

# **Vulnerable Customers and Energy Efficiency**

## **Low Carbon Networks Fund**

### **Project Progress Report – July to December 2014**



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## 1 Executive Summary

This report details the progress of UK Power Networks' Low Carbon Network Fund project, Vulnerable Customers and Energy Efficiency (VCEE) from July to December 2014.

### 1.1 Project background

Distribution Network Operators (DNOs) are forecasting increasing and uncertain demands on their electricity networks as a result of the electrification of heat and transport, and increased usage of micro and distributed generation. Both DNOs and suppliers are exploring flexible alternatives to manage demand through the introduction of demand side response (DSR) and the benefits from wider energy efficiency measures where they reduce peak demand. To date there has been little direct research and operational attention directed at supporting and investigating the extent that residential customers who are in fuel poverty, a group with significant overlaps with those who are vulnerable, can be engaged in shifting demand and achieving energy savings.

The VCEE project therefore aims to enhance insights into the needs of fuel poor customers, and to explore the means to engage with them to facilitate increased participation in energy efficiency and DSR. The project will demonstrate the extent to which this residential customer group are able and willing to engage in such activities, the benefits that they can realise from their participation and consequently how reductions in demand and changes in their demand away from network peak demand periods can benefit the network by deferring or avoiding network reinforcement. The project was awarded funding of £3.3 million by Ofgem, under the Low Carbon Networks Fund (LCNF) scheme in December 2013 and will last four years, from January 2014 to December 2017.

The project aims to demonstrate and provide DNOs and the industry with evidence-based learning on how to work with third party agencies to deliver energy efficiency and DSR campaigns to assist DNO management of increasing and uncertain demands on the network.

### 1.2 Summary of Progress

A key element for project mobilisation is for legal contracts to be agreed and signed off with project partners and suppliers. The project outlined in the last project progress report that it forecast all legal arrangements to be in place by the target month of July 2014. The agreements have not been signed.

As such, to minimise risk to the overall project programme, work has continued at UK Power Networks' risk but has not drawn on the project bank account.

Within the current reporting period, the project has received project agreement sign-off with four of the partnering organisations. Five project agreements remain unsigned; the form of these agreements has been agreed but two items within the collaboration agreement have not been agreed.

The two issues that remain are significant. In the first case, the nature of the project is that UK Power Networks and the project partners are working with a local community charity as the front-line contact to customers. The charity's Customer Field Officers are therefore involved in almost all of the partner's activities with the customers and are responsible for collecting key data. The charity's financial strength is clearly limited and their ability to provide indemnities and accept liabilities may be less than other partners are commercially able to accept, should any know-how be misused.

In the second case, the works involved in installing smart meters and monitoring equipment in the home and communal areas of apartment blocks have a small but finite risk of causing damage. UK Power Networks has not yet reached an agreed position between British Gas and the social housing providers and indeed may not reach an agreement. This is a particularly important issue to both sides given the smart meter roll-out to social housing across the country. In the event that an agreement is not possible, UK Power Networks along with British Gas and project

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partners will revert to Ofgem and provide a full update and a recommendation regarding the project's continuation or re-scoping.

It is crucial that the legal contracts are signed off as this is a pre-requisite to enable the project to embark on the pilot study. The pilot study had planned to be run at the end of 2014 and will now be postponed to February 2015 due to the delay in legal contract sign off. It is important that the project's legal framework is in place before engaging with customers on the pilot study and trials because the agreements set out the services, commercials and strengthens the agreement between partners on the data privacy strategy protocols.

As stated, design work and other activities required to mobilise the trials have continued. Within the current reporting period, the project submitted to Ofgem the Communications Plan and Data Privacy Strategy for the pilot study and the project's main trials; it outlines how the project will engage and recruit customers. This was approved by Ofgem on 5 September 2014 and the document can be found following the link:

<http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Vulnerable-Customers-and-Energy-Efficiency/>

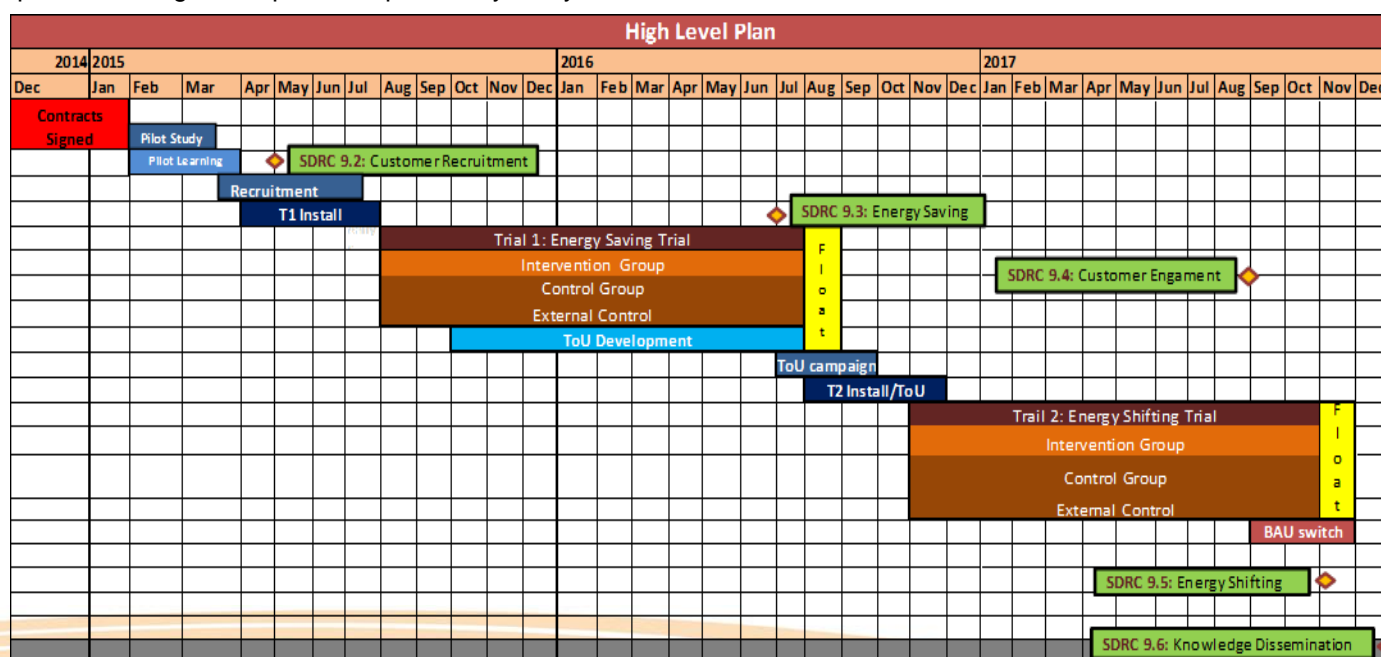
The project had communicated in the last reporting period that an alternative external project initiative named and slogan would be established as Vulnerable Customers and Energy Efficiency (VCEE) would not be appropriate when communicating with residential customers. The project will now be known externally and when engaging with customers as 'energywise' alongside the slogan 'be energywise'. The name and slogan received positive feedback during the focus group conducted on 27 June 2014 that was held with a group of community members within London Borough of Tower Hamlets.

The project also submitted its first Successful Delivery Reward Criteria (SDRC) to Ofgem on 31 October 2014. This was SDRC 9.1 that describes the project's approach to trial design and the identification of trial participants. Alongside this, WS2 and WS3 produced internal detailed reports setting out the research and technical trial methods.

Looking ahead to January 2015, the project intends to complete all contractual agreements, or to return to Ofgem to review the remaining options for the project. The intended next step is to establish the pilot study and conclude a significant element of the recruitment of trial participants. Moreover through running the pilot study the project will establish practical learning on the project's engagement and recruitment approach in operation to inform the main trials moving forward. The customer recruitment learning from the pilot study will be formalised in SDRC 9.2.

## 1.3 Risks and Issues Summary

With delaying the pilot study, the project will proceed with the trial 1 late start plan for an August start opposed to the early start in March 2015; the different trial start plans had been communicated in the last reporting period. The provisional high level plan with pilot study delay is shown below:





As shown in the previous page: with pilot study delay, trial 1 therefore is planned to commence August 2015 and be undertaken to July 2016. Trial 1 start remains dependant on the availability of prepayment functionality and fuel poor recruitment rates. As the later start to trial 1 will be realised then the project's trial 2 would be planned to run from November 2016 to October 2017. The project will conclude December 2017 and deliver on the SDRCs. The project continues planning on how to best program the project timeline specific to the trial 1 recruitment and install activities in line with the new pilot study start. The project wishes to ensure that pilot study lessons learnt on customer recruitment and engagement and operational delivery are captured, reviewed and used to inform the main trials approach in a relevant and timely manner to allow the project to suitably adapt. If what is learnt in the pilot results in a comprehensive overhaul to the project's customer recruitment and engagement strategy, the project has prudently identified that a month delay to trials may have to be considered in the case considerable updates to approach is required. This is indicated in the before diagram with the yellow 'float' box detailing that trials would complete that one month later due to trial 1 potentially slipping to a September 2014 start.

The project will run the pilot study with credit metered customers that require standard communication installation. For the project's main trials, the project plans to recruit both credit and prepayment customers and also deliver a communications solution for installing smart meters and smart energy displays in complex Multiple Dwelling Units (MDU) with challenging meter arrangements. Therefore, as stated in the last reporting period and under installation risks, smart meters with prepayment capability are a prerequisite for including prepayment metered customers in the project trials, therefore if the functionality is not delivered on time the project will be unable to install smart meters to prepayment customers. The project registered at full bid submission a risk against prepayment delivery [Bid risk – R024]. British Gas's smart prepayment programme currently has a number of customers on prepayment meters, with roll out projected in Quarter 1 2015. The project continues to closely monitor the progress of British Gas's smart prepayment programme, and is ensuring that the project's prepayment volumes (estimated to be around 30% of trial total customers) are embedded into the early roll out plan. The readiness of the prepayment functionality is outside of the influence of the project.

### Recruitment Risks and Issues

The Customer Field Officer team is crucial to build the capacity within the local partner delivery structure to recruit residential customers onto the project trials. This has an impact on the recruitment capabilities of the project as out of office and weekend hours are when customers are more readily available at the home and these are hours that have previously been proven to assist in achieving recruitment rates. Bromley by Bow Centre, the employer of the Customer Field Officers, are managing this through discussions with the team.

### Procurement Risks and Issues

Previously the project reported a risk associated with the communications solution for installing smart meters and smart energy displays in complex Multiple Dwelling Units (MDU) with challenging meter arrangements. The risk had been that the solution procured may not operate successfully, which the project had viewed to be minimal but would still need to be managed. Activities within the current reporting period have maintained this risk as minimal. British Gas ran a tender and selected Power Plus Communications (PPC) as the MDU Supplier. Systems integration testing is planned to be completed in the next reporting period. Furthermore, British Gas working in collaboration with PPC have identified buildings within the trial area that are eligible for MDU infrastructure install.

### Other Risks and Issues – Temperature Loggers

At full bid submission the project committed to install temperature loggers. The bid financials for this were calculated based on static temperature loggers with manual data retrieval via visits to customer premises. The project identified through further review that a static temperature logger solution presents challenges in recording and managing low temperatures. These include: access not being granted by the participating householder for data retrieval; home visits for data retrieval seen as a burden by participants leading them to drop out of the project, subsequently reducing the statistical confidence of research learnings; and if the temperature logger were to fail between data retrievals the project is not notified and there is no ability for the project to understand whether a low temperature was recorded and if action is required. Therefore, a temperature logger solution with remote data retrieval solution is a preferable solution as it would provide a more robust system to record, report and manage low temperatures in participating households. The selection of a temperature logger solution with remote data retrieval presents the issue of higher costs to that afforded within the bid financials. Increases in costs are associated with remote data collection

services and higher equipment costs. The project is exploring how best to manage this issue linked with the unforeseen costs related to secondary metering for prepayment customers in trial 1 control group; the project plans to use contingency or forecasted underspend. As part of a Request for Proposal (RFP) and market benchmark exercise undertaken by British Gas to select a supplier for a remote temperature logger solution. Two potential suppliers were identified, Passiv Systems and G4S. Passiv systems were selected and further negotiations have been ongoing in an effort to optimise the scope and costs against these new project requirements.

