Scottish and Southern Electricity Power Distribution

SAVE

Solent Achieving Value from Efficiency

SAVE (Solent Achieving Value from Efficiency)

Project Progress Report

Project Number	SSET206
DNO	Southern Electric Power Distribution Ltd
Reporting Period	June 2015 – December 2015

University of Southampton · maingate · DNV·GL · Neighbourhood Economics · Future Solent

1 Executive summary

Ofgem guidance: Executive Summary (This section should be no more than 4 pages) This section should be able to stand alone and provide a clear overview of the Project's progress and any significant issues over the last period. All stakeholders, including those not directly involved in the Project, should be able to have a clear picture of the progress. The DNO should describe the general progress of the Project and include any notable milestones or deliverables achieved in the period. The Executive Summary should also contain two subsections: one for the key risks and one for the learning outcomes.

The SAVE (Solent Achieving Value from Efficiency) project is a £10.3m project which is primarily funded by Ofgem's Low Carbon Networks (LCN) Fund and aims to establish to what extent energy efficiency measures can be considered as a cost effective, predictable and sustainable tool for managing demand on electrical networks as an alternative to traditional reinforcement.

Targeting domestic customers only, the Solent and surrounding areas have been selected as the target area for the study due to the need to obtain a full cross-section of customers from urban, suburban and rural areas which are representative of much of the UK. Organisations from across the UK are partnering with Southern Electric Power Distribution (SEPD) to manage and deliver the Project, including the University of Southampton (UoS), Wireless Maingate, Future Solent, Neighbourhood Economics (NEL) and DNV GL.

The Project will trial 4 methods: using campaigns linked to the electrical consumption of individual households; adding a financial incentive to these campaigns; deploying LED lighting; and using community energy coaches. Involving approximately 8,000 customers split across the various methods the Project is due to run until 2018, with a strong focus on sharing the findings with other network operators, customers, local authorities, Government, industry and academia throughout.

In some respects, such as in preparations for live trials within Method 4 – the Community Energy Coaching (CEC) intervention, the Project has seen good progress. Live trials within Method 4 are expected to begin in January 2016 as detailed in the Full Submission. The host organisations, Winchester Action against Climate Change (WINACC) and the Environment Centre (tEC), supported by Neighbourhood Economics Ltd (NEL) and SEPD have appointed two coaches for the trial area's currently monitored at LV substation level. The coach's have defined potential focus points in those communities, assisted by the stakeholder and steering groups for Method 4 and final trial designs have been developed.

The project successfully submitted two SDRC's in this reporting period, SDRC 5 – Identify Control and Sample groups, and SDRC 6 – Install 80% of clamp sensors, which were both approved in July 2015.

SDRC 5 was completed by UoS in collaboration with Bostock Marketing Group (BMG) and explained the framework within which the initial stages of recruitment took place including detail on sample size, demographics and progress. The report also provided detail on the aims of the recruitment; a

summary of the methodological approach and full details of the recruitment process as implemented. The report gave specifications of the sampling approach used together with outcome codes and response rates including an analysis of response rates to date according to key dimensions. In its summary SDRC 5 also committed plans for continued recruitment to attempt to attain the larger sample that would enable a much simpler non-factorial approach to be implemented.

In parallel, Maingate Enterprise Solutions in collaboration with SEPD and BMG submitted SDRC 6, Install 80% of Clamp sensors. This report gave evidence on the successful installation of household monitoring equipment in 2,552 properties inclusive of the smart plug element of the solution. The overall solution monitors consumption across the sample through clamp ammeters which provide a whole-household data set and smart plugs in 50% of participant's properties, providing appliance level usage data from an array of appliances which were prioritised by DNV GL prior to recruitment.

Trial designs for Methods 1-3 have been completed by DNV GL in collaboration with Behaviour Change, detailing the types, media requirements and methods of engagement to be utilised when live trials commence. However, the Project has experienced key issues with the household monitoring solution installed within Project participant's properties which directly affects the ability to commence trials across Methods 1-3. These issues have severely hampered overall Project progress.

Initially identified in SDRC 6 – Install 80% of clamp sensors, and proven within investigatory steps undertaken by SEPD with the support of Partners, an epidemic failure in the clamp element of the household monitoring solution has been experienced by the Project. The clamp, which records and transmits whole house demand data through the gateway element of the solution, has suffered battery failure after a period of 1-5 months, rendering the equipment useless for the three year period of study required for the Project. The necessary identification of alternative equipment and the process of procurement, reinstallation and management of the adverse resultant effects on wider work packages has been the core focus of the Project in this reporting period.

BMG paused recruitment activities in August subsequent to the equipment issues experienced, at this point activities had successfully achieved a Project population of 4,007 participants. The remaining 593 participants required to meet the Projects target population of 4,600 will be recruited once alternative equipment has been procured for the project.

A formal Change Request will be submitted to Ofgem, in order to allow the process of corrective actions to be undertaken along with the required change to equipment specification. We will continue to engage with and update Ofgem with our progress and will be submitting a formal Change Request once the details of the required actions have been finalised, estimated to be towards the end of Jan 2016.

The host organisations for Method 4 the Community Energy Coaching intervention, WINACC and tEC have signed the Service Level Agreements (SLA) with NEL effectively contracting them with the Project. Following this process the host organisations successfully appointed a part time coach for

each area in July. Between July and September training was provided by NEL with SEPD support on the requirements in adhering to both Project and LCNF governance in additional to wider license conditions.

The coach's and host organisations, assisted by the stakeholder and steering groups have defined potential focus points in those communities such as fuel poverty alleviation and carbon neutrality and have finalised trial design for this intervention. The Projects CEP and DPS have now been updated with detail on the engagement methods which will be used by the Coach's, these updates were submitted for approval on the 10th December 2015. The latter part of this reporting period has seen NEL confidently continuing towards starting live trials in January 2016 as detailed in the Full Submission.

To maintain a clear focus on the successful management of the various packages of work, the Project has held six Project Partner Review Board (PPRB) meetings, enabling all partners to meet at least once a month to discuss progress and plan activities. Representatives of BMG have attended all PPRB's within the reporting period to provide specific updates on recruitment progress and EATL have also been present when required to update on modelling activities in addition to lending expertise to partners work streams underway.

Risks

Ofgem guidance: The risks section reports on any major risks and/or issues that the DNO encountered, including any risks which had not been previously identified in the Project Direction. The DNO should include a short summary of the risk and how it affects (or might affect) delivering the Project as described in the full submission. When relevant, the DNO should group these key risks under the following headings:

a. recruitment risks – describe any risks to recruiting the numbers of customers to take part in the Project as described in the full submission and how these will impact on the Project and be mitigated;

b. procurement risks – describe any risks to procuring the equipment and/or services needed for the Project, as described in the full submission, and how these will impact on the Project and be mitigated;

c. installation risks – describe any risks to the installation of the equipment (including in customers' homes, and/or large scale installations on the network) and how these will impact on the Project and be mitigated; and

d. other risks.

Project risk management is considered in detail in section 5 of this report; a high level summary is shown below:

Risk Description	Further details and impact	Controls
Recruitment		
Inability of recruiting the necessary number of customers for the trials across the Solent area	May not reach the intended numbers deemed necessary. Would make it difficult to observe small changes in behaviour and have confidence that changes are result of interventions, not other factors	Constant monitoring in place for this key milestone. Target nearly achieved so risk now is attrition during reinstallation phase. Regular review meetings will be carried out during this process with BMG and UoS intrinsic to re-installation design process. Existing escalation process in place via Project Director to SEPD ISB
Break up of Partnership	Through dispute or disagreement partnership dissolves with one or more partners electing to leave the Project Board	MOUs replaced by contracts, with letters of support to project from Senior Company representatives, regular PRBs allow for continued proactive contact to highlight any potential issues. Equipment failure impacts being studiously assessed and support provided to all partners through SSEPD management and procurement teams.
Procurement		
Provision of replacement equipment following failure in clip-ammeter and re-installation of new equipment across Project population. Management of costs associated with subsequent impacts to wider work packages	The Project is unable to secure a suitable replacement of the failed equipment and re-installation of new equipment across Project population does not meet expected timescales. Management of costs associated with subsequent impacts to wider work packages	SSEPD Legal and Procurement teams supporting process of defining responsibility for replacement equipment and associated costs. Full partner involvement in production of corrective actions with specific focus on participant protection for the re-installation process. Formal change request to be constructed detailing requirements, impacts and actions which will be rigorously managed to ensure successful outcome.

