across the individual projects the expected outcomes of the local supply chain demonstration project scheme as-a-whole are:

- The coordination of different parts of the retrofit supply chain to improve the quality and consistency of retrofit work, while increasing the skills and knowledge of supply chain actors through training.
- The generation of further learning regarding the barriers to retrofit work as well as successful engagement routes for different consumer groups and different parts of the supply chain.
- The development of sustainable business models for retrofit and partnerships that will continue beyond the project period.
- And, a minor increase of retrofit projects, particularly deeper retrofit, in project areas through the coordination of market players.

The Evaluation

The evaluation of the Local Supply Chain Demonstrators for Supporting Retrofit scheme aims to assess the extent to which this scheme has achieved the objectives detailed above. In particular, the evaluation will consider the outcomes generated by the different approaches adopted by the six different demonstration projects and allow us to assess how and why those different approaches have worked within their target areas. This evaluation will assess different projects with different business models, as a result, the aim is not to produce a set of directly comparable findings but is instead intended to build the evidence base for interventions on the retrofit supply chain and produce a set of valuable learnings. Of note, this evaluation should not deal directly with measuring the value for money (VfM) of the demonstration scheme as this will be monitored separately through project management KPIs and is not considered a priority for evaluation learnings.

NB: Funding for all 6 projects has been secured through to end-March 2019, with ongoing funding subject to both the success of the individual projects (against project KPIs), and the availability of funds to support them. While this ITT stipulates the breadth and scope of the project evaluation as if it were to continue to assess the impact of 6 distinct projects through to April 2021 the contract for this work will have a break point after every year. These break points will serve 2 functions:

1. *To allow the evaluation to be scaled to match the number of pilot projects that are continued after each year break, including the possibility that the evaluation is curtailed due to there being zero funding allocated to any of the pilots.*
2. *To facilitate a decision about whether to continue the evaluation (and at what scale) based on the work of the evaluator during Phase 1 to assess how best to respond to the high level evaluation questions for this project (this point is detailed further under 'Suggested Methodology').*

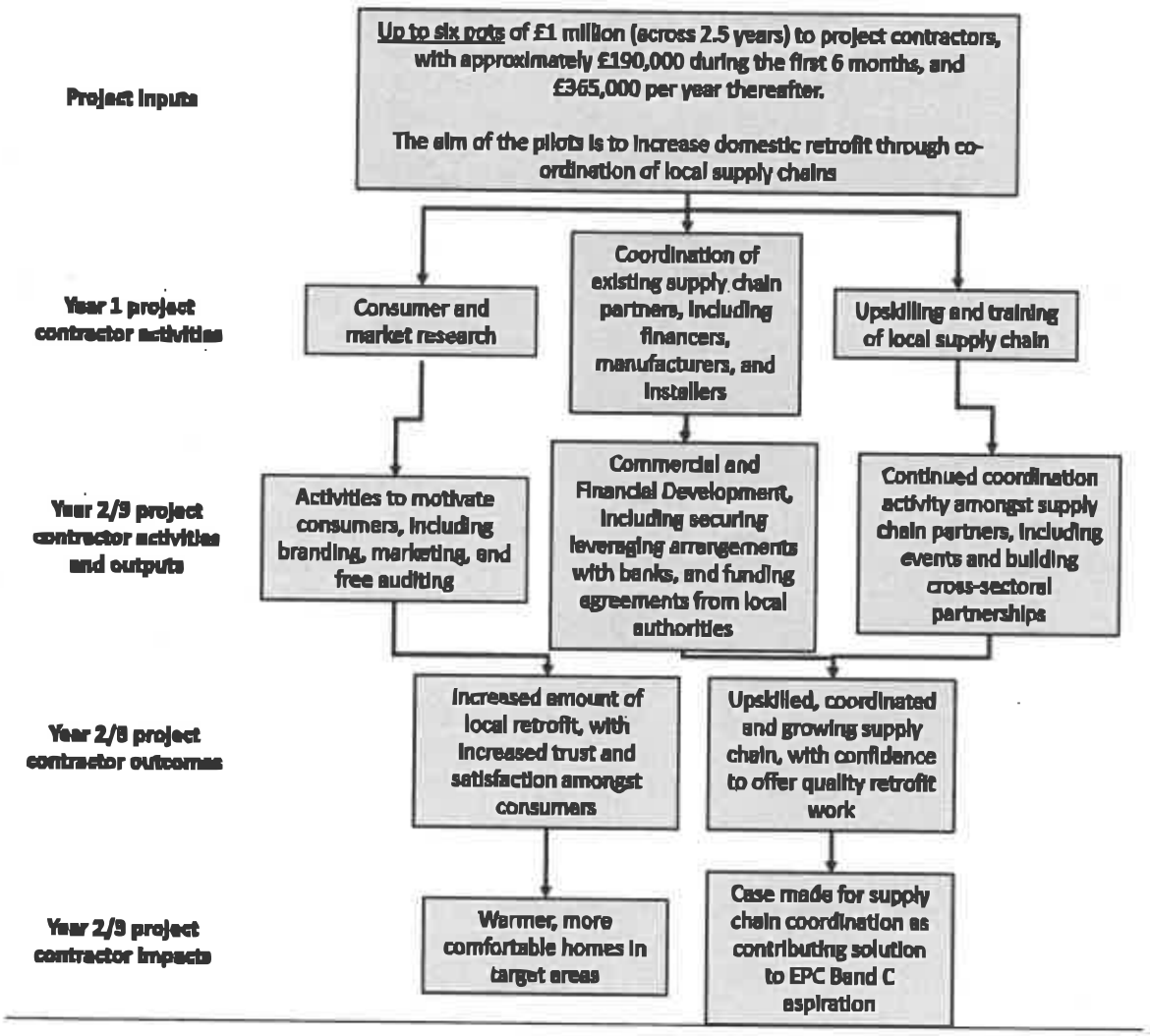
Where BEIS wishes to make non-material changes to the evaluation contract in line with point 1 (above), we will aim to provide notice at least one month prior to the end of the financial year.