### **Other Risks and Issues – Trial Intervention / Secondary Metering**

The project identified in the last reporting period that the project's original plan for trial 1 control group trial participants to receive a smart meter without a smart energy display to log half hourly consumption profile (with the smart energy display then being provided in trial 2) in the case of prepayment customers was a further project intervention in trial 1. The project explored if this posed a risk to the trials research and as a consequence warrant additional costs for secondary metering for prepayment customers in trial 1 to be installed as an alternative. It should be noted that costs for secondary metering had not been accounted for within the bid financials as the project had planned that these were not required. It was concluded that a secondary metering solution should be investigated. The RFP and market benchmark exercise undertaken by British Gas for the temperature logger solution also included the project's requirements for a data logger solution. As stated above, Passiv were selected as a supplier and negotiations are ongoing. The project is managing this in association with the potential costs for a remote temperature logger solution. Again, the project plans to use contingency or forecasted underspend.

### **Other Risks and Issues – project Partners and Suppliers withdraw their participation**

The project registered at full bid submission a risk against partnering organisations withdrawing their participation at the start of the project, leading to delays [Bid risk – R003]. This risk is still open as not all legal contracts are in place with project partners and suppliers. The project has received four signed project agreements. Five further project agreements remain unsigned and the collaboration agreement that is amongst all partnering organisations has two key items that are still under contractual discussion. This has been a key escalation within the project's current reporting period and remains a primary focus for the project. Directors from both of the social housing landlords, Poplar HARCA and Tower Hamlets Homes, and from UK Power Networks, are actively involved. In terms of the agreements with Bromley By Bow Centre and Element Energy signatures are expected soon.

### **Other Risks and Issues – network modelling**

The project registered during the current reporting period a risk [Risk – R065] in relation to limitations with the planned network model to be used by University College London in line with the project requirements. The impact of the model not meeting the project's requirements would result in the projects inability to deliver the committed network insights and benefits. To manage this risk the project with University College London made the decision to appoint Element Energy as a project supplier to the project's network modelling activity.

## **1.4 Learning and Dissemination Summary**

Key dissemination and communication activities have taken place to date to raise the profile of the project both internally and externally. Activities have been led by the project and its project partners and suppliers.

WS4 (dedicated to learning capture, dissemination and stakeholder engagement) has been using the Knowledge Dissemination Roadmap as a basis to deliver and manage the project's strategy for learning and capture.

The key learning delivered in this reporting period consists of developing a local partnership with project partners; operating within a multi-disciplinary cohort; project mobilisation; and set-up and process for a focus group consultation.

## 2 Project Manager's Report

### 2.1 Progress in the current reporting period

#### 2.1.1 Initiation, Mobilisation and Governance

The core project team has been in place since the end of March 2014. Previously and within the current reporting period the role of WS1 lead had for an interim period been managed by project partner, CAG Consultants. It was intended that the WS1 lead role would transfer to a permanent project resource following a recruitment process. A recruitment process was initiated during the current reporting period and then stopped, given ongoing contractual delays. Following a review it was identified that the project was going through a natural transition through to project delivery that required closer working between WS1 dedicated to recruiting and maintaining the involvement of trial participants and WS2 coordinating the smart meter installs. Therefore the WS1 lead activities were handed over to workstream 2 manager.

Bromley by Bow Community Centre successfully employed the team of dedicated Customer Field Officers that will be responsible for delivering the recruitment and engagement of pilot and trial participants. This followed a recruitment process that also involved the two landlords, Poplar HARCA and Tower Hamlets Homes. The recruited Customer Field Officer team underwent a training schedule that included training from National Energy Action, NatCen and the Suzy Lamplugh Trust.

Moreover, the project in close collaboration with academic partner, University College London (UCL) explored their modelling capability in terms of time and resources to model a large number of substations in the trial area (to meet the project objectives), and if the model planned to be used by UCL was appropriate to model electricity consumption only in line with the project scope. As a result it was mutually agreed that Element Energy would be appointed as the project's network modeller and become a project supplier. Element Energy will undertake the network modelling activities to deliver the network outcomes and impacts from energy saving and shifting interventions in the trial area. Element Energy will be beneficial to the project findings in light of their extensive experience in network modelling for the licence areas of UK Power Networks, their work within Low Carbon London and in forecasting load growth resolved to the level of individual distribution substations over the period to 2050.

Within this reporting period, the focus remains on project mobilisation; specifically on agreeing and receiving contractual sign off from project partners and suppliers.

The contractual mechanism that UK Power Networks implemented for the project is based on a separate contract with each project partner and supplier that outlines the services and commercials, called the project agreement. Alongside the project agreements is an overarching collaboration agreement between all project partners and suppliers that establishes the collaboration principles between each. This contractual mechanism has been employed by other LCNF projects led by UK Power Networks.

Below outlines the current status of the project's partner and supplier project agreements.

Project Partner	Project Agreement Status
Institute for Sustainability	Project received the signed project agreement on 24 October 2014.
CAG Consultants	Project received the signed project agreement on 24 October 2014.
University College London	Project received the signed project agreement on 18 November 2014.
British Gas	The project agreement is agreed in principle as of 17 December 2014 except for the liability caps linked to the collaboration agreement. It is also subject to British Gas final legal and governance review.
Bromley by Bow Centre	Project agreement signature expected soon.
Tower Hamlets Homes	Current project agreement includes all agreed positions. Awaiting them to confirm explicit agreement.
Poplar HARCA	Current project agreement includes all agreed positions. Awaiting them to confirm explicit agreement.

Project Supplier	Project Agreement Status
National Energy Action	Project received the signed project agreement on 29 October 2014.
Element Energy	Project agreement signature expected soon.

**Table 1: Project Agreement status for project Partners and Suppliers**

The collaboration agreement has not reached agreement in two areas. These are as follows:

- The works involved in installing smart meters and monitoring equipment in the home and communal areas of apartment blocks have a small but finite risk of causing damage. UK Power Networks has not yet reached an agreed position between British Gas and the social housing providers and indeed may not reach an agreement. This is a particularly important issue to both sides given the smart meter roll-out to social housing across the country. In the event that an agreement is not possible, UK Power Networks and British Gas will jointly revert to Ofgem and provide a full update and a recommendation regarding the project's continuation or re-scoping.
- The project selected the approach of having a trusted community group that is locally based within the trial area to be the front-line customer interface and lead on recruitment and engagement activities. From a contractual point of view this is challenging as such organisations are least able to accept the traditional liability cover that UK Power Networks would usually have in place as part of its LCNF projects. Each of the parties to a successful project needs to be able to rely on the others and a collaboration agreement which is clear as to each other's cover plays a strong part in that.

As the collaboration agreement is between all project partners and suppliers, until and unless the above two matters are settled the agreement cannot yet be recirculated and reviewed for sign off from all partnering organisations.

The project remains focused on progressing discussions on these contractual items to reach agreement or to revert to Ofgem to review options for the project.

Looking ahead to the next reporting period, the project's priorities are as follows:

- Reconcile positions on the outstanding contractual matters with project partners and suppliers. This is key without this being achieved the project cannot proceed into the next phase of recruitment, pilot and main trial delivery.
- Commencement of the pilot study recruitment.
- Delivery of the evaluation of the customer recruitment and engagement activity within the pilot study formalised in the SDRC 9.2.

## 2.2 WS1 – Customer Recruitment and Engagement

### 2.2.1 WS1 progress

This workstream is responsible for recruiting trial participants on the pilot study and project trials, and sustaining their engagement throughout the project. Key activities undertaken included:

#### Communications Plan and Data Privacy Strategy

During the current reporting period the project finalised the communications plan and data privacy strategy, governing the project trials and pilot study. This was initially submitted to Ofgem on 30 June 2014 and was approved by Ofgem on 5 September 2014.

#### Focus Group Consultation

Following preparatory work within the previous reporting period, the project team conducted a focus group on 27 June 2014 and collected feedback from a group of community members of London Borough of Tower Hamlets, who were tasked to test the project's name and brand and project's communication materials. A report with the key findings has been developed by CAG Consultants and University College London, and has been used in order to shape the strategy of the previous three key areas of the project (project's name and brand, project's website, and project's communication materials).



As a result of focus group suggestions, a landline (020) number has been included as well as a Freephone (0800) number as several focus group participants only had mobile phones (and no landline) therefore calling a freephone number from their mobile would be more expensive than calling a landline number. Moreover, information on UK Power Networks including an explanation of what the organisation does has been included in the communication materials as the focus participants were keen to understand further who was running the project. Moreover, the role of the smart meter was explained as previous materials more broadly referred to 'devices'.

### Project Name

The project team identified the need for changing the project name from 'Vulnerable Customers and Energy Efficiency' into one that would be customer friendly and would not indicate that it is focused on vulnerable people, while promoting energy efficiency and awareness. The project team in conjunction with the external communications team of UK Power Networks and working with FTI Consulting selected the project name '**energywise**' along with the slogan 'be **energywise**'.

### Communication Materials

Following the focus group in June 2014 and engagement with project partners, the project has developed the content of the communication materials that will be used in order to interact with the trial participants, including the invitation, reminder and confirmation letter, the project flyer and the brochures for intervention and control groups. In parallel, an external design company (The Stream) has been responsible for the design of the materials. The design and printing of materials for the pilot study is planned for completion by the end of December 2014.

### Website

The project website for customer use has been developed. The website also incorporates the 'expression of interest' application which the invited customers can use in order to indicate to the Customer Field Officer team that they are interested in the project and would like to know more about it.

### Customer Terms & Conditions & Key Facts

UK Power Networks and British Gas have decided that the terms and conditions of the project will be between the customer and UK Power Networks and progress has been made in developing and agreeing these terms and conditions. The document is currently within final stages of review and will be finalised early Q1 2015. A second document named 'Key Facts' which reflects the project terms and conditions and key activities that the customer is consenting to when agreeing to participate in the project is also currently within the final stages of review.

### Recruitment of Customer Field Officer Team

The Customer Field Officer team is recruited by Bromley by Bow Centre on behalf of the project, and is responsible for the recruitment and continuous engagement with the trial participants. During the previous reporting period, job advertisements and person specifications were developed for four different posts in total; a Customer Field Officer Manager (FOM), two Customer Field Officers (FO), a Customer Field Officer Assistant (FOA) and three Recruiters. All of these roles were planned to be filled by August 2014; however, given the fact that the project is going to undertake a pilot study ahead of the project's main trials, it has been decided to postpone the recruitment of the Recruiters for two reasons:

- Understand through the pilot study the effectiveness of the existing team in addressing the needs of the project trials and quantifying more accurately the number of recruiters that will be needed; and
- Given the fact that the pilot study is going to be conducted with a limited number of fuel poor individuals, it was believed that the team of four persons (i.e. the FOM, the two FOs and the FOA) would suffice in order to satisfy the needs for site visits as detailed within the communications plan.

The FOs and FOA were in place by end of July and the FOM was in place by the end of the first week of August 2014. As agreed at the outset with Bromley by Bow Centre, the field officers are being deployed on other preparatory work for the project within Bromley by Bow Centre until customer recruitment commences.

### Training of Customer Field Officer Team

Post recruitment of the Customer Field Officer team, a training schedule has been developed and followed by the members of the Customer Field Officer team. The training schedule included trainings on research and data privacy (provided by NatCen), energy awareness and vulnerability (by National Energy Action) and health and safety/lone working training (by the Suzy Lamplugh Trust). Wherever possible the project aimed to utilise the expertise of the different project partners on specialised areas (i.e. facilitation skills from CAG Consultants) in order to appropriately train the team.