Installation Monitoring equipment cannot be installed Failure of equipment and lack of data Equipment faulty and data not available	May be unable to install equipment, or the equipment may fail to operate correctly and not transmit data back to secure server, impacting on ability to observe and analyse behaviour and impact of interventions	Initial household monitoring equipment has now failed however alternative solutions have been assessed and optimum alternative now being sourced. CR-2 being constructed to allow process of corrective actions and the restoration of the Projects ability to effectively run trials 1-3. Maingate supporting process and have collaborated closely with UoS to ensure data analysis and transfer processes will support re-installation
Other None		

1.1 Learning Outcomes

Ofgem guidance: The learning section reports on the learning outcomes outlined in the Full Submission. This section should include, but is not limited to:

a. a summary of the key learning outcomes delivered in the period;
b. a short overview of the DNO's overall approach to capturing the learning;
c. the main activities towards third parties which have been undertaken in order to disseminate the learning mentioned in a.; and
d. the DNO's internal dissemination activities.

Please note that these two subsections should only give an overview of the key risks and the main learning. They should not replace the more detailed information contained in the "Learning outcomes" and "Risk management" sections of the progress report.

Learning outcomes are considered in detail in section 6 of this report, however during this period, the main focus has been on setting up the project to ensure successful trials in the future.

Key learning outcomes

SDRC 5 Identify Control and Sample Groups, was successfully submitted to Ofgem in June 2015. SDRC 5 details the process of recruitment, summarises the analytical approaches employed by the project and detailed the currently achieved populations for each trial group. At time of report the factorial approach to analytics was identified as suitable in response to the current Project population, this involves the more complex trial arrangement of multiple combinations of interventions per household with consequently more complex analytic methods required to maintain statistical power. The report also provided an overview of the aims of the recruitment; a summary of the methodological approach and full details of the recruitment process as implemented. The report specified the sampling approach used together with outcome codes and response rates including an analysis of response rates to date according to key dimensions.

Wireless Maingate in partnership with BMG & SSEPD also completed SDRC 6, Install 80% of clamp sensors which was successfully submitted in June 2015. This report detailed the successful

installation of household monitoring equipment in 2,552 properties. Consumption is monitored across the sample through clamp ammeters which provide a whole-household data set and smart plugs in 50% of participant's properties, providing appliance level usage data from an array of appliances which were prioritised by DNV GL prior to recruitment.

SDRC 6 outlined potential issues with the vital clamp element of the solution. The report identified that only 58% of the installed clamps were providing consumption data through the gateways to Maingate's servers, this is in comparison with successful communications with 93% of the gateways themselves. The report outlined potential causes for this failure in communications from the clamp element and actions already taken to test data flows and mitigate losses. It also suggested that further investigatory steps to identify the failure mode were under construction.

In addition, the following 'Learning Moments' have been captured (ad hoc and process related learning):

- Equipment fault investigation process and reporting requirements
- Behavioural change factors within trial design, the importance of maximising potential demand and peak demand reduction through targeted messaging
- Stakeholder engagement within the Community Energy Coaching trial design

Approach to learning capture

The approach to learning capture is focussed on capturing both structured learning in the forms of SDRC reports, and unstructured learning via lessons learned reviews and ad-hoc recording of insights. This aims to capture results drawn out from data analysis and reviews of activities, and also tacit knowledge that may not typically be captured in formal documents.

Crucial to learning capture is the dissemination of this knowledge. Building on previous experience and feedback the Project will seek to tailor the messages and methods of dissemination to the audiences' needs to maximise the effectiveness.

Summary of Third Party targeted dissemination

- SSPD Commercial Engagement days at Newbury Racecourse 17th September & 4th November, focusing on how SAVE and other SEPD led innovations projects could alleviate constrained networks.
- Presentation at the Future Solent Conference at the Ageas Bowl, Southampton 2nd October, providing an update on SAVE and potential benefits of the wider portfolio of SSEPD led innovation projects to local communities and businesses
- SAVE presented twice at the LCNI Conference Liverpool on the 24th November, detailing aims and progress in Network Modelling and Customer Engagement work packages.

- The Project team met with representatives of WPD's SolaBristol Project for a learning exchange meeting on the 30th November. This meeting allowed for community engagement techniques and resultant analysis methods to be reviewed by both Projects.

Summary of internal targeted dissemination

The Project uses organised events such as Steering Boards and Team Briefs as a means of internally disseminating progress and information in a structured manner, with informal communications between colleagues and departments also acting as a means of raising awareness of the Project and progress towards delivering learning.

Table of Contents

2 Project manager's report

Ofgem guidance: The Project manager's report should be a more detailed version of the Executive Summary. This section should describe the progress made in the reporting period against the Project plan. Any key issues should be drawn out and described in detail, including how these issues were managed. The DNO should also include details of deliverables and/or events, referring where necessary to other sections of the PPR. This section should also provide an outlook into the next reporting period, including key planned activities. It should describe any key issues or concerns which the Project manager considers will be a major challenge in the next reporting period.

In some respects, such as in preparations for live trials within Method 4 – the Community Energy Coaching (CEC) intervention the Project has seen good progress. Trial designs for Methods 1-3 have also been completed and the data transfer process between the University of Southampton (UoS) and Wireless Maingate Solutions (Maingate) has also advanced. However, the Project has experienced key issues with the household monitoring solution installed within Project participant's properties which has severely hampered overall progress.

At the end of the last reporting period the Project submitted two SDRC's for Ofgem's approval. Both of these submissions were approved in July 2015, SDRC 5 Identify control and trial sample groups, and SDRC 6 Install 80% of clamp sensors.

SDRC 5 identify control and trial sample groups, completed by UoS in collaboration with Bostock Marketing Group (BMG), explained the framework within which the initial stages of recruitment took place including detail on sample size, demographics and progress. This included a summary of the trial design options (pure RCT and factorial) and laid out the required sample sizes for each with reference to the project submission and project direction. The project population at date of submission was 3,056, allowing the factorial approach to be implemented. This approach involves the more complex trial arrangement of multiple combinations of interventions per household with consequently more complex analytic methods required to unpack the effects of each intervention. This complexity is required to ensure that statistical power is maintained and thus that the analysis results can be considered robust and generalizable.

SDRC 5 also provided detail on the aims of the recruitment; a summary of the methodological approach and full details of the recruitment process as implemented. To support this learning document all contact material utilised within the recruitment process was included, for example a readable form of the handheld device (tablet) script; copies of all contact letters, showcards, information letters or leaflets and any consent forms used. The report gave specifications of the sampling approach used together with outcome codes and response rates including an analysis of response rates to date according to key dimensions. In its summary SDRC 5 also committed plans for continued recruitment to attempt to attain the larger sample that would enable a much simpler non-factorial approach to be implemented.

In parallel, Maingate Enterprise Solutions in collaboration with SSEPD and BMG submitted SDRC 6, Install 80% of Clamp sensors. This report gave evidence on the successful installation of household monitoring equipment in 2,552 properties inclusive of the smart plug element of the solution. The overall solution monitors consumption across the sample through clamp ammeters which provide a whole-household data set and smart plugs in 50% of participant's properties, providing appliance level usage data from an array of appliances which were prioritised by DNV GL prior to recruitment.

SDRC 6 outlined potential issues with the vital clamp element of the solution. The report identified that only 58% of the installed clamps were communicating with Maingate's servers, this is in comparison with 93% of the gateways responsible for communications. The report outlined potential causes for this failure in communications from the clamp element and actions already taken to test data flows and mitigate losses. It also advised that further investigatory steps to identify the failure mode were under construction.

As the clamp element of the household monitoring solution is responsible for providing whole house demand data, subsequent to the successful submission of SDRC 6 the project undertook a detailed investigation across a range of installations. A population of target installations for investigatory visits was drawn from the failure modes identified through ongoing University of Southampton and Maingate analysis, namely those where non-communication, sporadic communication or poor data provision, had been logged from equipment. This was then cross referenced against the age of installation to ensure a representative sample of failed installations would be investigated.

Maingate Enterprise Solutions in collaboration with SEPD and BMG produced a plan for the fault finding process from an equipment perspective. This process allowed a detailed on-site technical assessment of installations with the aim of identifying the root cause of communications failure in the clamp element of the monitoring solution without causing adverse effects on the participants/installations selected. BMG supported by UoS defined a contact script for both initial contact and on site communications ensuring participant inconvenience was minimised and the Projects CEP was fully adhered to during communications.