2. Aims and Objectives of the Project

The work outlined here is an evaluation of the Local Supply Chain Demonstrators for Supporting Retrofit. It is anticipated that this evaluation will be theory-based, and bidders should seek to assess the demonstration projects against the contextual assumptions that:

- little to no retrofit is occurring outside of Government schemes in the owner-occupier sector,
- the little retrofit work that is taking place is sporadic and uncoordinated
- there is limited consumer demand
- and, that there is limited investment in energy efficiency retrofit work.

High Level Theory of Change:



This evaluation will answer the following questions:

Market Effects

- What was the additionality of the projects in terms of retrofit work delivered to the owner-occupier sector in target areas?
- What was the experience of suppliers who were coordinated through the scheme? Did they feel more confident in offering retrofit work to customers as a result of the scheme, and why?
    - Did this coordination lead to greater cooperation amongst tradespeople, in what ways and why?
    - And, were the projects effective in pivoting the existing skills base towards towards the able-to-pay market?
    - How did the above questions differ across the different projects?

- Given the ambition to get as many houses to EPC Band C as possible by 2035, did the demonstration projects produce a (series) of business models that could deliver retrofit at scale without further central intervention? How so? Are these businesses self-sustaining, and could these demonstration projects be replicated elsewhere?
    - Did demonstration projects lead to an increase in productivity within the retrofit industry in target areas and create the conditions for supply chain

actors to invest more heavily in retrofit training as a result of increased cooperation, knowledge, and confidence amongst supply chain actors?
- What evidence was there that the supply chain was moving towards better integration by the end of the project? Does this evidence suggest that businesses in demonstration project areas could be scaled up, (with economies of scale pushing down the cost of retrofit work), and to what extent?
- Did coordination of the retrofit market lead to reductions in the costs associated with retrofit installation? How were these achieved (ie: bulk purchase of supplies; labour; research, targeting, and marketing of potential consumers; the assessment of consumer needs and design of tailored packages, localisation and transport costs, up-skilling and the streamlining of processes; servicing and aftercare; reduced profit margins against higher sales totals)
- And, are these cost reductions likely to be replicable elsewhere?

- What would need to be changed or altered in the development of a national programme, and why? Are there particular elements of the projects that could be a carried forward?
- Did the scheme lead to greater awareness and knowledge of energy efficiency improvements amongst the supply chain? In what ways? And, how did this differ across the projects?

Did the scheme lead to the upskilling of tradespeople in the demonstration project areas? did more tradespeople undergo training or gain accreditation in retrofit work because of the demonstration projects? How was this achieved, and what did they learn?

Process and Customer Journey

- How did the funding recipients use the money to coordinate local supply chains? Could the same level of coordination and integration have been achieved for less money? Or through a different kind of scheme? How would this be achieved?