### Customer Recruitment Protocols

Within the NatCen training course, it was suggested to develop a guide with a lower level of detail on processes based on the communication plan (submitted to Ofgem) that the Customer Field Officer team will follow when engaging and recruiting the prospective trial participants. The recommendation has been adopted by the project team and a document was developed that reflects the communications plan and data privacy strategy that have been approved by Ofgem and described the principles that will govern the interaction of the Customer Field Officer team with the customers including detailed description of the activities, high level scripts, and frequently asked questions. This document also includes the safety protocol that has been developed by the Customer Field Officer team in conjunction with the project partners and suppliers. It will also govern the safety aspect of their activity. Finally, it is planned that the project will have a Disclosure Board to which the Customer Field Officer team can refer customers whose wellbeing, in the opinion of the Customer Field Officer team, could be at risk (i.e. physical abuse) or the welfare of animals is concerned or any concerns about illegal activity. The terms of reference of the Disclosure Board are also within the customer recruitment protocol document.

### Identification of Fuel Poor Customers

Within the previous reporting period the project concluded in the trial participant eligibility criteria the method for selecting trial participants, and has worked with the social landlords in order to align the eligibility criteria with their available datasets. Tower Hamlets Homes, following the methodology determined by the project structure and appropriate exclusion criterions, provided a list that consisted of 5,957 residents that would be eligible to follow the next steps of the trial participant selection process. Poplar HARCA has worked closely with UK Power Networks (as advisor) aiming to expand its database of available customers that can follow the trial participant selection process and overcome challenges faced and as such has provided a list of 199 residents. Poplar HARCA have also provided two further lists 2,992 residents without EPCs and just UPRNs and another with 773 residents without UPRNs, just EPCs. The project team has identified options for moving forward to identify prospective participants' from Poplar HARCAs additional lists; (1) modelling of EPC information and (2) expand on available UPRN data through mapping. The expansion of the Poplar HARCA's database will occur within the next reporting period; Poplar HARCA will support with this activity only once legal contracts are signed.

Utilising the dataset provided by Tower Hamlets Homes and a reduced dataset of Poplar HARCA, prospective participants for the pilot study have been identified. The analysis undertaken includes the application of exclusion and inclusion criteria and the identification if a customer is either credit or pre-payment metered, in receipt of the Warm Homes Discount and are present on British Gas' Priority Services Register (PSR).

The table below illustrates the split of resultant customers in the various building categories by meter point, resulting from the Tower Hamlets Homes analysis post project eligibility being applied for the main trials.

Building Categories by Meter point type - THH data	% Split
A = Business As Usual Smart Meter Installation	11%
B = Meter inside Steel Cabinets	88%
C = Communal heating building	0%
D = Tall and Difficult Buildings – MDU	1%
<b>Grand Total of eligible THH customers</b>	<b>100%</b>

- Category A buildings have been selected for the pilot as these are representative of known standard Business As Usual (BAU) smart meter installation without additional technologies (e.g. antennas) required to extend the HAN signal from the meter to the In Home Display (IHD).
- Category B identifies meters in steel cabinets, which require additional work (i.e. further visits) and would not be considered a standard BAU install.
- Category C buildings have been removed due to communal heating exclusion.
- Category D buildings are MDUs with meters in basement area.

For the purposes of the main trials, certain exclusions have been lifted within the British Gas smart meter eligibility criteria to allow prepayment customers and also customers in flats (a core objective of the project) to be included within the selection, both of these are currently not part of British Gas' BAU operations and will not be included in the pilot.

The analysis is refreshed at regular intervals to check for change of supplier, change of tenancy and the customers requesting not to be contacted for any reason. The current analysis for Tower Hamlets Homes has concluded that 1,372 customers in total including both dual fuel and electricity only customers (from the 5,957 minus customers for pilot study) could be approached in order to participate in the project's main trials. This number may change as the project proceeds closer to the main trials as it is dependent on the factors outlined above. The project, due to the limited dataset of Poplar HARCA (36 customers in total including both dual fuel and electricity only customers from the 199 resident list minus customers for pilot study), has 242 fewer prospective participants to cover the 1:3 assumed response rate where the project needs to approach 1,650 customers. The project team will focus on identifying prospective participants from the 3,765 Poplar HARCA customer database to make up for this shortfall in prospective participants. Such activities will take place over the next reporting period. If the pilot study concludes the response rate is less than that assumed, this would necessitate the project approaching more than the 5,500 customers in the first invitation letter and the project may have to consider altering its eligibility criteria to have the available participant base.

### Privacy Impact Assessment

Within the Data Privacy Strategy approved by Ofgem on 5 September 2014, it has been declared that the project will undertake a full Privacy Impact Assessment (PIA). The PIA is a tool that can be used to identify and reduce the privacy risks of the project (definition by ICO) and the intention of the project is to undertake a PIA in order to assure that privacy risks are fully identified and that existing project controls and processes are sufficient to mitigate or manage the privacy risks. The PIA will also provide an opportunity to validate the Data Privacy Strategy of the project. CGI has been selected due to its previous involvement in LCNF funded project, Low Carbon London, which present similar complexities in governance, partners and data flows and the requirements for the Privacy Impact Assessment are under definition.

## **2.3 WS2 – Energy Saving and Shifting Trials**

### **2.3.1 WS2 progress**

WS2 is responsible for the technical design and implementation of the Energy Saving and Energy Shifting trials. It is focused on the technical aspect of the trials and the feasibility of the technological solutions. It is responsible for the MDU communications infrastructure that will be deployed and for monitoring of the development of the prepayment smart meter functionality that will be utilised for prepayment customers.

Key activities undertaken include:

#### Technical Trials Design Report

The technical trials report was completed which outlines the technical solution that will be implemented in trial 1 and trial 2 and consists of smart metering solutions, secondary metering and temperature loggers.

#### Third Party Goods and Services

A Request for Proposal (RFP) and market benchmark exercise was undertaken by British Gas in order to fulfil the supplier selection for the secondary metering and a remote temperature logger technical solution. Only two potential suppliers were identified (Passiv Systems and G4S). Passiv Systems were successful. Negotiations have been ongoing in an effort to optimise the scope and costs of the projects requirements. Key areas where the scope and therefore costs have been rationalised include the services, durations and broadband communication methods with the monitoring devices and communications hub. Under consideration, given that on the Customer Led Network Revolution project around 50% of social housing tenants did not have fixed line broadband, is a mix of GSM modems and Broadband over Powerline (BPL) solutions. In the recruitment and installation phase the actual requirement will be better understood, given the dependency on the volume of participants in the various building types is unknown. It is envisaged that GSM modes and BPL solutions may be combined on certain building types in order to achieve cost reduction, but the feasibility of the argument will be investigated within the next reporting period.

#### Asset Transfer from Northern Power Grid (CLNR) to UK Power Networks (VCEE)

With the explored technical solutions of the group 2 (control group) of trial 1 (secondary metering and remote temperature logging solution), UK Power Networks and British Gas identified the opportunity of discussing with Northern Power Grid (NPG) the possibility of re-using their (decommissioned) equipment from the Customer Led Network Revolution (CLNR) LCNF project. Northern Power Grid and UK Power Networks are close to agreement to



transfer equipment between the two companies and such transfer will make savings from the project budget and ultimately from the LCNF and customers.

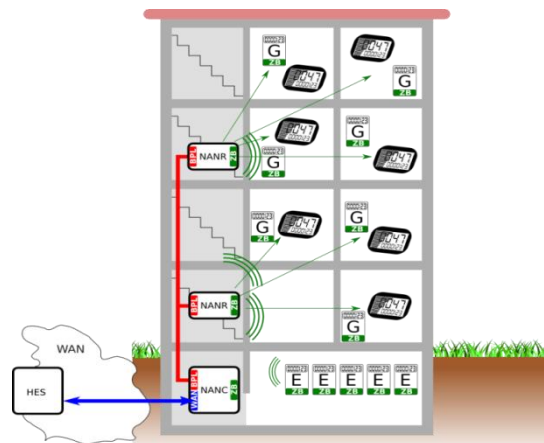
### Information Technology

Considering the information flows within the project structure and the multiple parties involved in the data sharing process, WS2 also focused on designing, implementing and testing the necessary communication infrastructure that will support the exchange of data between the different organisations involved in the project and the effective interaction with the customers.

### Multiple Dwelling Communication Infrastructure

Part of British Gas' role, is to procure, test, install, commission, operate and maintain a communications backbone infrastructure in at least one MDU in order to facilitate the installation of British Gas' SMETS1 compliant smart meters, communications hubs and IHDs, and for the MDU supplier to conduct technical surveys and to capture and report the Project's lesson learned in the Lessons Learned Log.

There are three tall & difficult buildings within Tower Hamlets that have been identified (*Farthing Fields*, *Edward Mann Close* and *Padstow House*) from the analysis of Tower Hamlets Homes' data. The analysis takes into account both the visual inspection that has been completed within the previous reporting period and number of customers identified to reside on these buildings (only of Tower Hamlets Homes). Padstow House represents the tall & difficult building with the greater number of potential tenant participants and is also seen as the most difficult of tall & difficult buildings in terms of addressing smart meter Home Area Network (HAN) signal range and building(s) complexity.



**Figure 1: Shared Infrastructure Model**

Progress made within this reporting period also includes the selection of Siemens as the MDU "Shared Infrastructure" provider. In order to qualify the Siemens solution, before deployment in the full trials, British Gas' Aylestone Road facility, in Leicester, has been selected as a test site. The Leicester facility is essentially a very tall/difficult building distancing 320 meters, laid out horizontally instead of vertically.

During the previous progress report it was reported that the selected supplier (Siemens) would undertake full technical assessments of potential category D buildings in August 2014. This activity has been postponed to the following reporting period until successful sign off the project's legal contracts (which impact the contract between British Gas and Siemens which cannot be signed unless project contracts are in place).

### Technical Assurance Role

The role of Technical Assurance Manager has been fulfilled, and commercial arrangements are in progress and due to be finalised within the following reporting period (and subject to the project's legal contracts being signed off). Specific duties of the role include; reviewing existing shared infrastructure installations and making recommendations, supplier liaison as required, commenting on technology and market readiness of the solution, alternatives and document findings and assist with lessons learnt and dissemination. Their role is also to advise on the optimal communications methods for broadband connectivity issues with third party monitoring devices.

## **2.4 WS3 – Customer & Network Insights**

### **2.4.1 WS3 progress**

WS3 is responsible for the development of qualitative and quantitative research methods that will enable the project to gain insights of the impact of the trials' intervention measures on customer behaviour and potential to reduce peak demand on the electricity network.



Key activities undertaken include:

### Research Trial Design Report

The project in close collaboration with University College London (UCL) undertook further planning and project requirement discussions to understand the capability in terms of time and resources to model a large number of substations in the trial area, essential to meet the project objectives. Work was also conducted to check if the model which is planned to be used by UCL was appropriate to model electricity consumption only in line with the project scope. Following this assessment the project decided to involve Element Energy as a project supplier to undertake the network modelling activities and to represent the network impacts of energy saving and shifting interventions in the trial area.

### Research Trial Design Report

A low level detailed description of all the research elements associated with both the participant selection and trials in was developed and completed. The report highlights the importance of a multi-partner approach that is grounded in solid research methods, incorporating both social and technical elements, with the aim of providing a positive example of how DNOs and utilities can encourage household energy management that is beneficial for the networks amongst the under-researched and often hard-to-find population of the fuel poor customers.

### University College London Data Management Plan

The project will be generating and utilising personal and sensitive personal data following the customer's informed consent, therefore data security is a paramount concern. UCL will collect, process, receive and transfer data from/to other project partners and will be responsible for data storage. The details of the extensive security protocols adopted have been documented in the UCL Data Management Plan for VCEE that, along with the Data Privacy Strategy (approved by Ofgem in September) describes the multi-layered approach to security developed by and the technical and physical measures in place.