Investigatory steps were as follows:

Stage 1 – Initial Call - BMG call centre team undertook the initial calls, checking details held by the project were correct and arranging a suitable time for a face to face appointment.

Stage 2 – Site Visit - Carried out by SSEPD alongside BMG staff for consistency for the project participant

- Step 1 – Check Equipment

This consisted of checking Equipment ID's, checks for visible signs of damage, that units were powered up and any obstacles which could be stopping communications

- Step 2 – Check Clamp

Checking the connectivity to clamp from gateway

- Step 3 – Fault Finding Clamp Connectivity

If clamps were unresponsive this step tried connectivity when placed alongside the gateway, replacing batteries and de-pairing/re-pairing the equipment should former actions not resolve the issues

- Step 4 – Final Check

This final stage of site visits saw the equipment, once proven operation, returned to its normal location in the household, allowing investigatory staff to ensuring no obstacles would cause communications to drop out and signal strengths remained high. The online registration and data collection pages were double checked to ensure household consumption readings were being received with the equipment in final locations and if necessary, small adjustments were made to the location of devices to ensure communications could be maintained.

Step 3 - Data Gathering

The following data was gathered on site to allow objective analysis of the environmental conditions on site to aid the investigative process and post visit trending/analysis.

3.1 – Data

- *Gateway Location (e.g. Living room, hallway)*
- *Clamp Location (e.g. Garage, under the stairs)*
- *Distance between gateway and clamp*
- *Details of any obstructions between gateway and clamp (e.g. walls, floors, cabinets or large electrical items)*
- *Is a mesh using a smart plug required as part of the install*
- *Additional relevant information which could help investigations (e.g. wifi repeaters, power line adapters)*
- *Cause of issue – The outcome of the visit for analysis, Installation, environmental, range etc.*

3.2 Photographs

- *Gateway in situ*
- *Clamp in situ*
- *Screenshot of gateway online*
- *Screenshot of clamp displaying value*

Step 4 – Collation

The findings and photos from each visit were then collated into a central Investigatory file maintained by SSEPD, ensuring accurate capture and removing risk of confusing records.

Stage 5 – Feedback

Project Partners were given regular updates of progress allowing quick identification of trends and potential mitigations for issues experienced on site. This also allowed the investigatory process itself to be refined and for the total required visits to reflect any pattern identified through visitation.

Stage 6 – Detailed Analysis

Once all data was combined within a single data source it will be sent to Maingate for more detailed analysis of patterns and trends of the causes of the issues, and to enable the results of the investigations to be fed back in to the Aeon consultation process should the data gathered strengthen any case.

The process commenced on the 28th July with SEPD undertaking a key role to ensure investigations were rigorous, efficient and objective ensuring confidence in any findings. The visits were further supported by BMG to ensure participant's details and relationships were managed in full adherence to the project's Customer Engagement Plan and Data Protection Strategy. Over four weeks 40 investigatory visits were made across participating properties, in 39 of 40 investigated installations, clamp batteries had to be replaced to restore communications between the clamp and the gateway.

The investigation further concluded that experienced battery life in the clamp element was less than 5 months, in 15% of cases battery life was under 5 weeks, compared to the expected battery life of 10-15months quoted by the manufacturer. Both the gateway element and smart plugs were not affected by this issue and still provide consumption data, via the smart plug, and the means to transmit data though the gateway to the Project. However, as the clamp element provides the essential whole-household data which enables the project to accurately measure the effects of live trials, the failure presented a major risk to the project. The findings of the investigation were further confirmed through data analysis provided by UoS, this analysis found that, on average clamps were ceasing communications after 1.5 months of installation. This analysis also identified that subsequent to SDRC 6 which confirmed communication with 1,468 clamps, by September the average clamps communicating regularly had dropped by 46% to 790.

The investigatory findings and resultant requirements were compiled into a full report submitted and presented to Ofgem on the 3rd September 2015. The primary result of required corrective measures outlined in this report was a likely delay to live trials for methods 1-3 of twelve months and an overall extension of the project, however this is dependant on the required corrective actions. These actions continue to be defined by the Project and we will be submitting a formal Change Request once the details of the required actions have been finalised, estimated to be towards the end of Jan 2016.

The UoS analysis also identified sporadic data losses within the aggregation and transfer system applied by Maingate for data provision to the Project. Across infrequent dates and time periods large proportions of data were missing from received files, no discernible pattern could be identified despite

comparison with known events, such as power loss and software updates being applied to Project equipment.

In collaboration with Maingate the data aggregation and communication processes have been developed throughout the latter part of the reporting period to allow accurate delivery of date & time banded data sets, providing consistent blocks of demand information across the project population with an automated qualitative checking process. The development of this system has removed the inconsistent and missing blocks of data and increased the Projects ability to identify data issues and offers a more efficient analysis process once demand data is received from the replacement equipment. This process has allowed a greater visibility of the degrading communications of the clamp element of the solution towards the latter stages of the reporting period (Figure 1).

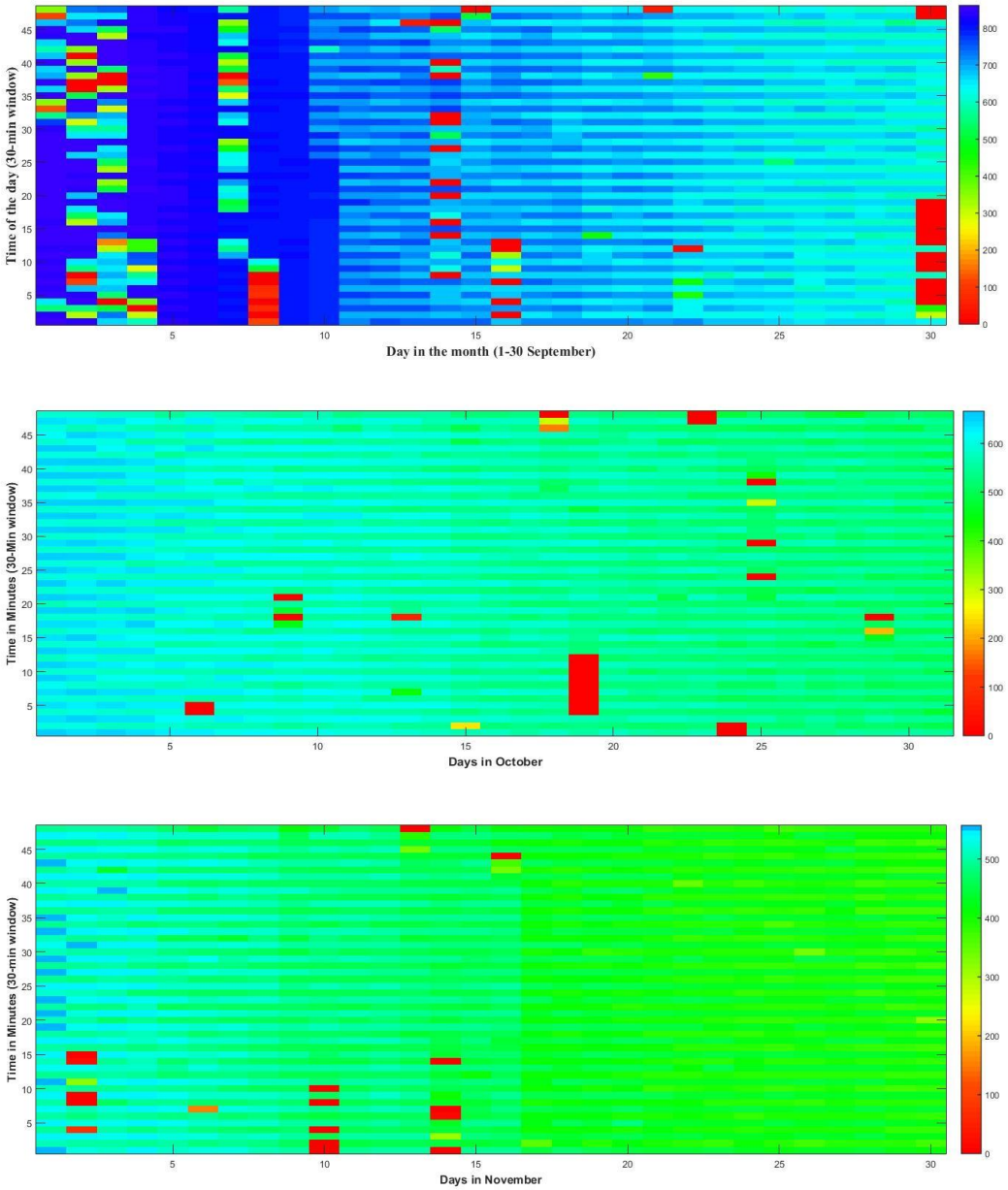

Figure 1 - Heatmap of Clamp communications produced by UoS September -November 2015 (note the improvement in periods of lost/inconsistent data)

Due to the epidemic failure in the household monitoring equipment, all recruitment activity by BMG was paused on the 29th of August having successfully achieved 4,007 active participants within the Project. Recruitment of the remaining 593 participants to meet the Projects desired 4,600 population will resume once a suitable alternative monitoring solution has been secured by the Project. Concurrently Maingate started the process of identifying potential replacements for the original clamp element utilised by the project, SSEPD advised a period of three months would be allowed for testing and development of any recommended solution allowing a formal submission to Ofgem of the required change in December 2015.