- Did the scheme lead to increased trust of consumers with regards to the quality and standard of retrofit work? Why so? How did this differ across the schemes?

- What was the customer experience of receiving retrofit through this scheme (that is, through a single contractor)? Including the process of enrolment into the scheme (that is, their being targeted by a retrofit co-ordinator), the key points at which decisions were made (and why), the pull-through rate for the various projects, and the key points and reasons at which customers dropped out of the scheme?
  - What was the role of various building passports/apps designed by the projects to facilitate communication between tradespersons, coordinators, and consumers, and did these increase consumer confidence and trust?
  - How did the above questions differ across the projects?

- What are the key challenges to setting up and managing projects, and how did this effect the success of different schemes?

- What were the common elements that led to successful outcomes, including the identification and targeting of a viable consumer base, installed measures, and enrolled partners?

- What were the common elements that led to unsuccessful outcomes, including lost customers, and lost delivery partners?

Energy Reduction Impact (where this is feasible and applicable)

- Did retrofit work reduce the energy bills of treated households, and to what extent?
  - Where did this reduction come from?
  - And, to what extent was this driven by on-site renewables (where applicable)?
- Did the projects lead to increased retrofit activity in the demonstration project areas?

3. Suggested Methodology

This evaluation is split into two phases.

Phase 1 – Until End-March 2019

The first phase of the evaluation will cover the first months of the demonstration projects to the end of the 2018-2019 financial year. Recognising that the funding recipients will not be expected to have delivered against intended outcomes for the demonstration projects after 5 months, Phase 1 of the evaluation will combine a light-touch process-based evaluation with work to refine the theory of change associated with each of the six demonstration projects as these projects work to establish their (unique) business models.

We anticipate that bidding evaluators would seek to make use of a number of metrics that will be self-recorded by project delivery organisations. These include: the progress made by recipients of the supply chain funding in terms of their performance of market analysis, customer insight research, customer engagement, coordination with installers and other delivery partners, and the consolidation of business planning and development of a business model. These materials can be used as a form of 'open book accounting' to be reviewed and quality assured by the evaluator, and the evaluator will be expected to co-ordinate and quality assure the collection of these materials. Further, each project delivery organisation has specified the actions they will each take to facilitate external evaluation, and bidders should specify how they would seek to quality assure, homogenise, and coordinate this data to maximise it's utility for the evaluation as-a-whole. Prospective bidders should refer to Appendix A for a brief description of each project and their existing plans for data collection and evaluation, and Appendix C for the evaluation and data collection guidance issued to bidders during the project contractor tender exercise.

Any learnings provided by this material will be enhanced with primary research by the evaluator in the form of interviews/focus groups that explore the activities of the funding recipients and their interactions with other agents in the supply chain. It is critical that this primary research avoids simply duplicating the projects own internal efforts (where these are found to be sufficiently robust), and is instead used to enhance findings and extend those findings such that there can be a reflection upon the impacts of the scheme as-a-whole.

Taking this material, the evaluator will produce a process evaluation during Phase 1 to assess the steps taken by contractors to coordinate market players, any barriers to that coordination, will determine buy-in from third parties, and will assess whether demonstration project funding was effective in providing the opportunity for contractors to co-ordinate the existing market. This work can provide particular clarity with regards to the additionality produced by this project, where project funds are being used to enhance and consolidate existing relationships and redirect them towards new markets (rather than establish wholly new relationships).

Simultaneous to this, work performed during the evaluator during Phase 1 will help to establish the feasibility of answering the high-level evaluation questions (especially regarding impact evaluation questions), while working to consolidate a clear plan for the remainder of the evaluation work during Phase 2. This will include work by the evaluator to enhance existing theory of change thinking against each of the projects as they work to establish themselves. For example, by establishing reliable baselines and counterfactuals by working with the contractors where they perform market analysis and area mapping during the first 5 months of the scheme demonstration projects. We expect bidding evaluators to

propose creative solutions to how they might capture the impacts of the different demonstration projects, recognising that this is hard to predict at this stage, and is in any case highly contingent on the different business models and strategies proposed by bidding demonstration project contractors.
Of note, work exploring the feasibility of answering high-level evaluation questions regarding any achieved energy reduction impacts will be supported by analysts in BEIS who will perform a feasibility study to quantify energy efficiency improvements at the postcode level by the National Energy Efficiency Data-Framework (NEED) to form a valid comparison group/counterfactual against which to evaluate the energy reduction impacts of the scheme as-a-whole. We anticipate there will be some cross-cutting learnings from this internal work, however because of the timescale on which NEED data is produced, BEIS would look to append any findings produced through this method to the evaluator's final evaluation report as these will not be completed before the close of the evaluation contract.