### Social research methods

The development of social research methods specific to the project is key for gaining customer insights as well as for participant recruitment and engagement activities. Therefore UCL has focused its attention on the development of different surveys that aim to address some of the fundamental research questions identified at bid stage and during the previous reporting period. The surveys produced by UCL, consisting of a questionnaire or a diary to be administered by the Customer Field Officers or for self-completion, are:

1. **home survey** – to collect socio-demographic details that are critical to understanding the sample population, in addition to other social research aspects; the survey will also collect details of electrical items in the home to gain insights into the most commonly owned devices and to input to network modelling;
2. **energy social capital survey** – to investigate where participants find energy efficiency information, and particularly which people they receive it from, and who they trust for advice;
3. **non-participation and exit surveys** – to understand why people might choose to not be involved in the project and why participants might decide to drop out;
4. **self-disconnection diary** – to understand why participants on pre-payment meters self-disconnect.

### UCL Ethics approval of projects' social research methods and Data Management Plan

Primary source social research, such as that conducted for this project, necessarily involves some form of contact and interaction with the participants that requires ethical considerations. Therefore, the research conducted by UCL has been registered with the UCL Data Protection Officer and a Data Protection number has been obtained (reference number Z6364106/2014/09/28). Permission to undertake activities which will bring UCL researchers into contact with participants (either personal or non-personal, i.e. written) has been also granted by UCL Ethics Committee on 29 September 2014, with the stipulation that any changes or adverse events must be reported to the Ethics committee. The UCL Ethics approval (UCL reference number 6086/001) covers UCL in the following ways: surveys; participant panel and focus groups; stakeholder mapping; and data (UCL Data Management Plan for VCEE submitted along with VCEE Data Privacy Strategy).

### Energy efficiency devices and advices

The VCEE project intends to provide participants with a range of energy efficiency devices. These devices are intended to serve three broad functions from the participant perspective: the first is to allow the participants to save energy and shift their peak demand; the second is to increase energy awareness among participants; and the third is to provide an incentive for participants to participate in the trial. From a DNO perspective, energy saving on average over the course of a day and shift of peak load means less traffic on the network, less congestion, contributing to the

opportunity to delay network reinforcement. In order to support the fuel poor customers to realise their energy saving and load shifting full potential, the energy efficiency devices should target the specific needs of the fuel poor and the appliances they are likely to have in their homes. Therefore, analysis was conducted of the most common appliances the fuel poor have/are likely to have in their homes, using the appliance ownership data collected by Imperial College London for the Low Carbon London project. In parallel, UCL has conducted an independent assessment of a series of electrical energy efficiency devices by undertaking the following steps: a literature review of fifteen previous studies, a qualitative assessment of different parameters (power consumption vs. duration, usability, desirability, reliability, customer engagement and energy awareness benefits) and estimates of the energy savings and energy shifting potential for each device. The devices under study have been finally ranked from different perspectives: power saving per household, project savings (for a total of 550 participants) and associated power saving for the DNO during peak load. As a result, lighting upgrades will be targeted as they are expected to be beneficial from all perspectives (with LED lights showing the highest expected power savings) and eco-kettles that are particularly relevant for peak time savings.

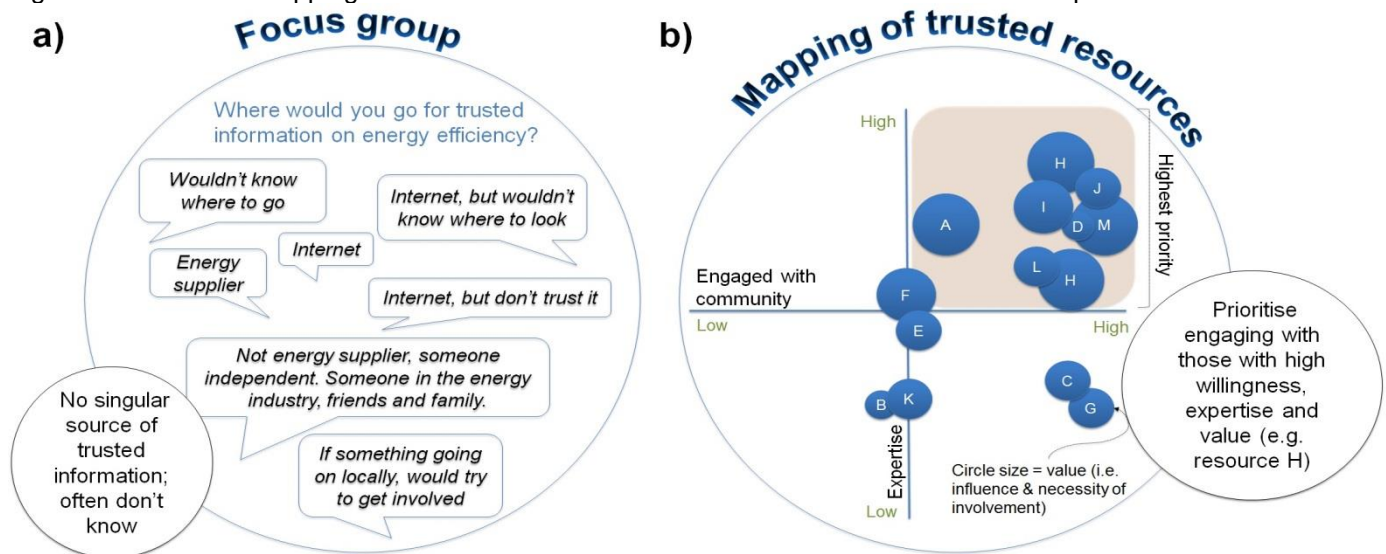
## Customer Services Charter

National Energy Action (NEA) has developed a services charter for the use of the project. The services charter is to be provided to non-participants (customers approached during recruitment phase that do not wish to participate in the Project) and participants that drop-out of the trial. It includes energy advice developed by NEA and signposting to an extensive range of supporting schemes and programmes that can be of interest for the fuel poor customers.

## Other participant engagement research methods: focus group and stakeholder mapping

Methods to measure trust in the trial area have been developed in addition to the energy social capital survey. Preliminary insight on where people within the trial area would go for trusted information on energy efficiency was gathered from the focus group held in June. Figure 3a captures this insight and evidences no singular source of trusted information was identified, and findings were varied: some people indicated they would go to their energy supplier for information, while others indicated they would not.

To understand the people and organisations that householders trust in the area of Tower Hamlets, UCL initiated the activity of mapping trusted social resources, which is also referred as 'stakeholder mapping'. Though these are not 'stakeholders' in the conventional sense – i.e. they are not "a person with an interest or concern in something, especially a business" – but may be community intermediaries, they are people who can facilitate interactions and build trust. Engaging with the identified trusted social resources (people or organisations) and informing them about the project may increase the chances that they can ease the concerns of (potential) participants should conversations arise about the project. To date UCL has conducted interviews with local experts to find local trusted resources and this has helped identify community organisations to prioritise in the engaging and informing activities. Figure 3b shows the mapping of more than 10 trusted resources identified so far and their prioritisation.



**Figure 3: a) Sources of trusted information captured at the preliminary focus group held in June 2014 with social housing residents in Tower Hamlets. b) Mapping of trusted resources identified during the interviews conducted by UCL with local experts; the diagram shows the prioritisation of the community members to engage and inform first.**

## 2.5 WS4 – Knowledge Dissemination

### 2.5.1 WS4 progress

#### Knowledge Dissemination

The following key dissemination and communication activities have taken place to date to raise the profile of the project internally and externally, plus partner awareness on key project items / deliverables:

External	Internal	Project Partners
<p>September</p> <ul style="list-style-type: none"> <li>Supporting contribution in the DECC issued a consultation entitled 'Cutting the Cost of Keeping Warm', to help Government to prepare a new fuel poverty strategy for England.</li> <li>National Energy Action Conference in Scarborough</li> </ul> <p>October</p> <ul style="list-style-type: none"> <li>Big Energy Savings Week launch event in London</li> <li>Smart Grid Forum Workstream 6 in London</li> <li>LCN&amp;I Conference in Aberdeen</li> </ul> <p>November</p> <ul style="list-style-type: none"> <li>'Frontiers of Engineering' sponsored by Royal Academy of Engineering in Brazil</li> <li>Policy Briefing – Tackling Fuel Poverty and Protecting Vulnerable Customers</li> <li>UK Power Networks Vulnerable &amp; Fuel Poor Customer Focus Group</li> <li>Fuel Poor Network Extension Scheme (FPNES) review event hosted by Ofgem in London</li> </ul> <p>December</p> <ul style="list-style-type: none"> <li>SE<sup>2</sup> consultation as part of research they are undertaking on behalf of Citizens Advice</li> <li>Frontier Economics consultation who are delivering a community based trial as part of SSE's SAVE project</li> </ul>	<p>September</p> <ul style="list-style-type: none"> <li>Future Networks Team Brief</li> </ul> <p>October</p> <ul style="list-style-type: none"> <li>Future Networks Team Brief</li> </ul> <p>December</p> <ul style="list-style-type: none"> <li>Future Networks Team Brief</li> </ul>	<ul style="list-style-type: none"> <li>Four VCEE Project Partner meetings</li> </ul> <p>September</p> <ul style="list-style-type: none"> <li>BEHAVE Conference in Oxford represented by University College London</li> <li>SmartGrid GB and Power Plus Communications hosted a workshop on the subject "How do we ensure that no customer gets 'left out' in the smart meter roll-out?" The project was represented by British Gas.</li> </ul> <p>December</p> <ul style="list-style-type: none"> <li>Behaviour, Energy and Climate Change, Washington DC represented by University College London</li> <li>Smart Metering Forum on the subject "High rise or remote: how can the hard to reach be incorporated into the rollout?" represented by British Gas</li> <li>Project outline within the National Energy Action Newsletter</li> </ul>

**Figure 4: Knowledge Dissemination activities within current reporting period**

#### Lessons learned

Throughout a project's life cycle, we learn lessons and discover opportunities for improvement. Institute for Sustainability is leading on this activity to independently coordinate and capture all lessons learned around key project milestones to feed into further stages in the project, but also help inform future projects. The aim is to:

- Identify ways of refining and improving our ways of working as a partnership;
- Capture valuable and constructive insights and lessons from the project in order to develop and share good practice and recommendations; and
- Bring together the different feedback and perspectives of the partnership to highlight gaps in industry knowledge and research.

A clear process for capturing lessons learned has been developed and shared with the project partnership. This process sets out how the project will collect and collate lessons for analysis and dissemination. All project partners and suppliers are encouraged to regularly feed into the process, providing constructive feedback and suggesting solutions.

The process, outlined in Appendix C, also enables the project to review any issues identified so that they can be resolved, take on board good practice, and different methods taken, when applicable.

The key learning delivered in this reporting period consist of developing a local partnership with project partners; operating within a multi-disciplinary cohort; project mobilisation; and set-up and process for a focus group consultation.



## 2.6 Key issues encountered

### 2.6.1 WS1: Customer Recruitment and Engagement

#### Prospective Trial Participants Numbers Issue

A key issue has been the data from Poplar HARCA, which impacts the number of prospective participants for the pilot study and the main project trials. This is being managed by working closely with Poplar HARCA and having developed ways to proceed and expand its databases, requiring further data analysis and modelling work. Such activity will be undertaken within the following reporting period in order to preserve the focus of the organisation on contracts which is the critical priority of the project. In addition, within the current reporting period, the project is undertaking data analysis aiming to rectify some information gaps within the existing dataset and expand the number of prospective participants from within the existing databases that have already been received. This is a key issue, since in the event that the pilot study demonstrates that a response rate of 1:3 is not achievable then the project will have to expand its potential eligible trial participant base for the first invitation letter sent out.

### 2.6.2 WS 2: Energy Saving and Energy Shifting Trials

#### Equipment and Installation Issues

In the previous progress report, the project flagged the issue that has been raised to install secondary metering in group 2 (control group) of trial 1 for prepayment metered customers instead of smart meters without a smart energy display. This was an activity not accounted for within the bid and the financials as it had been planned that British Gas would install a smart meter for logging purposes without the smart energy display for trial 1 control group.