During September and October Maingate undertook a detailed assessment process and recommended to the Project that the Navetas Loop device was the optimum replacement for the failed clamps. This process was explained to the Project Review Board during a presentation at the October PPRB resulting in the Project agreeing with Maingate that this solution be secured immediately to allow a pilot installation to take place in early 2016. During the same period Project Partners and SSEPD completed a full review of the potential impacts of the expected delay to ensure no additional costs were incurred by the project and that all deliverables, whilst potentially delayed, would still be achieved.

SSEPD have also constructed a plan of corrective action, to accompany the required change request. This plan details the required dates for work package completion inclusive of a pilot re-installation, data analysis and improvement process following learning capture, full reinstallation, recruitment completion and base data capture. While certain assumptions had to be made during construction, for example specific installation time, dates and quantities of equipment delivery, the process has been updated as detail is provided through the associated packages of work undertaken by Maingate and other Project Partners / suppliers.

In October 2015 discussions on replacement equipment with Maingate were escalated to ensure focussed delivery of required corrective actions. Ofgem has been updated as necessary but due to the nature of this process no further formal update can be provided at this time. While this process has significant impact on the corrective actions process, formal Change Request CR-002 is being constructed for submission to Ofgem in the next reporting period for approval alongside supporting evidence / documentation. The outcome of this decision will impact the work undertaken in the next reporting period significantly.

Within this reporting period BMG have also completed 2,878 of the initial participant surveys, collecting data on household demographics, energy use and appliance data. This data has been used in conjunction with census data by UoS to define characteristics of the Project population and also by DNV GL to inform trial designs for methods 1-3. While the Project sample is still representative responses have defined a greater proportion of older people, working people and homes containing large families in contrast to a smaller percentage of students, rental properties and single occupants.

The recruitment process itself will have been a contributory factor in these proportions, for example properties such as student accommodation which have a high turnover of occupants were avoided given the increased risk of incoming tenants not wishing to continue with participation, or the requirement to add further incentives to new occupants. Survey's will continue within the next reporting period to complete 100% of required survey completion to support Project learning objectives.

Trial designs for methods 1-3 have now been finalised and prepared for 'hibernation' while the failed household monitors are replaced. A procurement process for LED provision and an appointed supplier has been constructed and expressions of interest received following the initial process. Key providers have been engaged with, however the process was paused in September with all engaged parties being notified of a delay before the next stage of the tender process could take place. Communications have been maintained throughout the reporting period to ensure this process can simply be restarted once the reinstallation process has been completed.

Following the structural development process outlined in the June 2015 report, DNV GL in collaboration with Behaviour Change Ltd successfully defined a set of key hypotheses and demand reduction messages for use within live trials across methods 2, media-led engagement and method 3, media led engagement with price signalling. This process, informed through initial surveys completed by the Project, census data and learning generated within SDRC 1 - Lessons learnt on Energy Efficiency & Behavioural Change, initially developed the modes of engagement required to maximise participant uptake and interaction with the aims of the Project.

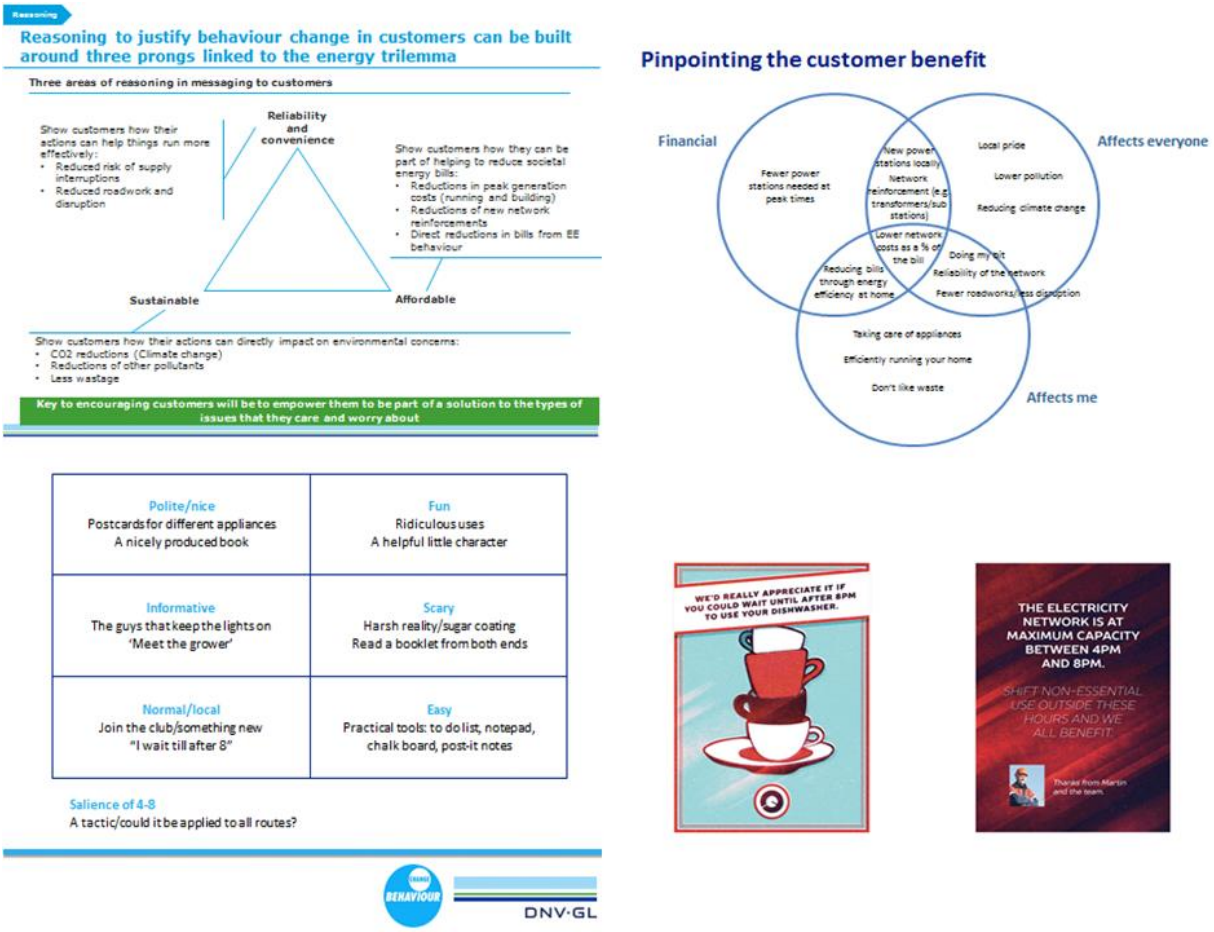

Figure 3 – Hypothesis and media development processexamples

These hypotheses linked the DNO need to reduce peak and overall demand with behavioural triggers which could be employed by the Project to encourage changes in energy consumption, such as financial benefits, avoidance of potential disruption resultant from reinforcement works and environmental issues. The natural progression of this development led to a defined list of specific measures, messages and media designs which will fulfil the requirements of the campaigns and proving which hypotheses can effect sustainable change. An approach which focuses first on peak demand within trial period 1 (TP1) and then shifts to whole demand reduction across trial periods 2 and 3 (TP2, TP3) has been identified as the most likely to create the required reduction in demand.