NB: The policy team will assess the success of funding recipients against KPIs at the end of the 2018/2019 financial year, and the evaluator will be expected to present interim findings to internal BEIS stakeholders to help to inform this process.

Phase 2 – Until End-March 2021
The second phase of the evaluation will cover the project during the 2019-2020 and 2020-2021 financial years, and will assess the outcomes of the demonstration projects during their 'delivery' phase as well as the performance of the demonstration project as-a-whole. This phase of the evaluation will be primarily theory-based as we recognise the challenge of producing a robust (or meaningful) counterfactual across multiple dissimilar projects within the resource constraints and timescales of this project. We are particularly interested in what was done during the lifetime of the demonstration projects, as well as how and why this led to changes.
That said, the evaluator should seek to answer the full list of questions detailed above under Section 2: 'Aims and Objectives of the Project', while paying particular attention to the additionality of the projects in terms of retrofit work, the delivery to target areas. Recognising the need for bidders to specify an appropriate balance of methods to answer the research questions outlined above while keeping the project within the specified budget, we would anticipate these questions to be answered through some combination of:
Qualitative and Quantitative research
To explore how contractors spent demonstration project scheme money, how effectively the contractors were able to coordinate the supply chain for retrofit works, (including the spaces in which they were most and least effective) how they organised their efforts (and to what effect), and any lessons that they learned through the lifetime of the scheme demonstration projects.

- We would anticipate that F2F paired (or group) interviews could be used with the delivery staff for each individual project, and that these should be performed each year over the lifetime of the projects. The aim of this work will be to explore i) the efforts and activities of the contractors to coordinate the supply chain in demonstration project areas, ii) the process by which contractors design attractive packages for potential customers, and make crucial decisions about their business model, and; iii) the process by which contractors corral the above to increase retrofit work in the demonstration project areas.
- *Of note, evaluators should be aware of the overlaps in expertise and delivery across a number of the projects, and should account for how and where projects have co-ordinated with one another throughout project delivery.*

To explore delivery partner experience of work coordinated through the demonstration project contractors. Including whether or not this led to changes in business models, and

investments in green skills training amongst suppliers. And, whether or not retrofit coordination increased the confidence of suppliers to offer retrofit work to consumers.

- The number of interviews needed for Phases 1 and 2 will depend on the exact scope of the business models deployed by different demonstration project contractors. That said, where interviews are used we would anticipate the evaluator to perform around 24-30 F2F interviews (or alternatively 6 focus groups) per year to account for those supply chain actors who are co-ordinated through the actions of the project delivery contractors. Were the projects to be particularly successful at corralling a large number of supply chain actors it may be more appropriate to shift to a survey for this work.

To explore the customer journey of retrofit work and explore whether the scheme increased consumer trust in the quality and value of energy efficiency work, as well as to make comparisons across different demonstration project areas in terms of overall experience of works done and the quality and value of that work.

- During Phase 2 of the evaluation (the second and third years of the demonstration projects) contractors are each expected to have completed 760 and 1500 retrofit jobs respectively, and are expected to have achieved an 80% satisfaction rating for all work performed. Given these figures the evaluator may wish to survey participants across different demonstration projects to garner wider coverage and generate comparable data. Given the need to answer questions related to the customer journey (including where customers elected out of retrofit work) these numbers may also assist evaluators in making a determination regarding the number of interviews they would need to perform to produce a meaningful analysis. Indicatively we would expect 10 interviews per year per demonstration project, alongside a cross-cutting survey of approximately 1200 persons from across the 6 projects per year. Interviews will be a maximum of 60 minutes and will be performed in person where possible. We would welcome suggestions for alternate survey methodologies where appropriate but would anticipate that surveys take between 15-20 minutes and would be performed by telephone. Where available, the evaluator will also be able to draw upon customer relationship management (CRM) data provided by the contractors themselves.
- *Of note, project delivery contractors will be responsible for recording information on both the recipients of retrofit work, and on lost customers (subject to their consent, and in keeping with GDPR) and will work with the evaluator in this way to produce a sampling frame for survey work and interviews and will provide contact details in all instances. This requirement was included in the ITT commissioning the demonstrator projects, therefore the contractors are aware of this responsibility and should be collecting the data from the outset.*

Energy consumption analysis/modelling

To explore the extent that energy efficiency retrofit work was able to deliver reductions in energy consumption in treated homes by comparing the energy use of buildings before and after retrofit work and model savings against the portfolio of works delivered by the different demonstration project areas.