This issue has coincided with the remote temperature logging solution costs being higher to that budgeted at bid. This is being managed by liaising with Northern Power Grid on transferring and re-using equipment that has been decommissioned from the CLNR project which present a saving to the budget and LCNF.

### 2.6.3 WS 2: Customer & Network Insights

#### Light fitting Issue

There are two most common fittings for light bulbs: bayonet (B22) and Edison screw (E27). Even though anecdotal observations have suggested that the bayonet fitting is the most common, no evidence has been found in literature that can inform of which fitting is the most common among the general and the target population. The procurement of both fittings for all pilot study and trial participants would have a significant impact on the project budget, conversely if only one fitting is provided, such decision would lead to discontent and may increase the attrition amongst those households equipped with the other fitting. A strategy for the procurement of both fittings for the LED bulbs based on a stock return policy has been developed, along with a script for the Customer Field Officers to investigate the most common fittings in the household during the installation visit. The statistics on light fitting among the pilot study participants will then be used to take an informed decision on the procurement strategy to adopt for the project's main trials.

## 2.7 Project outlook onto the next reporting period

The next reporting period is crucial for the project close out all legal contracts for project mobilisation to be completed and for the next delivery activities to be met. The pilot study of the project will commence within the following reporting period (subject to the contractual agreements are signed off). The outcomes of the pilot study will be captured within the SDRC 9.2 on customer recruitment and shape the projects' main trials strategy, prior to trial 1 start.

### 2.7.1 WS1: Customer Recruitment and Engagement

- Work on the Poplar HARCA database to expand the number of potential trial participants through further data analysis and modelling will be undertaken. Further to the above, an updated data analysis will take place aiming to refresh the numbers achieved from the Tower Hamlet Homes data and utilise the expected expanded dataset of Poplar HARCA. In light of the data to be received by Poplar HARCA, the analysis will



also re-profile the number of eligible fuel poor customers that reside within MDUs that could be approached for recruitment in order to install a MDU communications Infrastructure.

- The strategy of recruitment and allocation of the MDU customers (either only to group 1 or to both groups) will be determined over the next period.
- The terms of reference of the Data Group and IPR Group will be finalised in line with the first Data Group and IPR Group that will be held within 2015.
- British Gas will complete the selection of customers of the external control group (according to the specifications of University College London) and proceed with their invitation to participate in this group.

### 2.7.2 WS2: Energy Saving and Energy Shifting Trials

- Installation of British Gas credit smart meters in the group 1 of the pilot study will commence, and as part of the pilot study investigations into the effectiveness of interaction between British Gas smart energy experts and Customer Field Officers will take place.
- MDU Contractual Framework between the selected MDU supplier and British Gas will be signed within the next reporting period. This contractual arrangement depends on sign off of the project contractual agreements and will be completed within the following reporting period.
- Selection of buildings for the MDU Communication Infrastructure dependent on the updated (expanded) dataset to be received by Poplar HARCA and updated number of participants residing in MDU properties.
- Installation of MDU Communication Infrastructure in up to three identified buildings and explore further if key issues in relation to the integration of existing British Gas infrastructure arise.
- Identification and sourcing of network monitoring devices that could provide the required network data.
- Feasibility of the argument that GSM modes and BPL solutions may be combined on certain building types in order to achieve cost reduction.
- Surveys are to be undertaken within the next reporting period in an effort to further understand; access & abort issues, properties with isolation switches, proximity of customers in Tower Hamlets, building types, appointment durations, meter installations & communications, DNO issues and broadband communications mix, with a view to further refine high level costs.
- Undertake a full analysis on Poplar HARCA's expected expanded data which will refine the buildings from Poplar HARCA that will need full technical assessments. The reprofile of this activity does not affect the project timescale or the learning outcomes.

Work to install and commission by British Gas' back end meter/SAP system, a SMETS1 compliant meter set to fully integrate the systems will continue in the next reporting period. The system integration testing has been planned to be completed by the end of the current reporting period, but due to an issue faced at the mid-end of November, the completion of the test will occur within the following reporting period. British Gas and Siemens are working closely in order to resolve the technical matter and progress with the system integration testing. The extension in the completion of the system integration testing does not impact the timescale of the project or of the learning outcomes.

In the next reporting period, British Gas will look to put in place the necessary commercial arrangements with Siemens (subject to project contracts be signed off) as well as with both Tower Hamlet Homes and Poplar HARCA, where required, in order to begin deploying the solution in the field.

## WS 3: Customer and Network Insights

The next reporting period is key from an operational point of view as extensive learnings on participant recruitment are expected and preliminary results from the pilot study phase will be generated. Specifically:

- response rates from pilot study will inform on the effectiveness of the developed communication materials and recruitment strategy;
- the administration of UCL's surveys to pilot study participants will indicate if revisions are needed before trial 1; and
- preliminary results will inform the project on reasons for non-participation and attrition, trusted resources, demographic profiling and appliance ownership of pilot study participants.

It will also be crucial for the set-up of tools specific to the project to conduct quantitative analysis of electricity consumption and network modelling, in order to be fully tested and ready to process the data captured during the first quarter of trial 1.

Key activities for the next reporting period include:

- Extra resource allocation: 0.4 FTE Research Associate to be selected by UCL and in place.
- Research activities:
  - statistical analysis on the recruitment response rates from pilot study and reasons for non-participation;
  - successful completion of research contents for the SDRC 9.2 report;
  - completed set up of tools to conduct quantitative analysis of energy savings and energy shifting achieved by the trial participants;
  - piloting of surveys and preliminary results from social research methods.
- Network Modelling: approved model specification and design; completed model adaptation, testing and validation.
- Customer focus: development of the Cold Homes Leaflet to provide support to trial participants in case temperatures recorded in the intervention group are statistically significantly lower than those in the control group.

## 2.7.3 WS 4: Knowledge dissemination

Learning activities for the next reporting period will focus on the following project milestones: pilot study; customer recruitment and trial 1 launch preparation for mobilisation.

### 3 Consistency with full submission

The following has been noted to have changed since the full bid submission:

Website (page 39 and 67): The project had outlined that website would include information on energy efficiency. The website developed by the project does not include general energy efficiency advice. For the pilot study and for main trials instead customers will receive energy efficiency advice as part of a leaflet provided to them by a Customer Field Officer when the energy saving devices are issued.

Recruitment Process (page 65): Within the full bid submission it is stated that the initial recruitment campaign will be organised in two stages, with the second involving British Gas sending out an invitation letter. There will no longer two stages of invitation letter. The project is trailing an innovative recruitment strategy with the recruitment and engagement campaign being led by the Customer Field Officer team based at Bromley by Bow Centre. Therefore for trial 1 the invitation letter and reminder letter will be issued by the Customer Field Officer team to the customer. For trial 2 which introduces an off peak tariff and a change in supply terms and conditions will be presented by British Gas and they will lead on the trial 2 recruitment campaign.

Cooling Off period (Page 66): Within the full bid submission it had been envisaged that the customers were to be given a 14 day cooling off period by the time they sign up to trials. This principle will be implemented within the project's main trials. The difference is that for the pilot study the cooling off period will be 7 days in duration instead. It is worth noting that the trial participants are able to provide notice to leave the project at any time to the Customer Field Officer team or project itself.

## 4 Risk Management

The VCEE project has established a risk management process, as described in detail in the VCEE Project Handbook. It allows for the communication and escalation of key risks and issues within the project, and defines where decisions will be made and how these will be communicated back to the workstream where the risk or issue has arisen.

### 4.1 Full Submission (BID Risks) – update

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID-R001	At the bid stage the appropriate UK Power Networks' staff does not engage adequately or in a timely manner with the project. Resulting in poor engagement and delays in getting internal buy in for the project.		Internal buy-in during the bid stage was successfully obtained.	CLOSED
BID-R002	Final Funding may not be awarded. Therefore, the project would not be able to be carried out in 2014.	Ensure quality bid submission through regular review, clear differentiation and stakeholder engagement.	The project successfully secured funding from the LCNF competition run by Ofgem in November 2014.	CLOSED
BID-R003	Project partner(s) withdrawing their participation at the start of the project, leading to delays.	<p>(a) Letter of intent from British Gas and in discussion on MoU</p> <p>(b) Letters of support from each local community actor</p> <p>(c) Other partners engaged and attended two project partners meetings</p> <p>(d) Project partner sessions during evaluation process to invite local community actor partners on to partner meetings</p> <p>(e) MoU discussions with all partners during evaluation process</p> <p>(f) NDAs in place for most partners, need to get an NDA in place with local community actors</p>	<p><b>Update: Within the current reporting period, the project has received project agreement sign-off with four of the partnering organisations. This includes project Partners – University College London, CAG Consultants, Bromley by Bow Centre and the Institute for Sustainability. Also, National Energy Action and Element Energy, a project Supplier.</b></p> <p><b>Five project agreements remain unsigned. The project agreement with British Gas is agreed in principle as of 17 December 2014 except for the liability caps linked to the collaboration agreement. It is also subject to British Gas final legal and governance review. The project agreements with Poplar HARCA and Tower Hamlets Homes currently includes all agreed positions, the project is waiting for each organisation to confirm explicit agreement. In terms of the agreements with Bromley By Bow Centre and Element Energy signatures are expected soon.</b></p> <p><b>Moreover the collaboration agreement has not yet settled due to two contract items. The project has escalated this within a senior level and is a primary focus of project effort.</b></p> <p><b>In the event that an agreement is not possible, UK Power Networks and British Gas will jointly revert to Ofgem and provide a full update and a recommendation regarding the project's continuation or re-scoping.</b></p>	



# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R008	Recruitment and engagement strategy not adequately tested with wider industry. Therefore not fit for customer audience.	(a) Advanced invite to review workshops, following UK Power Networks stakeholder processes (b) Invite representatives who deliver and interface directly with vulnerable and fuel poor (c) Draw upon the learnings from literature review and LCN Fund factsheet (d) Expert partner secured to lead on recruitment and engagement (e) Appropriate pre-engagement testing included in plan	<b>Update:</b> - the phone interviews were run in May with external experts for wider industry stakeholder consultation (as communicated in last reporting period the project decided to run phone interviews rather than workshops due to time constraints of external experts); - literature review and LCNF factsheets completed during bid. These were used to influence the developed and approved Communications Plans to ensure the projects' customer recruitment and engagement strategy followed best practice; -focus group was undertaken on 27 June 2014 with community members from the trial area, London Borough of Tower Hamlets. The customer materials were tested and the feedback received has been used to update communication materials.	
BID - R009	Poor response to energy social capital surveys. Therefore dilutes quality of findings.	(a) Application of best practice survey administration ("Dillman method") (b) Use of trusted intermediaries to deliver follow-up survey reminders (c) Face to face reminders through engagement events	Compensation payments for effort involved in the survey completion are planned to be given to trial participants e.g. in the form of a book of stamps. This will be issued together with the survey.  <b>Update:</b> Additional face to face reminders from Customer Field Officers will be given during the installation visit for them to complete the survey. This reminder serves the purpose to increase the response rate / completion of the energy social capital survey.	
BID - R010	Poor turn-out rate to focus group trialling customer acceptability of recruitment materials. Therefore communication materials have a higher likelihood of not being well received by customer audience and not being effective.	(a) Use of trusted intermediaries to host focus groups (b) Use of non-trial vulnerable and fuel poor to participate in focus groups	<b>Update:</b> The focus group ran on the 27 June 2014. Eight participants in total attended, compared to the target of 12 customers.  The invitation to the focus group came from Bromley by Bow Centre and referral from the relevant landlord (Poplar HARCA or Tower Hamlets Homes) in discussion with the customer. This was for the purpose to have trusted intermediaries to host and undertake the invitation to secure local community members attendance.  The project encouraged attendance at the focus group by offering thank you vouchers. The choice of £30 voucher or a food hamper was given; all eight attendees requested the £30 voucher. Moreover food and drink was supplied during the focus group. Travel and childcare was offered to attendees if necessary. One invited participant had requested childcare provisions which the project put in place, however this invitee did not show up on the day of the focus group. One focus group invitee requested travel support for attendance which was made.  The project hosted the focus group at a time likely to be most convenient to the participants (late morning, 10:30 – 12:30) as guided by Bromley By Bow Centre.	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R011	Poor response to non-participation questions during recruitment process. Therefore, limited understanding / learning for recruitment strategy not being effective	<p>(a) Follow-up a sample of non-participants with telephone interviews</p> <p>(b) Invite non-participants to engagement events and discuss reason for non-participation</p> <p>(c) Discuss reasons for non-participation with community leaders and key members of trusted intermediary groups.</p>	<p><b>Update:</b> A method to capture reasons for non-participation has been completed. It includes a protocol to conduct interviews with non-participants and a written survey.</p> <p>Compared to what stated in the previous reporting period, the non-participation survey has been differentiated from the exit survey (addressing trial leavers) in order to be able to tailor the two surveys to the two different target groups.</p> <p>The written non-participation survey includes an invitation to contact the Field Officer Manager by phone, email or post if the non-participants would like to attend a local event to discuss their reasons.</p> <p>A non-participation survey can have a very low response rate, given that they have already opted not to participate. Therefore, it should be as timely and relevant and non-intrusive as possible. For this reason, differently from what stated in the previous reporting period, interviews with non-participants will be conducted by Field Officers at the time that the participant indicates they do not want to participate. This can be either in person or over the phone. If it is not in person, the non-participation written survey (a self-addressed stamped post-card sent along with a very short cover letter) could be administered as a follow-up.</p>	
BID - R012	High attrition to successive waves of energy social capital survey. Therefore, limited understanding / learning for where the customer audience looks to for energy advice.	<p>(a) Application of best practice survey administration ("Dillman method")</p> <p>(b) Use of best practice in panel survey maintenance</p> <p>(c) Use of trusted intermediaries to deliver follow-up survey reminders</p> <p>(d) Face to face reminders through engagement event</p>	<p>Compensation payments for effort involved in the survey completion are planned to be given to trial participants e.g. in the form of a book of stamps. This will be issued together with the survey.</p> <p><b>Update:</b> Additional face to face reminders from Customer Field Officers will be given during the installation visit for them to complete the survey. This reminder serves the purpose to increase the response rate / completion of the energy social capital survey.</p>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R013	Poor participation in interviews by trial participants during the trials. Therefore, limited understanding / learning of customer journey.	(a) Use of data from social capital surveys to identify participants' trusted parties for energy advice and engaging trusted parties in interviews enrolment. (b) Piggy-backing interviews onto wider participation engagement events to minimise participant disruption.	<b>Update:</b> In the last reporting period, the project was still to decide whether the mapping of trusted parties were to be carried out in parallel to the social capital surveys, rather than part of them. The project decided that we would run in parallel.  <b>The written exit survey for postal and the interview protocol for face-to-face or phone interview has been developed and approved by the University College London Ethics on 29 September 2014. Face to face or phone interviews with the trial participant will be conducted by the Customer Field Officer team. These will be used in order to capture the reasons for non-participation/attrition within the pilot study and the project's main trials.</b>	
BID - R014	Poor response to reasons for attrition questions when participants' elect to leave the trial. Therefore, limited understanding / learning of their drop in interest.	(a) Follow-up a sample of trial leavers with telephone interviews (b) Invite trial leavers to engagement and thank-you events and discuss reasons for leaving the trial (c) Discuss reasons for trial attrition with community leaders and key members of trusted intermediary groups.	<b>Update:</b> A method to capture reasons for drop-out has been completed. It includes a protocol to conduct interviews with trial leavers and a written exit survey (a self-addressed stamped post-card sent along with a very short cover letter). <b>As the non-participation survey, the exit survey should be as timely and relevant as possible and avoid intrusion. Therefore, it consists of one simple question to be administered either over the phone or in person at the time that the participant indicates they want to leave the project, or via post if they will not answer. If by post, they will be given an option to attend an event or speak to someone about their reasons.</b>	
BID - R015	Differential attrition between the within-trial intervention and control groups. Therefore, could bias findings.	Telephone interviews with participants who withdraw from the trial for their reasons. Analysing these interviews to see if there are substantial differences in reasons for withdrawal from the intervention and control groups. Mapping these reasons onto existing explanatory theories of energy demand to see if they are likely to bias the findings from the study. Estimating the magnitude of any such potential biases from the findings of previous studies.	<b>Update:</b> A method to capture reasons for drop-out has been completed. It includes a protocol to conduct interviews with participants who withdraw and a written exit survey (a self-addressed stamped post-card sent along with a very short cover letter) that will be posted when the Field Officer is not able to contact them (or believes contacting them would be counter-productive).	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R016	Participants being unwilling to be randomly allocated to intervention and control groups. Selection bias introduced.	Interviews with participants requesting allocation to either the intervention or control group to determine the reason for their request. Mapping these reasons onto existing explanatory theories of energy demand to see if they are likely to bias the findings from the study. Estimating the magnitude of any such potential biases from the findings of previous studies.	<p>The project will manage this through delivering clear communications during the recruitment phase that outlines that there are two customer journeys within the trial and allocation will be made once sign-up has been complete so as to manage their expectations and, minimise the chances for participants to complain.</p> <p><b>Update: The communication materials developed by the project for the engagement with the trial participants have clearly outlined these two customer journeys within the project trials (same destination, different timing of receiving the interventions) and that allocation to the groups will take place during sign up phase by the project's research partner University College London.</b></p>	
BID - R017	Failing to meet recruitment targets for the intervention and control groups. Impacts generalisation of findings.	Use post-hoc statistical power estimation to determine the statistical confidence with which results can be generalised (see under-recruitment risk scenarios- Appendix E)	<ul style="list-style-type: none"> <li>- Recruitment based on best practice, with key messages tested at a focus group and compensation payments included to encourage participation. <b>Update: focus group ran on the 27 June 2014 and feedback was used to update communication materials.</b></li> <li>- Ensure Customer Field Officers have necessary skills to persuade people to take part by including this in job description and testing at interview. <b>Update: As part of the Customer Field Officer training undertook courses from NatCen and CAG Consultants on methods of recruiting customers to the project.</b></li> <li>- Ensure recruitment materials are persuasive and understandable by testing at the focus group that will be held in June 2014. <b>Update: focus group ran on the 27 June 2014 and feedback was used to update communication materials.</b></li> <li>- Employ additional recruiters to assist with signing up participants. <b>Update: given the fact that the project is going to undertake a pilot study ahead of the project's main trials, it has been decided to postpone the recruitment of the Recruiters.</b></li> <li>- Reserve pool (taken from those not already selected from initial sampling frame) has been put in place to draw upon if recruited numbers do not provide enough statistical confidence. <b>Update: the project plans to have a reserve pool as outlined in the completed research trial design report. The project currently does not have a reserve pool. The project will explore this as we undertake analysis to maximise potential participants from the other datasets issued by Poplar HARCA.</b></li> <li>- Recruitment period might be extended if recruited numbers do not provide enough statistical confidence. <b>Update: the recruitment strategy will be tested within the pilot study that the project is going to undertake ahead of trial 1 and the outcomes of which are going to shape the project trials strategy.</b></li> </ul>	



# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R018	Metering failures resulting in higher than expected levels of missing data for network modelling. Network model findings compromised. For the delivery of SDRC 9.4.	Analysis of missing data to check for systematic versus random errors. Imputation of missing values using expectation maximization (EM) methods. Estimation of the biasing effects of missings on network modelling findings.	<p>(1) British Gas has been focused as part of their business as usual processes in improving the data integrity it is receiving from the smart meters and it confirmed that it has accomplished a suitably high rate. There are still going to be data gaps in the dataset received by the smart meters, but the number of gaps would allow for data imputation, on average.</p> <p>(2) British Gas is collecting both 48 half hourly data and 1 collective daily reading from each smart meter. In case data gaps exist within the dataset, the daily reading can be combined with the half hourly data for the purpose of filling any data gaps.</p> <p>(3) Define the scope of a data analysis that would look at the data at frequent intervals and detect gaps in the smart meter data. This action would result in early flags of big data gaps.</p> <p><b>Update: British Gas is following the above approach as outlined in the previous reporting period. British Gas has also established within the project required for the secondary metering third party for data to be collected daily and fault reports to be generated in case no data is communicated over a short period of time. In such way, the project is going to have greater control over the data lost.</b></p>	
BID - R019	Differential attrition between the two within-trial intervention and control groups in trial 2. Introduction of bias.	Telephone interviews with participants who withdraw from the trial for their reasons. Analysing these interviews to see if there are substantial differences in reasons for withdrawal from the intervention and control groups. Mapping these reasons onto existing explanatory theories of energy demand to see if they are likely to bias the findings from the study. Estimating the magnitude of any such potential biases from the findings of previous studies.	<p>Use of written exit survey in order to capture the reason for drop out.</p> <p><b>Update: The exit survey has been developed and completed during the current reporting period.</b></p>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R020	Significant participant dropout between trial 1 and trial 2 and its impact on sample sizes. Impacts generalisation of findings.	Use post-hoc statistical power estimation to determine the statistical confidence with which results can be generalised.	<p>- Comprehensive programme of on-going engagement to minimise drop out. Includes compensation payment at end of trial.</p> <p>- Research the best customer engagement strategies that promote participant retention</p> <p><b>Update: As the project will be undertaking the pilot study which will inform the trial 1 strategy, it is envisaged that through the engagement with the customers over trial 1, a better understanding of their needs and concerns will be obtained (through feedback from participant panels). Based on this increased understanding, the engagement campaign of trial 2 will be customised (i.e. pre-recruitment warm up events) in order to reduce the chance of large number of trial participants dropping out.</b></p>	
BID - R021	Metering failures resulting in higher than expected levels of missing data for network modelling. Network model findings compromised. For the delivery of SDRC 9.5	<p>Analysis of missing data to check for systematic versus random errors. Imputation of missing values using expectation maximization (EM) methods.</p> <p>Estimation of the biasing effects of missings on network modelling findings.</p>	<p>(1) British Gas has been focused as part of their business as usual processes in improving the data integrity it is receiving from the smart meters and it confirmed that it has accomplished a suitably high rate. There are still going to be data gaps in the dataset received by the smart meters, but the number of gaps would allow for data imputation, on average.</p> <p>(2) British Gas is collecting both 48 half hourly data and 1 collective daily reading from each smart meter. In case data gaps exist within the dataset, the daily reading can be combined with the half hourly data for the purpose of filling any data gaps.</p> <p>(3) Define the scope of a data analysis that would look at the data at frequent intervals and detect gaps in the smart meter data. This action would result in early flags of big data gaps.</p> <p><b>Update: British Gas is following the above approach as outlined in the previous reporting period. British Gas has also established within the project required for the secondary metering third party for data to be collected daily and fault reports to be generated in case no data is communicated over a short period of time. In such way, the project is going to have greater control over the data lost.</b></p>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R022	Poor turn-out rate at customer thank-you / learning events. Learning not disseminated effectively to the customer audience.	(a) Use of trusted intermediaries and communications channels to promote event (b) Instruct Customer Field Officers who have built a trusted interface to rally customers for attendance (c) Send a thank-you and learning update leaflet at the end of each trial	(a) Trusted intermediaries now in place to undertake this. (b) Customer Field Officers currently being recruited. <b>Update: The Field Officers and Field Office Assistant were in place by end of July and the Field Office Manager was in place by the end of the first week of August 2014.</b>  <b>Further update: The social energy capital survey that identifies who customers turn to for energy efficiency information will indicate of other communication channels the project should employ for advertising events.</b>	
BID - R023i	Learning not disseminated effectively to all stakeholders as different parties will have different interests and learning styles. Leads to learning being lost.	(a) Design of a dissemination roadmap that identifies targeted stakeholders and their preference in style and interest (b) use pre-testing activities and customer focus group to test learning materials and discover their preference	<b>Update: Dissemination roadmap developed and submitted within last reporting period. Several activities undertaken to date, please refer to section 2.5.</b>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R023ii	Due to the nature of the buildings in which the smart meters will be installed, communications difficulties are encountered	<p>(a) Supplier project partner has already successfully completed trials of communications solutions specifically for difficult buildings (tower blocks) and has strong interest in further enhancing the solution to inform smart meter rollout</p> <p>(b) Significant time and effort allocated in the project plan to identify and resolve any difficult building communications issues prior to installation of smart meters</p>	<p>(a) British Gas Smart Commercial Expert accompanied by UK Power Networks completed a visual inspection of the housing stock in the trial area and identified a number of buildings candidate for a Multi Dwelling Communication Infrastructure solution. <b>Update: Specific to tall &amp; difficult buildings within Tower Hamlets there are potentially 3 identified from the analysis of Tower Hamlets Homes data (both customer data provided by the social landlord and housing stock data collected through the visual inspection). These are; Farthing Fields, Edward Mann Close and Padstow House. Padstow House represents the tall &amp; difficult building with the most potential tenant participants and is also seen as the most difficult of tall &amp; difficult buildings in terms of addressing smart meter HAN signal range and building(s) complexity. Within the following reporting period, the data obtained from the visual inspection of the Poplar HARCA housing stock will be combined with the expanded dataset that will be provided by the respective social landlord, and qualify the target buildings for MDU infrastructure within Poplar HARCA stock.</b></p> <p>(b) British Gas will be launching RFQ in June in order to select supplier for the MDU solution. <b>Update: Progress made by British Gas within the current reporting period included the selection of Siemens as the MDU "Shared Infrastructure" provider.</b></p> <p>(c) The selected MDU Supplier is going to undertake an engineering survey of the identified buildings of the housing stock in the trial area in order to determine the feasibility of the MDU solution in these buildings. <b>Update: The targeted buildings will be visited by the selected supplier once the contractual agreements are concluded. In addition to the surveys by the MDU Supplier, a technical assessment, to be carried out by British Gas' Smart Metering Technology Manager is planned in order to qualify the HAN and WAN signal range for building categories B and D</b></p> <p>(d) Lab Testing: In order to qualify the Siemens solution, before deployment in the full trials, British Gas' Aylestone Road facility, in Leicester, has been selected as a test site. The Leicester facility is essentially a very tall/difficult building distancing 320 meters, laid out horizontally instead of vertically. Tests carried out indicate successful extension of HAN across MDU network via virtual meter sets and IHD, across the distances involved. The next step is to install and commission by British Gas' back end meter/SAP system, a SMETS1 compliant meter set to fully integrate the systems.</p>	



# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R024	Availability of smart metering equipment not realised, therefore delay to trial 1.	<p>(a) Supplier project partner has confirmed that smart metering equipment with necessary functionality will be available by Q4'14, and installation planned for latter part of Q4'15 and early part of Q1'15 to allow for some delay</p> <p>(b) UK Power Networks engaging with British Gas to monitor progress of Prepay Change Programme for early warning signs. Also key milestones to be built in the project plan as project has no influence on Prepay Change Programme delivery and should be treated as an external dependency</p>	<p>The project to complete the trials as planned if the prepayment delivery progresses without delay and also accommodates a delay in prepayment delivery without the Successful Delivery Reward Criteria (SDRC) deliverables and evidence being compromised. <b>Update: The project continues monitoring the risk closely.</b></p> <p>The project will run a pilot study at the end of 2014 with credit metered customers that require standard communications installation. This pilot study will test three things: the response rate of fuel poor customers to sign up to the project; the projects' communications materials; and the operational coordination between the Customer Field Officer Team and British Gas Smart Energy Expert to gain access to the customer's home for installation. <b>Update: the pilot study has been delayed to February 2015.</b></p> <p>The project will commence project trial recruitment and installation from January 2015, with it completing latest by July 2015. Trial 1 would commence either as planned from March 2015 - February 2016 or latest August 2015 – July 2016. If the later start to finish is realised due to prepayment delivery. Trial 2 would run from November 2016 – October 2017 instead of July 2016 – June 2017 if a later start – finish is experienced. In both scenarios the project will conclude December 2017 and deliver on the SDRCs. scenarios the project will conclude December 2017 and deliver on the SDRCs. <b>Update: The project is now working against the latest planned start to the main trials due to the delay with the pilot study. Therefore, Trial 1 would commence August 2015 and be undertaken to July 2016 and trial 2 would run from November 2016 to October 2017.</b></p>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref#	Risk & Impact Description	BID Mitigation	Mitigation (update)	Status
BID - R025	MoU cover with all partners.	(a) Obtained the support and letter of intent from British Gas (b) Obtained the support from the other partners and all have been working collaboratively (c) Pursue the agreement of mutually acceptable contract terms with all partners	(a) British Gas letter of intent was received. (b) Letters of support from the local partners were obtained. Project Partners and Supplier have attended the project Partner meetings in 2014. (c) An MOU or Collaboration Agreement is in place with all project Partners and the project Supplier with the exception of CAG Consultants who have a Consultancy Agreement in place. Please refer to section 3.0 <b>Update: The project is concentrating on reaching agreement on the project agreements and collaboration agreement to conclude the mobilisation of the project and to allow the project to enter into its next phase of delivery for pilot study recruitment and engagement.</b>	

## 4.2 Risks that have arisen in the reporting period

Ref #	Risk & Impact Description	Mitigation (update)	Learning	Status
R0043	<p>Secondary metering had not been budgeted for within the bid financials as it had been planned that British Gas would install a smart meter without the smart energy display for trial 1 control group. Moreover, the project has been exploring the use of a remote temperature logger solution – the bid financials were based on a static solution where data would be retrieved through manual collection – therefore the solution being explored is of a value greater than that budgeted at bid.</p> <p>Impact: Financial implications to the project.</p>	(a) Supplier selection through a market assessment completed by British Gas (completed). (b) Signed contract with Northern Power Grid to re-use equipment from CLNR in order to realise savings on the cost Requirements optimisation through interaction of British Gas, UK Power Networks and the selected supplier (ongoing) (c) Review of project financials in order to identify additional funds that can be utilised for such activity (in progress) (d) Discussion with British Gas if a smart meter without the In Home Display can be provided to the credit customers of the control group (instead of providing them with a datalogger) and achieve further cost reduction this is still under discussion as part of the requirements optimisation activities) (e) As a further option, in case the previous steps do not generate the required outcome, the next step would be to de-scope the technical solution.	DNOs should work collaboratively and try to maximise opportunities that arise from synergies or interactions related to the LCNF fund. It can ensure optimal use of LCN fund and customers' funds.	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref #	Risk & Impact Description	Mitigation (update)	Learning	Status
R0080	<p>UK Power Networks is going to undertake the leading role in the customer terms and conditions (i.e. the contract will be between the customer and UK Power Networks).</p> <p>Impact: Although British Gas and their subcontractors will be liable for monitoring equipment related items, there is a risk that the customer sues UK Power Networks. Should UK Power Network be sued by a customer; it will be liable for (a) reputation risk and (b) financial risk.</p>	<p>The customer terms and conditions have been subject to both UK Power Networks and British Gas legal review when in development. Once all partner and collaboration agreements are complete, they will be re-reviewed. This is in the case that commercial elements within the agreements change during current contractual discussions. UK Power Networks is minded to accept this risk and monitor it if the commercial elements remain as currently understood.</p>	<p>It is important that customers need only sign a single agreement or form to join a trial such as energywise; all other options evaluated would have involved more than one agreement or a trilateral agreement.</p>	
R0090	<p>Due to internal governance University College London cannot start recruiting the additional 0.4 FTE Research Associate that has been granted by the Project as extra resources to conduct the quantitative analysis of energy savings and energy shifting achieved by the trial participants until the contract (both Project and Collaboration Agreements) are signed.</p> <p>This is unlikely to have an impact on the milestone deliverable of the SDRC 9.3 report, as according to the new commencement date for Trial 1 (August 2015) University College London will have more time than originally planned to ensure that the extra resources are in place and that the tools required to undertake quantitative analysis of electricity consumption are completed and tested in time for data processing.</p>	<p>The Project will monitor the risk closely and will ensure that the position of the 0.4 FTE Research Associate is advertised as soon as contract sign off is completed.</p>	<p>For accurate planning the Project should take into account that the allocation of extra resources might take longer than expected due to internal governance</p>	

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

Ref #	Risk & Impact Description	Mitigation (update)	Learning	Status
R0091	<p>Insufficient data is provided by Poplar HARCA and the project cannot cover its needs for the number of prospective trial participants it will need to approach in order to achieve the 550 recruited customers in the project. The bid assumption was that 1 in 3 of customers approached would agree to join the trial and this resulted in the need to approach 1,650 customers, and at the moment the project has 1,408 eligible customers; 242 shortfall to the required 1,650. In addition, the pilot study may reveal that the assumption of 1 in 3 was overly optimistic and as a result we will need greater number than 1,650.</p> <p>Impact: The recruited sample is less than 550 which University College London estimated to provide a sufficient confidence level.</p>	<p>(a) Determine the minimum number of recruited customers the project could allow for whilst still being able to have confidence and replicate findings (completed – 170 is the minimum number across both trial participants groups (intervention and control) providing the project with a 50% confidence level to interpret the observed findings).</p> <p>(b) Undertake the pilot study in order to identify what is the actual response rate the Customer field officer team is going to face.</p> <p>(c) Undertake data analysis in order to consolidate the various datasets of the partner.</p> <p>(d) Work either with University College London or external consultant in order to undertake the appropriate modelling.</p>	Different organisations have different processes for obtaining and managing their data and as a result different practices and quality is observed between different organisations.	
I0054	<p>Two members of Customer Field Officer team have said they are not able to undertake visits to the customer premises during the out of office hours and Saturdays.</p> <p>Impact: The recruitment activity does not progress as forecasted as there is going to be limited activity from the Customer Field Officer team during the hours that has been proven to be more successful for recruiting activities.</p>	<p>(a) Advertise the job specification with out-of-office hours included (completed)</p> <p>(b) Discussion with the members of the Customer Field Officer team in order to understand if flexibility can be allowed (underway by the employer Bromley by Bow Centre)</p> <p>(c) Discussion with the senior manager from Bromley by Bow Centre in relation to the contractual arrangements of the Customer Field Officer team and the ways that flexible work arrangements can be accommodated (in progress)</p>	Different organisations do have different Human Resource policies and different work arrangements.	