DNV GL have also collaborated with Maingate to ensure that the mVio visualisation platform for household energy use is prepared for participant interaction. Using the visual design templates produced by the trial design process, the household energy interface which links with participants demand profiles is being developed to ensure a uniform, holistic platform is presented to participants across all communications methods the Project will employ.

Figure 4 – mVio user interface mock-up design (post DNV GL development)

Once development is completed, the interface will allow participants to monitor day and week usage data with previous periods also displayed for comparison, encouraging participants to compare profiles and investigate anomalies. The platform will also allow for key messages to be displayed, such as Project 'shedding' events or ongoing messages such as shifting peak consumption to alternate times of the day.

The design and development process has resulted in a finalised process aimed at allowing participants to question their consumption, meet challenges defined by the Project and encourage ownership of energy use through positive interaction, not negative messaging. Information on the energy 'trilemma' will be utilised to offer educational points on the energy industry, resulting in an appreciation of the problem which increasing demand presents to network operators and the potential impact this may have on energy prices in the future.

Substation monitoring across 23 installations in the areas selected by NEL has continued to produce essential baseline data for Method 4, the Community Energy Coaching intervention. New Alresford, Kings Worthy, Shirley Warren and Townhill are the four trial and control areas and local demand profiles are already supporting trial designs. For example in the rural area's we have seen a lower general demand profile with higher peaks, in comparison with a higher demand profile with lower peaks in the more urban areas. Interestingly we have also combined these profiles with the local knowledge provided through the stakeholder group to identify an all electric community with three peaks relating to electric heating. This analysis has provided the Project with additional potential learning opportunities relating to the construction of the Customer Modelling work package which will be completed by UoS.

The host organisations WINACC and tEC have signed the Service Level Agreements (SLA) with NEL effectively contracting them with the Project. Following this process which was outlined in the June report the host organisations successfully appointed a part time coach for each area in July. The decision to have two part time coaches followed an assessment of the travel required between each location, the essential visibility of the coach in those communities and the ability of each organisation

to recruit staff already involved with energy efficiency work elsewhere in the region. Between July and September training was provided by NEL with SSEPD support on the requirements in adhering to both Project and LCNF governance in additional to wider license conditions.

The coach's and host organisations, assisted by the stakeholder and steering groups have defined potential focus points in those communities such as fuel poverty alleviation and carbon neutrality. Using these focus points in symbiosis with the projects aims to reduce consumption has enabled final trial designs to be defined for the trial. In response to this finalisation the Projects CEP and DPS have now been updated with detail on the engagement methods which will be used by the Coach's, these updates were submitted for approval in December 2015. The latter part of this reporting period has seen NEL confidently continuing towards starting live trials in January 2016 as detailed in the Full Submission.

To maintain a clear focus on the successful management of the various packages of work the Project has held six Project Partner Review Board (PPRB) meetings, enabling all partners to meet at least once a month to discuss progress and plan activities. Representatives of BMG have attended all PPRB's within the reporting period to provide specific updates on recruitment progress and EATL have also been present when required to update on modelling activities in addition to lending expertise to partners work streams underway.

In order to ensure visibility across the Project and assist with planning and management, Project Partner Review Boards are continuing on a monthly basis, with at least one person from each Project Partner attending each meeting. The purpose of the Project Partner Review Board is to:

- Develop and implement a project plan that meets Project Direction, Full Bid Submission and SDRC requirements
- Record Project progress
- Review progress against the planned program (time and cost)
- Revise, where appropriate the Project plan to ensure progress continues to requirements
- Review risks and mitigations
- Capture and review project learning
- Ensure that the relevant information is provided for Innovation Steering Board meetings.

Project assurance established as part of the Project Management approach ensures that:

- Thorough liaison between Suppliers, Project Partners, SEPD and Ofgem is maintained throughout the Project
- The Project remains viable
- Risks are controlled
- The Project is delivered in accordance with the Full Bid Submission and subsequent Project Direction
- Project participant needs are being met or managed

- Internal and external communications are working
- Any legislative constraints are observed
- The relevant resources are in place

These items are regularly checked to ensure delivery is consistent with, and continue to meet the scope of works in, the Full Bid Submission and subsequent Project Direction and that the SDRC are met. This has ensured that good progress has been made against all current deliverables and planning started for future work packages.

Through the monthly Project Partner Review Board meetings and additional smaller-scale meetings multiple areas of consideration have been addressed, ranging from equipment issues to engagement methods. Following a mixture of in-depth discussions and research, the following decisions on the approach to be taken have been agreed:

- Delay of live trials across methods1-3 allowing replacement household monitors to be installed across the project population.
- Pausing of recruitment activities subsequent to the identification of epidemic failure in the household monitoring equipment. Recruitment to resume for the outstanding 593 required participants once alternative equipment has been procured.
- Construction of a formal Change Request detailing the need to extend the Project to allow the replacement of household monitoring equipment and collection of base data.
- Appointing two, part time community energy coach's for method 4 instead of one coach across both area's, allowing more efficient sustained engagement across both trial areas.
- The addition of SGN to the Community Energy Coaching stakeholder group, allowing a full representation of utilities to join Local Authorities, Charitable Groups and Businesses in the overview and direction of Coach's engagements in Method 4.
- Trial designs for Methods 1-3 have been used to inform messaging within Method 4, allowing these messages to be tested on communities with learning points fed back into the Project. This process will provide the Project with the opportunity for greater confidence across individual interaction when live trials in methods 1-3 commence. It also maintains the aim to efficiently produce materials and manage resources across all Methods.

The next reporting period will be filled with key activities:

- Commence re-installation of household monitors across 4,007 households in the study area
- Resumption of recruitment activities by BMG enabling the Project to meet the target of 4,600 active participants monitored through the household monitoring solution.
- Live trials for Method 4, the Community Energy Coaching intervention led by NEL which will commence in January 2016.
- Learning analysis from Method 4 intervention, base data collection from Project population and supporting analysis by UoS.

With the Partner work packages, review sessions and good communications maintained between most parties there are no additional issues expected in the next reporting period. The equipment issues outlined above and their effect to wider work packages have been defined and are the subject of constant and detailed monitoring by all Partners.

3 Consistency with full submission

Ofgem guidance: The DNO should confirm that the Project is being undertaken in accordance with the full submission. Any areas where the Project is diverging or where the DNO anticipates that the Project might not be in line with the full submission should be clearly identified. The DNO should also include, where appropriate, references to key risks identified under "Risk Management".

The SAVE project is being conducted in accordance with the full submission. To ensure all commitments from this submission are completed in a timely and efficient manner, the Project has developed a comprehensive structure with clear linkages to the text of the full submission.

The project is constructing one formal change request within this reporting period which is expected to be submitted early in the next reporting period.

Change Request No.	**Description**
CR-2	Project Delay/Extension and Equipment Replacement. This change request will present the need for a delay/extension to the project to allow replacement equipment to be re-installed across the Project population, detailing the effects to deliverables and the management process for corrective actions.

4 Risk management

Ofgem guidance: The DNO should report on the risks highlighted in box 26 of the full submission pro forma, plus any other risks that have arisen in the reporting period. DNOs should describe how it is managing the risks it has highlighted and how it is learning from the management of these risks.

The Project risk register is a live document designed to identify actual and potential barriers to the satisfactory progress of the SAVE project. The register is used to target resources and to develop control measures and mitigations. The SAVE risk register is a single log of risks as identified by SEPD, University of Southampton, Maingate, DNV GL, Future Solent and Neighbourhood Economics. The register is reviewed at the monthly Project Partner Review Boards and is reported to the SEPD Project Steering Group.

Risks are assessed against their likelihood and impact, where the impact considers the effect on cost, schedule, reputation, learning, the environment and people. Risks are scored before (inherent) and after (residual) the application of controls. Risks which are closed are removed from the live register, with any learning captured through the Learning Moments and Project Trials described in section 7.