- It will be a determination of the evaluator as to the scale and feasibility of this work given the constraints of the project, recognising that BEIS will produce its own in-house analysis based on NEED data after-the-fact. That said, while BEIS's in-house work will look to explore the macro level impacts of the projects, the evaluator (where feasible) will explore energy use at the household and project level, and will build from the comprehensive work produced by delivery organisations as they develop their own business models.

- As detailed in the project bids, a number of these projects include some strategy for assessing the impact of the measures they install, whether through the use of energy assessment and monitoring equipment, through modelling efforts of their own, or through the use of shared online platforms and apps to chart measures and their impact across the lifetime of the retrofit process. The evaluator should seek to 'piggy back' off such data where it is being produced anyway, coordinating and quality assuring its form where applicable, and seek to incorporate the findings into the broader evaluation of the project as-a-whole.

To compare energy use before and after the scheme to produce impact evaluations on both demonstration project areas, and explore the likely impact of the scheme were its rollout extended.

- The evaluator should seek to compare the impact of the different demonstration projects by identifying a range of comparable performance and impact metrics performing analysis on these using an appropriate exploratory statistical technique. Recognising the different scale of the evaluation work proposed here, the evaluation of the US Building Better Neighborhoods Program made use of latent profile analysis to cluster programmes on their performance and success indicators and bidders may wish to review the methodology from that work.[1] While recognising the limitations of what can be achieved within the confines of the project budget, we see some measure of energy reduction impacts as an essential vouch-safe on the quality of retrofit works delivered through the demonstration projects. Thus, where bidders decide that direct measurement of energy efficiency improvements would be impossible they would be expected to incorporate into any qualitative work questions that assess subjective measures of energy efficiency improvements (including reflections on the experienced warmth and comfort of homes, as well as any reflections on estimated fuel bill savings).

Synthesis work

To draw together the findings and data from the six demonstration projects and present a cohesive narrative with regards to the theory of change.

- This synthesis work should address common elements in the projects including the experience of supply chain actors, the use of funding by recipients and the level of coordination they were able to achieve, whether the contractors had differential levels of success depending on business model/strategy, contractor skillset and focus, customer type, the scale of retrofit works, or the types of measures installed, whether the process of retrofit coordination led to improved experiences and increased trust for customers, and where and why projects were more or less successful with regards to the project aims and objectives.

4. Deliverables

NB: Bidders should factor in enough time for 3 rounds of drafts and sign-off on all reports

Phase 1:

Six project specific theories of change alongside a detailed plan on how they will perform the remainder of the evaluation (for sign-off by BEIS)

Review of project research materials (including any topic guides and questionnaires developed as part of the project)

Summarised and anonymised qualitative datasets (or transcriptions where possible)

Workshop with BEIS stakeholders in March/April 2019 to provide early findings and recommendations for ongoing policy development.

Interim report during Q4 of the 2018-2019 financial year.

Regular contact and updates on progress (bidders should specify an appropriate mechanism for this, recognising that BEIS will have final say on the form these take).

At least 2 face to face meetings with BEIS (including set-up meeting during the week commencing 28th January)

Phase 2:

Shaping and review of project research materials (including any topic guides and questionnaires developed as part of the project), and development of primary materials

Anonymised datasets of survey results, as well as summarised and anonymised qualitative datasets (or transcriptions where possible).

Interim reports during Q4 of the 2019-2020, and 2020-2021 financial years. Quality assured final report (including PowerPoint slides and presentation at BEIS).

Regular contact and updates on progress (bidders should specify an appropriate mechanism for this, recognising that BEIS will have final say on the form these take).

At least 2 face to face meetings with BEIS per year.