## 5 Successful Delivery Reward Criteria (SDRC)

SDRC	Criteria	Evidence	Date	Progress
9.1	<b><u>Trial Design and Identification of Customer Participants</u></b> Detailed design of energy saving and energy shifting trials incorporating definition and identification of fuel poor customers	<ul style="list-style-type: none"> <li>Approved Trial Design Report</li> <li>Agreed set of fuel poverty / vulnerability indicators and targeted customer pool.</li> </ul>	By end of October 2014	Completed – the SDRC 9.1 was submitted to Ofgem on 31 October 2014
9.2	<b><u>Customer Recruitment</u></b> Effective recruitment of fuel poor customers	<ul style="list-style-type: none"> <li>A review of best practice in fuel poor customer recruitment.</li> <li>Identification of trusted intermediaries within the trial area community and their relationships with trial participants.</li> <li>A quantitative mapping of participants' energy knowledge resources (energy social capital survey) within their social networks i.e. where they turn to, and who they trust, for knowledge about energy.</li> <li>Findings from customer focus group testing of clarity and acceptability of recruitment communication materials.</li> <li>Statistics on recruitment success rates and reasons for non-participation.</li> <li>Qualitative evidence on the efficacy of different recruitment channels, strategies and materials.</li> </ul>	By end of April 2015	Completed: <ul style="list-style-type: none"> <li>Review of best practice in fuel poor customer recruitment complete.</li> <li>Trusted intermediaries identified and contract discussions underway.</li> <li>Focus group undertaken in June 2014</li> <li>Customer Field Officer team recruited and have undertaken training.</li> <li>Definition of communication messages during recruitment phase through the production and approval by Ofgem of the Communication Plan and Data Privacy Strategy for project trials and pilot study (5 Sep 2014).</li> <li>Surveys (i.e. energy social capital, non-participation survey) have been developed and approved by UCL Ethics Committee.</li> <li>Early assessment by University College London within the Research Trial Design report on the benefits of the current project recruitment strategy against their efficacy</li> </ul> In progress: <ul style="list-style-type: none"> <li>Framework for evaluating customer recruitment is in progress by CAG Consultants.</li> <li>Stakeholder mapping which can identify further trusted intermediaries is in progress.</li> </ul>

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

SDRC	Criteria	Evidence	Date	Progress
9.3	<b>Energy Saving</b> Impact of energy saving trial interventions – level of fuel poor participation and network impacts	<ul style="list-style-type: none"> <li>Quantitative analysis of Trial 1 energy savings through within-trial intervention-group to control-group comparison.</li> <li>Quantitative analysis of Trial 1 control-group contamination effects through within-trial control-group to external to trial control-group comparison.</li> <li>Statistical generalisation of the energy savings to the wider UK Power Networks, and national fuel poor customer base.</li> <li>Representation of network impacts through half-hourly network modelling within the trial area.</li> <li>Comparison of realised energy savings against previous estimates of technical potential energy savings in fuel poor customer group.</li> <li>Insights on customer protection during the trial.</li> </ul>	By end of June 2016	<p>Completed:</p> <ul style="list-style-type: none"> <li>Assessment of best research design to construct an internal control group.</li> <li>Identified the energy saving devices for trial 1 that will be tested in the pilot study. These include items such as an ecokettle and LEDs</li> </ul> <p>In progress:</p> <ul style="list-style-type: none"> <li>Selection and procurement of LEDs is under way.</li> <li>Identification of requirements to select the external control group.</li> <li>Definition of data requirements for energy saving quantitative analysis and network modelling.</li> <li>Customer Protection: temperature logger solution selection and temperature monitoring strategy.</li> </ul>

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

SDRC	Criteria	Evidence	Date	Progress
9.4	<b><u>Customer Engagement</u></b> Effective engagement with fuel poor customers	<ul style="list-style-type: none"> <li>• A review of best practice in fuel poor customer engagement.</li> <li>• A review of best practice in trial panel maintenance (i.e. methods to minimise participant dropout), particularly in trials with vulnerable participants.</li> <li>• Quantitative analysis of longitudinal survey of participants' energy knowledge resources (energy social capital) within their social networks and how these have changed over time.</li> <li>• Findings from interviews with trial participants on the efficacy of different engagement activities conducted throughout the trials.</li> <li>• Statistics on participation attrition and reasons for participant drop-out.</li> </ul>	By end of August 2017	<p>Completed:</p> <ul style="list-style-type: none"> <li>• Review of best practice in fuel poor customer recruitment.</li> <li>• The energy social capital survey has been completed by University College London.</li> </ul>

# Vulnerable Customers and Energy Efficiency

Project Progress Report – July to December 2014

SDRC	Criteria	Evidence	Date	Progress
9.5	<b><u>Energy Shifting</u></b> Impact of energy shifting trial interventions – level of fuel poor participation and network impacts	<ul style="list-style-type: none"> <li>Quantitative analysis of Trial 2 energy shifting difference between Group 1 and Group 2 through within-trial intervention-groups comparison.</li> <li>Quantitative analysis of Trial 2 energy shifting through pairwise comparison between intervention Group 1 and the external trial control-group, and intervention Group 2 and the external trial control-group comparison.</li> <li>Statistical generalisation of the energy shifting to the wider UK Power Networks, and national fuel poor customer base.</li> <li>Representation of network impacts through half-hourly network modelling within the trial area.</li> </ul>	By end of October 2017	<p>Completed:</p> <ul style="list-style-type: none"> <li>Assessment and identification of devices that the project may consider for trial 2.</li> </ul> <p>In progress:</p> <ul style="list-style-type: none"> <li>Initial selection of energy shifting devices.</li> <li>Definition of data requirements for energy shifting quantitative analysis and network modelling.</li> <li>Customer protection: temperature logger solution selection and temperature monitoring strategy.</li> </ul>
9.6	<b><u>Knowledge Dissemination</u></b> Effective dissemination of new knowledge generated from the project's captured learning.	<ul style="list-style-type: none"> <li>1x external learning event carried out for SDRC 9.1 – 9.5, and presentation materials shared</li> <li>2x internal learning events carried out per SDRC, and presentation materials shared</li> <li>2x thank-you events carried out for trial participants</li> <li>1x end of project customer learning event completed for trial participants, and presentation materials shared</li> <li>Presentation of the project at least twice a year at external seminars / workshops, with presentation materials shared</li> </ul>	By end of December 2017	<ul style="list-style-type: none"> <li>Please refer to section 2.5.</li> <li>The SDRC 9.1 external event and two learning events will be organised within the next reporting period.</li> </ul>



## 6 Learning outcomes

During this period, lessons have focused on key areas during the project set up phase, which include:

### Identifying customers in fuel poverty

- Almost all definitions of fuel poverty require data from several different organisations to be aggregated.
- The Low Income High Costs definition of fuel poverty involves both sensitive personal data (income of the household) and public data (EPC ratings of the property). Therefore, the identification of fuel poor customers can be challenging when it relies on sensitive personal data that cannot be used until receiving trial participant's informed consent.

### Administration/set up processes

- In order to help charity and local authority partners to manage the resources required during contract stage and factor sufficient costs needed to review project material as it develops, set up a three month consultancy agreement with day allowances while final contracts are agreed and signed.

### Project mobilisation/contracts:

- Allow sufficient time for documents and agreements to be reviewed and signed. Ensure all parties set aside a period of time, such as a three month agreement, plus necessary associated costs while final contracts are being signed.
- During the contract negotiation stage, projects should ensure that universal agreement items and commercial elements are discussed and agreed before the roles and the specifics of the contracts are detailed and finalised.

### Trial design and field officer recruitment and training

- Focus groups with local community representatives on the project name and developed materials were considered extremely useful and should be factored into future projects.
- Having one local community partner as the main contact point for the field officers was felt to work well by a couple of partners and seen as a trusted person by the field officer team and a good model for replication.

## 6.1 Other key learning outcomes

### WS1

**Information Security:** The project partners have different backgrounds and size of businesses and as a result not all policies or processes of the project are fit for purpose. One of these policies was related to the information security and arrangements that each organisation has in place. The project, through the Data Group, developed a project specific information security policy encompassing aspects from UK Power Networks, British Gas and University College London and reducing the requirements on some smaller organisations (in cases where the benefits outweigh the costs). This practice has worked well and it is recommended to be implemented in future projects.

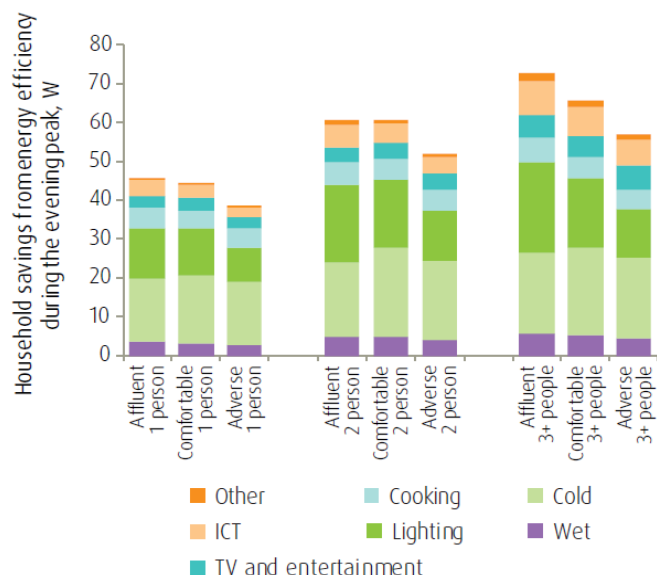
### WS3

**Project Background and reporting:** When working on a subject matter such as fuel poverty, national statistics are updated frequently and the political framework can change rapidly. Therefore, it is fundamental for the project cohort to keep updated on the progress made in the field. This will ensure that the project is still addressing topical issues and that all citations and references in project reports are the most up-to-date.

## 6.2 Learning and Dissemination activities in the next reporting period

Learning activities for the next reporting period will focus on the following project milestones: pilot study; customer recruitment and trial 1 launch.

## 7 Business case update



Within this reporting period, the project team has been actively involved in the work of the Low Carbon London project and the Low Carbon London consumer data sets. Low Carbon London has once again demonstrated the case for the Vulnerable Customers and Energy Efficiency project, as shown in the figure below:

The figure demonstrates that the contribution to peak demand in a family house (3+ people) in adverse circumstances can be as much as that achieved by a more affluent couple, and is not insignificant. This can be counter-intuitive, but is based on a robust survey of the number and type of appliances owned by each household. A similar pattern holds for energy savings.

Similarly, the project has used data from the appliance surveys in Low Carbon London to select the interventions that will be trialled.

In terms of project relevance: If the project is successful in installing and commissioning a Shared Infrastructure communications backbone it is estimated this could potentially address 5% of the UK's housing stock that is currently ineligible for smart meter roll out.

As such, the project remains consistent with the business case but achieving a strong take-up amongst participants approached is vital.

## 8 Progress against budget

This section is provided in Appendix A.

## 9 Bank account

This section is provided in Appendix B. No funds have been transferred from the bank account other than an internal loan at above market rates.

## 10 Intellectual Property Rights (IPR)

During the current reporting period products have been produced by each workstream. It had planned for those outlined at the last reporting period amongst the other documents produced within this period to be registered. However as the legal contracts are not yet settled the project will delay registration following contract signature and the subsequent IPR group meeting held. Please see over the page for the outline of IPR products developed under the current reporting period.

# Vulnerable Customers and Energy Efficiency

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Workstream	IPR description (i.e. document)
WS1	VCEE_WS01.003_Communications Plan (V1.3 Report)
WS1	VCEE_WS01.004_Data Privacy Strategy (V1.3 Report)
WS1	VCEE_WS01.006_Focus Group Findings Report
WS1	VCEE_WS01.009_Project Name (“energywise”)
WS1	VCEE_WS01.010_Project Brand (previous brand routes developed by the project)
WS1	VCEE Communication Materials (product numbers: WS01.11 – WS01.24)
WS1	VCEE_WS01.025_Website
WS1	VCEE_WS01.026_Customer Terms & Conditions
WS1	VCEE_WS01.027_Key Facts
WS1	VCEE_WS01.028_Recruitment Protocols
WS1	VCEE_WS02.031_Customer Field Officer Handbook
WS1	VCEE_WS02.032_High Level Assessment of Housing Stock of Tower Hamlets Homes
WS1	VCEE_WS02.032_High Level Assessment of Housing Stock of Poplar HARCA
WS2	VCEE_WS02.003_SDRG 9.1: Trial Design and Identification of Trial Participants
WS2	VCEE_WS02.006_Technical Trials Report
WS3	Research Trial Design Report
WS3	UCL Data Management Plan
WS3	Social Energy Capital Survey
WS3	Home Survey
WS3	Non-participation Survey
WS3	Exit Survey
WS3	Self-disconnection diary
WS3	Energy efficiency devices assessment
WS3	Energy efficiency devices selection
WS3	Services charter

## 11 Other

N/A

# Vulnerable Customers and Energy Efficiency

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## 12 Accuracy assurance statement

We hereby confirm that this report represents a true, complete and accurate statement on the progress of the Vulnerable Customers and Energy Efficiency project in its second six months and an accurate view of our understanding of the activities for the next reporting period.

Signed .....

Date .....

Ben Wilson  
Director of Strategy & Regulation and CFO  
UK Power Networks

## Appendices A and B: Confidential Appendices