Increased focus is placed on risks with amber or red residual scores and also on all risks with a red inherent score (to ensure there is no over-reliance on the controls and mitigation measures). At present, there are 12 risks that fall into this category:

Risk ref #	Confidential to Partner	Source	Phase	WBS Category	Status	Risk Description	Impact						Risk Control/Mitigation Actions	Impact						Score	Contingency Cost (£k's)	Contingency Delay (wks)	Score	Mapping Ref	Contingency Cost (£k's)	Contingency Delay (wks)	Risk Review Date
							Cost	Schedule	Reputation	Learning	Environmen	People		Cost	Schedule	Reputation	Learning	Environmen	People								
WP1-3		SEPD			Active	Lack of budget to complete project and over spend on budget	5	5	3	5	1	1	3	Following meetings and workshops with project partners costs were built from bottom up so budget available providing partners work to expectations. Value for money exercises are being carried out across all work packages. Corrective actions process being fully assessed with due diligence as to cost applied throughout construction. SSEPD Legal and procurement teams supporting process.	4	4	3	3	1	1	2	15	9.4	0.2	8	42	0.6	0.0	25/10/2015
WP1-4		SEPD			Active	Inability of recruiting the necessary number of customers for the trials across the Solent area	4	5	4	5	1	2	4	Constant monitoring in place for this key milestone. Target nearly achieved so risk now is attrition during re-installation phase. Regular review meetings will be carried out during this process with BMG and existing escalation process in place via Project Director to SEPD IDB	2	2	2	2	1	1	2	20	46.8	2.3	4	22	0.1	0.0	29/10/2015
WP1-5		SEPD			Active	Lack of data available from the Trial zones and an overall lack of learning to SEPD.	3	3	4	5	1	1	4	Regular reviews of monitoring ouputs with escalation through the PRB, equipment issues experienced have been fully investigated with replacement equipment being sourced and corrective actions plan constructed in collaboration from all Project Partners.	3	3	4	4	1	1	3	20	23.4	0.7	12	43	2.3	0.1	18/08/2015
WP1-8		Maingate			Active	Lack of architect or design resource may hamper completion of the checks necessary to ensure the correct function of the wider 'system' beyond the Maingate m/to system	1	5	4	4	1	1	4	Progress made with existing team, system function checks carried out by Maingate. Able to call upon emergency SSEPD resource if not done in time	1	2	2	2	1	1	2	20	2.3	2.3	4	22	0.0	0.0	29/10/2015
WP2-3		SEPD			Active	Failure of equipment and lack of data	4	4	4	5	1	1	3	Initial household monitoring equipment has now failed however alternative solutions have been assessed and optimum alternative now being sourced. CR-2 being constructed to allow process of corrective actions and the restoration of the Projects ability to effectively run trials 1-3. Maingate supporting process and have collaborated closely with UoS to ensure data analysis and transfer processes will support re-installation	3	3	4	4	1	1	3	15	4.7	0.1	12	43	2.3	0.1	18/08/2015
WP3-6		SEPD			Active	There are issues with the technology monitoring equipment (substation / domestic) and there is not enough data to gain meaningful results on the impact on energy usage and therefore the network model cannot assess the impact of the interventions.	1	1	5	5	1	1	3	1) Effective commissioning of the technology along with regular checks to ensure the data is being collated. 2) EATL/UoS to define the 'minimum' data requirements.	1	1	3	5	1	1	3	15	0.2	0.0	16	53	0.2	0.0	01/11/2015
WP5-2		SEPD			Active	Monitoring equipment cannot be installed	1	4	2	5	1	1	4	Training and real time support provided to support BMG, small number of installations outstanding. BMG team have good experience among team members who will be used within corrective actions process following identification and procurement of replacement equipment.	1	3	2	3	1	1	2	20	2.3	0.9	6	32	0.0	0.0	25/05/2015
WP5-4		SEPD			Active	Noticeable differences in accuracy/ repeatability of data metering systems; Difficulties in statistical analysis so need to replace meters and repeat trials	5	5	5	5	1	3	5	Maingate assessing required actions needed to correct failure in clamp element of the monitoring kit,Maingate are working closely with UoS to ensure data storage, aggregation, transfer and reporting have all been thoroughly analysed and tested providing robust systems and confidence in data services utilised by current and future equipment.	4	4	4	3	1	2	3	25	936.6	23.3	12	43	4.7	0.1	18/08/2015
WP5-6		SEPD			Active	Failure in data management system; Loss or corruption of data; failure in gateway -> WMG data transfer & warehousing	2	2	2	5	1	1	5	Data to be backed up securely, Maingate to implement data assurance and qualitive checks as standard process before issuing data sets.	1	2	2	3	1	1	4	25	69.7	3.7	12	34	2.3	0.4	29/10/2015
WP5-7		UoS			Active	Inability to synchronise meter readings and being given 15min or half hourly readings to interpret	2	3	1	4	1	1	4	Maingate confirmed readings synchronised	1	1	2	2	1	1	2	15			4	22			30/12/2014
WP5-10		SEPD			Active	Provision of replacement equipment following failure in clip-ammeter and re-installation of new equipment across Project population. Management of costs associated with subsequent impacts to wider work packages	5	5	5	5	1	1	5	SSEPD Legal and Procurement teams supporting process of defining responsibility for replacement equipment and associated costs. Full partner involvement in production of corrective actions with specific focus on participant protection for the re-installation process. Formal change request to be constructed detailing requirements, impacts and actions which will be rigorously managed to ensure successful outcome.	4	4	3	3	1	1	4	25	936.6	23.3	16	44	46.8	0.9	25/10/2015
WP8-1		SEPD			Active	Equipment faulty and data not available	3	5	3	4	1	1	3	Maingate assessing required actions needed to correct failure in clamp element of the monitoring kit, all partners assessing wider impacts to produce a plan of mitigatory actions allowing replacements to continue while managing negative effect on project deliverables	3	4	3	3	1	1	3	15	2.3	0.2	12	43	2.3	0.1	01/11/2015

5 Successful delivery reward criteria (SDRC)

Ofgem guidance: The DNO should provide a brief narrative against each of the SDRCs set out in its Project Direction. The narrative should describe progress towards the SDRCs and any challenges the DNO may face in the next reporting period.

The SAVE project has identified eight Successful Delivery Reward Criteria (SDRC). The majority of these are split into a number of sub components and each component has defined criteria, evidence and a target date for completion. The following table lists the individual SDRC components in chronological order and details the Project's progress towards their achievement for those due to be completed in this reporting period (up to December 2015) and into the next reporting period (up to June 2016).

	Completed (SDRC met)		Emerging issue, remains on target		SDRC completed late
	On target		Unresolved issue, off target		Not completed and late

SDRC	Due	Description	Status
SDRC 3.1	28/02/2014	Create Customer Engagement Plan	Complete – submitted to Ofgem on 28/02/2014
SDRC 8.9	19/06/2014	6 monthly Project Progress Report	Complete - and due to be submitted every 6 months until end of the Project
SDRC 1	30/06/2014	Produce report on learning from UK and international energy efficiency projects and the impact on the design and implementation of the SAVE project	Complete – submitted to Ofgem 30/06/2014
SDRC 8.9	19/12/2014	6 monthly Project Progress Report	Complete - and due to be submitted every 6 months until end of the Project
SDRC 2.1	31/12/2014	Create initial customer model	Complete – submitted to Ofgem 31/12/14
SDRC 7.1	31/12/2014	Create initial network model and parameters for tool	Complete – submitted to Ofgem 31/12/14
SDRC 8.9	19/06/2015	6 monthly Project Progress Report	Complete - and due to be submitted every 6 months until end of the Project
SDRC 5	30/06/2015	Identify control and sample groups	Complete – submitted to Ofgem 30/06/15
SDRC 6	30/06/2015	Install 80% of clip-ammeter	Complete – submitted to Ofgem 30/06/15
SDRC 4	30/06/2016	Create commercial energy efficiency measures	Reliant on successful trials which have been affected by equipment issues outlined previously in this report. Delivery date for this SDRC is covered within formal Change Request CR-002 under construction.