Timetable:

Phase	Action	Approx completion date
1	Produce project specific Theories of Change//Logic Maps	Feb ('19)
1	Review and quality assure data collection methodologies for project specific research efforts	Feb ('19)
1	Interview fieldwork	March ('19)
1	Produce refined plan for Phase 2 of evaluation	March ('19)
1	Workshop, interim report of findings and presentation to BEIS **(Phase 1 output)**	End Mar ('19)
REVIEW POINT IN CONTRACT		
2	Ongoing co-ordination, quality assurance of project-led collection of data	Mid Jun ('19)
2	Fieldwork complete	End Jan

		('20)
2	Interim report of findings and presentation to BEIS	Mid Mar ('20)
REVIEW POINT IN CONTRACT		
2	Ongoing co-ordination, quality assurance of project led collection of data	Mid Jun ('20)
2	Fieldwork complete	End Jan ('21)
2	First draft report	Early Mar ('21)
2	Presentation to BEIS	Mid Mar ('21)
2	Final Report **(Phase 2 output)**	End Apr ('21)

Annex A GDPR

General Data Protection Regulations (GDPR)

1. Data Protection

The Supplier will be compliant with the Data Protection Legislation, as defined in the terms and conditions applying to this opportunity. A guide to The General Data Protection Regulation published by the Information Commissioner's Office can be found here.

The only processing that the Supplier is authorised to do is listed in Annex 1 by the Contracting Authority and may not be determined by the Supplier.

Annex 1: Processing, Personal Data and Data Subjects

(1) The contact details of the Contracting Authority Data Protection Officer are:
The Contracting Authority Data Protection Officer
Department for Business, Energy and Industrial Strategy
1 Victoria Street
London
SW1H 0ET

Email: dataprotection@beis.gov.uk

(2) The contact details of the Supplier Data Protection Officer (or if not applicable, details of the person responsible for data protection in the organisation) are:
[redacted]

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

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

Description	Details
Subject matter of the processing	Subject to bids the evaluation contractor (the Supplier) will process interview, focus group, and survey data relating to project delivery staff, energy efficiency and retrofit supply chain actors, and targeted consumers across 6 locations (Manchester, Cornwall, West of England, Oxford, London, Sussex). Total participant numbers are likely to be ~around 2300. Beyond personal contact details and the

	addresses of targeted consumers, neither method will involve the collection of sensitive information from participants, with topics limited to a discussion of professional work and the experience of work done. In some instances there may be in-home energy monitoring of targeted consumers who undergo energy efficiency improvement works. The names, addresses, and contact details of interview and survey participants might be kept for up to 12 months beyond the end of the contract to facilitate follow up. Critically, all personal data (that is, all data that could be used to identify individual participants) related to the general UK public will be securely destroyed at the conclusion of the contract, with a clean version of the raw data set transferred to BEIS.
Duration of the processing	The duration of the project runs from January 2019 until Q2 of 2021. After which all data will be securely destroyed or alternatively transferred back to BEIS.
Nature and purposes of the processing	Names and contact details of survey, focus group, and interview participants will be processed and stored by the evaluation contractor (the Supplier). This is so that they can be re-contacted if there are any follow-up enquiries. The nature of data collected through the research process is not sensitive and will not in itself involve the disclosure of personal information. The nature of the processing will include the collection, recording, storage, and erasure or destruction of data (at the end of contract). The destruction of data will be by automated means. The legal basis for processing this data is for research in the public interest, and the processing will take place for the purpose of research. The legal basis for processing this data will be informed consent. It may be that this is the only processing involved in the Contract.

Type of Personal Data	This research will require the collection of personal contact details (including residential addresses) and broad demographic information. It may be that this is the only type of personal data involved in the contract and it will not be retained beyond the period of data collection. The names, contact details, and addresses of supply chain actors and targeted consumers will be retained for the duration of the evaluation, however, no other sensitive or personal information will be collected. It may be that this is the only type of Personal Data involved in the Contract.
Categories of Data Subject	Project delivery staff, supply chain actors, and targeted consumers across the 6 sites identified above. It may be that these are the only Data Subjects involved in the Contract.
Plan for return and destruction of the data once the processing is complete UNLESS requirement under European Union or European member state law to preserve that type of data	The Personal Data will be retained by the evaluation contractor (the Supplier) for a twelve month retention period beyond the end of the contract, following which the evaluation contractor (the Supplier) will provide the Contracting Authority with a complete and uncorrupted version of the Personal Data relating to in electronic form (or such other format as reasonably required by the Contracting Authority) and erase from any computers, storage devices and storage media that are to be retained by the Supplier at the expiry of the Contract. The Supplier will certify to the Contracting Authority that it has completed such deletion. Where Personal Data is contained within the Contract documentation, this will be retained in line with the Department's privacy notice found within the Procurement Documents.