Beyond the next reporting period, the following table lists the remaining SDRCs in chronological order:

SDRC	Due	Description
SDRC 2.2	30/12/2016	Revise customer model
SDRC 7.2	30/12/2016	Revise network model and network investment tool
SDRC 3.2	31/01/2017	Hold meetings to share progress, experiences and next steps with customers involved in trials on a six monthly basis
SDRC 2.3	31/05/2018	Finalise customer model
SDRC 7.3	31/05/2018	Finalise network investment tool
SDRC 8.1	29/06/2018	Produce project closure report
SDRC 8.2	29/06/2018	Produce network investment tool key outcomes report (including comparison of trial method impacts)
SDRC 8.3	29/06/2018	Produce LED trial report
SDRC 8.4	29/06/2018	Produce DNO price signals direct to customers trial report
SDRC 8.5	29/06/2018	Produce network pricing model report
SDRC 8.6	29/06/2018	Produce customer and network modelling report
SDRC 8.7	29/06/2018	Produce data-informed engagement trial report
SDRC 8.8	29/06/2018	Produce community coaching trial report

6 Learning outcomes

Ofgem guidance: The DNO should briefly describe the main learning outcomes from the reporting period. It should update Ofgem on how it has disseminated the learning it generated as part of the Project over the last six months

The learning objectives for the Project are:

- to gain insight into the drivers of energy efficient behaviour for specific types of customers
- to identify the most effective channels to engage with different types of customers
- to gauge the effectiveness of different measures in eliciting energy efficient behaviour with customers
- to determine the merits of DNOs interacting with customers on energy efficiency measures as opposed to suppliers or other parties

These will be answered as a result of carrying out the following project objectives:

- Create hypotheses of anticipated effect of energy efficiency measures (via commercial, technical and engagement methods)
- Monitor effect of energy efficiency measures on consumption across range of customers
- Analyse effect and attempt to improve in second iteration
- Evaluate cost efficiency of each measure
- Produce customer model revealing customer receptiveness to measures
- Produce network model revealing modelled network impact from measures
- Produce a network investment tool for DNOs
- Produce recommendations for regulatory and incentives model that DNOs may adopt via RIIO

6.1 Learning Outcomes

BMG in collaboration with UoS completed successful delivery of SDRC 5 Identify Control and Sample Groups in June 2015. SDRC 5 details the framework within which recruitment has taken place, summarises the analytical approaches the Project would utilise (pure RCT and factorial, dependant on final population size) and detailed the currently achieved populations for each trial group. At date of report the sample achieved by the project allowed the factorial approach to be implemented, this approach involves the more complex trial arrangement of multiple combinations of interventions per household with consequently more complex analytic methods required to unpack the effects of each intervention. This complexity is required to ensure that statistical power is maintained and thus that the analysis results can be considered robust and generalizable.

SDRC 5 also provided an overview of the aims of the recruitment; a summary of the methodological approach and full details of the recruitment process as implemented. The full suite of recruitment media was included in the final report including recruitment questionnaires, copies of all contact letters, showcards, information letters/leaflets and any consent forms used. The report specified the sampling approach used together with outcome codes and response rates including an analysis of response rates to date according to key dimensions.

Wireless Maingate in partnership with BMG & SSEPD also completed SDRC 6, Install 80% of clamp sensors which was successfully submitted in June 2015. This report detailed the successful

installation of household monitoring equipment in 2,552. Consumption is monitored across the sample through clamp ammeters which provide a whole-household data set and smart plugs in 50% of participant's properties, providing appliance level usage data from an array of appliances which were prioritised by DNV GL prior to recruitment.

SDRC 6 outlined potential issues with the vital clamp element of the solution. The report identified that only 58% of the installed clamps were communicating with Maingate's servers, this is in comparison with 93% of the gateways responsible for communications. The report outlined potential causes for this failure in communications from the clamp element and actions already taken to test data flows and mitigate losses. It also suggested that further investigatory steps to identify the failure mode were under construction.

6.2 Learning Moments

The following 'Learning Moments' have been recorded during this reporting period.

- Equipment fault investigation process and reporting requirements. The investigatory process required to identify the root cause of equipment failure within the clamp element offered challenges to SSEPD and Partners. The Project required a fast but well managed process of communication to participants, expectation management and positive engagement followed by a site visit limited to a short time impact but providing the opportunity to perform detailed checks on the installed equipment. Lessons learnt from the original recruitment process were incorporated during the planning process and the management of communications with participants was defined as an essential factor, leading to the partnership approach with BMG. The need for any results of the investigations to be impartial led to SSEPD assuming the role as the investigatory member, removing the potential for future dispute around the validity of results.

- The data aggregation and reporting development process has allowed a more significant view on the wider issues experienced by the project. This process was initiated following concern over the frequency of data losses and inconsistencies in data provided by the aggregation platform utilised by Maingate. UoS performed detailed analysis providing specific dates and time periods where the system appeared to be applying aggregation incorrectly and this also identified that the periods of communication with UoS were also creating difficulties in the analysis. Once steps had been taken by Maingate to perform qualitative checks automatically, ensuring frequencies and blocks were recording the correct amount of data records for each before transmission to UoS, a clearer picture of clamp communications was obtained. Heat maps (inserted in section 2) visualise active communications from the clamps and illustrate the high level of granular detail now available to the project which will offer support to the re-installation process once commenced.

- Behavioural change factors within trial design, the importance of maximising potential demand and peak demand reduction through targeted messaging. Through survey data responses

analysed from a consumer perspective DNV GL supported by Behaviour Change have developed a suite of materials designed to be insightful and impactful, driven with key messages encouraging peak or whole demand reduction and demand shifting. Specific appliance use has been targeted with these messages to focus on acknowledged 'demand heavy' periods, encouraging behavioural change within the demographic groups represented within the Project population. NEL have also reviewed this process and the learning generated to inform potential messaging opportunities within Method 4.

- Stakeholder engagement within the Community Energy Coaching trial design. The process of actively recruiting influential, locally active stakeholders into a group offering expertise on local opinions, influencers and potential collaborations has been extremely effective in this reporting period. The design of trial activities has been supported the Steering group and these activities are now informed by the community structure, local issues and experience provided by the Stakeholder group. The addition of SGN to this group allows a full-utility and full energy approach to engagement in the trial communities which should provide additional benefits and learning to the Project.

6.3 Dissemination Activities

The table below shows the main dissemination activities which have been completed in this period:

Leading Partner	Date(s)	Description
SSEPD	17/09/15 & 04/11/15	SEPD Commercial Engagement days at Newbury Racecourse 17th September & 4th November, focusing on how SAVE and other SEPD led innovations projects could alleviate constrained networks. These engagements are directed at commercial customers of SEPD across both Distributed Generation and Demand connections customers. A primary concern of both groups are constrained networks, strong partnership links have been formed between the Asset Management and Innovations team and the wider distribution business allowing direct engagement and dissemination of innovations activities to external stakeholders. The SAVE project was welcomed as a non-standard way of dealing with demand constraint which offered the strong potential of providing wider benefits to customers.
SSEPD	02/10/15	Presentation at the Future Solent Conference at the Ageas Bowl, Southampton 2nd October, providing an update on SAVE and potential benefits of the wider portfolio of SEPD led innovation projects to local communities and businesses. The SAVE project is well regarded in the Solent region and as Partners, the Future Solent board support their commitment to the Projects aims by headlining a presentation at their annual conference. SEPD provided an overview of SAVE structure, objectives and current

		progress which, alongside other SEPD innovations projects, was well received by the diverse array of delegates.
SSEPD/EATL	24/11/15	SAVE presented twice at the LCNI Conference Liverpool on the 24th November, detailing aims and progress in both Modelling and Customer Engagement work packages. The modelling presentation detailed the Network Investment tool the Project aims to produce through breaking down its component parts, namely the Network and Customer models. The Customer model which is being constructed by UoS was presented by SSEPD, summarizing the structure, inputs and outputs which will contribute to the wider tool. EA Technology Ltd (EATL) then provided detail on the network model, its aims, construction and methods used to represent both real and virtual networks. Overall the presentation was aimed at raising the awareness of the potential benefits advanced modelling allows network operators and the need for DNO's to utilize data sets to provide for efficient, sustainable and adaptable networks for our customers. The Engagement presentation outlined the recruitment process within SAVE and the importance of the partnership approach utilized to maximize the success of recruiting in innovations projects. Following a summary of the wider project, SSEPD offered detail on the process of producing recruitment material, the problems experienced and success throughout this essential stage of the Project. This was then followed by the alternate approach to engagement offered by Method 4, the Community Energy Coaching trial. Information was presented on the collaboration with stakeholders in guiding the trial design, the utilisation of host organisations to maximize visibility and local trust towards the coach's which in turn would ensure this Method was a success.
NEL/SSEPD	30/11/15	The Project team met with representatives of WPD's SolaBristol Project for a learning exchange meeting on the 30th November. This meeting allowed for community engagement techniques and resultant analysis methods to be reviewed by both Projects. SAVE benefited from SolaBristol's completed community engagement processes, identifying that additional qualitative analysis would strengthen the quantitative analysis that is being provided by the s/s monitoring already installed. Both appointed Community Energy Coach's attended the meeting alongside NEL and SEPD so that individual experience of LCNF innovations project engagement methods could be developed and implemented in the trial commencing in January.

7 Business case update

Ofgem guidance: The DNO should note any developments or events which might affect the benefits to be gained from the Second Tier project. Where possible the DNO should quantify the changes these developments or events have made to the Project benefits compared to those outlined in the full submission proposal.

SSEPD's core purpose is to provide the energy people need in a reliable and sustainable way. To achieve this, our delivery priority is to deliver upgraded electricity transmission networks, operational efficiency and innovation in electricity and gas distribution networks as they respond to the decarbonisation and decentralisation of energy. The learning from the SAVE project will inform our strategy to deliver on this priority with the aim of supporting our core purpose.

Through these trials, SEPD hopes to quantify the most cost effective approach to having a measurable change in the operation of the distribution system and develop means of controlling the demand reduction in order to be able to rely on the demand reduction and defer or avoid network reinforcement.

Drawing on previous research and project learning the Project expects to see reductions of between 10-15% in overall electrical consumption for the methods being trialled, although this reduction and potential benefit to the networks is expected to vary depending on multiple variables.

Expected reductions achieved as a result of the interventions being trialled in the Project are shown below, with further scenarios detailed in the full submission proposal.

Average annual household consumption (kWhs per year)	4,226	4,226	4,226	4,226
Measure	**LEDs**	**Data informed engagement**	**DNO rebates**	**Community Coaching**
Average annual household lighting consumption (kWhs per year)	634			
Expected total reduction (%)	10.5	11	15	15
Expected annual reduction (kWhs per year)	444	465	634	634
Expected hourly reduction (kWhs)	0.05	0.05	0.07	0.07
Expected hourly reduction (Watts per hour)	5	5	7	7
Expected daily reduction (Watts per day)	122	127	174	174

Small Low Voltage Urban reinforcement	**LEDs**	**Data informed engagement**	**DNO rebates**	**Community Coaching**
Daily reduction on LV cable with 150 customers (kW)	18	19	26	26
Rating of circuit (kW)	200	200	200	200
Headroom made available (%)	9.12	9.55	13.03	13.03
Equivalent to connection a number of 3kW heat pumps or EVs now able to connect (without diversity)	6	6	9	9

SEPD has not noted any developments or events which might affect the wider business case outlined above and as detailed in the full submission proposal.

8 Progress against budget

Ofgem guidance: The DNO should report on expenditure against each line in the Project Budget, detailing where it is against where it expected to be at this stage in the Project. The DNO should explain any projected variance against each line total in excess of 5 per cent.

Project expenditure is within the budget defined in the Project Direction. The table below details expenditure against each line in the Project Budget and compares this with planned expenditure to date[1]. Projected variances are also listed for changes >5%.

	Budget	**Expenditure ITD**	**Comparison with expected expenditure**	**Projected Variance** (at project conclusion)		
				(£K)	%	#
LABOUR	£2,445,883	£235,805.78	23%	0	0	
EQUIPMENT	£553,890	£603,706.17	108%	0	0	
CONTRACTORS	£4,735,730	£1,793,128.36	90%	0	0	
IT	£753,321	£468,041.23	83%	0	0	
TRAVEL & EXPENSES	£26,400	£8,288.63	83%	0	0	
PAYMENTS TO USERS	£428,302	£118,554.49	71%	0	0	
DECOMMISSIONING	£257,938	£0	-	0	0	
OTHER	£442,220	£0	-	0	0	

Notes:

The variance in Equipment budget is due to the incorrect allocation of budget at project inception for the S/S monitoring required for method 4 – the Community Energy Coach. SSEPD is constructing a change request for the re-allocation of this budget from internal labour costs to the correct Equipment and Contractor lines which will correct this error. These totals are representative of the phased budget and are not indicative of final Project spend, the Project does not expect any variance against any budget line at project conclusion.

[1] Expenditure is compared with a dynamic assessment of project phasing which reflects the nature of specific contract payments and physical delivery milestones. A comparison of expenditure with phased budget will often indicate a payment lag due to the nature of invoicing processes.

9 Bank account

Ofgem guidance: The DNO should provide a bank statement or statements detailing the transactions of the Project Bank Account for the reporting period.
Where the DNO has received an exemption from Ofgem regarding the requirement to establish a Project Bank Account it must provide an audited schedule of all the memorandum account transactions including interest as stipulated in the Project Direction.

Transaction details for the SAVE Project Bank account during this reporting period are listed in the Appendix. This extract has been redacted to protect the financial details of transacting parties; the full, un-altered copy has been submitted in a confidential appendix to Ofgem.

A summary of the transactions to date are shown in the table below:

Description	**Totals (project inception to end of November 2015)**
Interest	£9,125.64
Payments out of account -	-£860,983.97
Balance	**£6,548,686.22**

10 Intellectual Property Rights (IPR)

Ofgem guidance: The DNO should report any IPR that has been generated or registered during the reporting period along with details of who owns the IPR and any royalties which have resulted. The DNO must also report any IPR that is forecast to be registered in the next reporting period.

In commissioning project partners to commence project activities, the SAVE project has applied the default IPR treatment to all work orders (as defined in the Low Carbon Networks Fund Governance Document version 7). This will ensure IPR which is material to the dissemination of learning in respect of this project is controlled appropriately.

No Relevant Foreground IPR has been generated or registered during the December 2014 – June 2015 reporting period. No Relevant Foreground IPR is forecast to be registered in the next reporting period.

The SAVE project intends to gather details of IPR through the structure of individual project trials. Specifically, in concluding project activities the following details will be gathered: 1) components required for trial replication and, 2) knowledge products required for trial replication.

11 Other

Ofgem guidance: Any other information the DNO wishes to include in the report which it considers will be of use to Ofgem and others in understanding the progress of the Project and performance against the SDRC.

No further details.

12 Accuracy assurance statement

Ofgem guidance: DNO should outline the steps it has taken to ensure that information contained in the report is accurate. In addition to these steps, we would like a Director who sits on the board of the DNO to sign off the PPR. This sign off must state that he/she confirms that processes in place and steps taken to prepare the PPR are sufficiently robust and that the information provided is accurate and complete.

This Project Progress Report has been prepared by the Project Manager and reviewed by the Project Delivery Manager before sign-off by the Director of Engineering, who sits on the Board of SEPD.

This report has been corroborated with the monthly minutes of the Project Steering Group[2] and the Project Partners Review Board to ensure the accuracy of details concerning project progress and learning achieved to date and into the future. Financial details are drawn from the SSE group-wide financial management systems and the Project bank account.

Prepared by:	Alexander Howison	Project Manager
Reviewed by:	Colin Mathieson	Programme Delivery Manager
Final sign off:	Andrew Roper	Director of Engineering & Investment

[2] The Project Steering Board meets as part of an overall SSEPD Innovation Steering Board

Appendix - Redacted copy of bank account transactions

Bankline

RBS
The Royal Bank of Scotland

Statement for account **-**-** ******** from 01/06/2015 to 30/11/2015

Short name:	SOUTHERN ELECTRIC PO	Currency:	GBP
Alias:	SOUTHERN ELECTRIC PO	Account type:	SPECIAL INT BEARING
BIC:	********	Bank name:	NATIONAL WESTMINSTER BANK
IBAN:	**********	Bank branch:	READING MKT PLACE

Date	Narrative	Type	Debit	Credit	Ledger balance
	CLOSING BALANCE				**6,548,686.22Cr**
26/10/2015	SOUTHERN ELECTRI SAVE COSTS	EBP	52,593.80		6,548,686.22Cr
30/09/2015	30SEP-GRS ********	INT		4,441.32	6,601,280.02Cr
22/09/2015	SOUTHERN ELECTRI SAVE COSTS	EBP	77,856.17		6,596,838.70Cr
02/09/2015	SOUTHERN ELECTRI SAVE COSTS	EBP	403,563.94		6,674,694.87Cr
28/07/2015	SOUTHERN ELECTRI SAVE COSTS	EBP	326,970.06		7,078,258.81Cr
30/06/2015	30JUN-GRS ********	INT		4,684.32	7,405,228.87Cr
	OPENING BALANCE				**7,400,544.55Cr**
Totals			**860,983.97**	**9,125.64**	

NB: Transactions with today's or next business day's date may still be subject to confirmation and may subsequently be reversed from your account.
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Page 1 of 1