electricity north west

Bringing energy to your door

Power Saver Challenge
Project Closedown Report

January 2017

CONTENTS

VERSION HISTORY

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1	31 August 2016	Impact Research	First Draft	

APPROVAL

Name	Role	Signature and date
Steve Cox	Head of Engineering Strategy	

GLOSSARY

Abbreviation	Term
CCC	Customer contact centre
CEP	Customer engagement plan
DNO	Distribution network operator
FAQ	Frequently asked question
HEV	Home energy visit
NEA	National Energy Action
PSC	Power Saver Challenge
SMBC	Stockport Metropolitan Borough Council

FOREWORD

Electricity North West's Power Saver Challenge (PSC) project tested ways of encouraging customers to reduce their electricity usage to alleviate pressure on the network at times of peak demand.

The PSC method was trialled in the Heaton Moor and Heaton Norris areas of Stockport with a trial area of 1,000 households. The method consisted of providing both technological and educational support to a statistically robust and representative sample of participants living within the trial area.

The project commenced in November 2013 and was conducted over a three year period. It comprised customer engagement and a three-part measurement exercise:

1 The measurement of baseline electricity usage on trial networks prior to any form of intervention, during the winter period of year 1
2 The measurement of electricity usage by participants over course of the PSC intervention, during the winter period of year 2
3 The measurement of electricity usage by participants following the intervention, during the winter period of year 3.

Throughout the PSC project, Electricity North West and its project partner Impact Research have repeatedly engaged with a sub-set of the trial participants. In total 250 participants were engaged to understand perceptions and attitudes towards the challenge and provide a robust measurement of energy usage behaviour change.

Customer data obtained through a methodical programme of market research provided the primary means of measuring behaviour change. Technical consumption data obtained from monitoring devices installed on the network provided a secondary method of establishing a relationship between the PSC method and behaviour change. In reality micro and macro environmental factors cannot ever be completely controlled, therefore primary research provided a more reliable proxy for identifying a causal relationship.

This closedown report and the analysis herein forms part of the project's dissemination. It describes the outcomes and benefits of the PSC project which was led by Electricity North West and carried out in conjunction with several project partners.

1 EXECUTIVE SUMMARY

1.1 Summary of findings

The evidence presented in this report which has been produced and disseminated as a result of expert analysis of the data collected during the customer surveys has confirmed the hypothesis that:

> *"Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage."*

Insight obtained from customer surveys has demonstrated that participating households changed their energy usage behaviour and their attitude towards energy consumption, both during the trial and after it had ended. Technical data has also supported this conclusion through a 5.8% reduction in peak energy consumption across the lifespan of the project.

DNOs can therefore be confident that implementing the PSC blueprint will achieve the desired behaviour change leading to a reduction in peak demand.

1.2 Background and objectives

Electricity demand in Great Britain is increasing and this trend is expected to continue, particularly with the increased adoption of low carbon technologies. This presents new challenges to operators of electricity networks. Major capital reinforcement investments could be required to meet this increased demand. In addition to being expensive, these capital investments would be carbon-intensive and lead to customer impacts such as traffic disruption.

In May 2013, distribution network operator (DNO) Electricity North West commissioned National Energy Action (NEA) and Sustainability First to evaluate the potential for electrical load reduction measures to be implemented in Stockport.

This evaluation identified that the Vernon Park electricity substations was approaching its maximum design capacity. Although traditional network reinforcement had already been scheduled for Vernon Park by Electricity North West, it provided a suitable case study for evaluating the feasibility of reducing the electrical load amongst the population, particularly at times of peak demand.

NEA produced a Technical Feasibility Study which provided a high level assessment of the possible costs and likely effectiveness of a range of intervention measures to reduce peak electricity demand at the Vernon Park substation. Measures were shortlisted for trial according to how they might reduce overall electricity usage and therefore contribute to the reduction of bills and alleviation of the fuel poverty being experienced within the local community.

The solutions identified in the Technical Feasibility Study included, but were not limited to, a combination of efficient heating operation (eg replacing old storage heaters), electrical load control devices and changes in consumer behaviour, because both technological installations and changed consumer behaviour can reduce electricity usage. Behaviour change has the potential to deliver more sustainable and significant savings than those available from technological installations, however their achievement is less certain.

The PSC project was therefore designed to evaluate the effectiveness of behaviour change intervention in encouraging customers to reduce their electricity usage.

The hypothesis for the PSC project was:

"Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage."

1.3 Macro environmental factors

This report evaluates the success of a range of micro-environmental factors in achieving sustained behavioural change during a three year measurement period. Other distribution network related micro-environmental factors may include, but are not limited to, efficiencies gained from improved home insulation, an increase in the adoption of energy saving products and embedded small scale generation.

During the course of the measurement period a range of macro-environmental factors may have also influenced project outcomes. The macro-environment refers to all forces that are part of larger society and affect the micro-environment including but not limited to, social, technological, economic, environmental and political developments.

The PSC measurement period from November 2013 to March 2016 was characterised by economic austerity. Shortly before the outset of the PSC project, Office for National Statistics figures[1] showed that household living standards suffered their biggest drop in a generation

[1] http://www.bbc.co.uk/news/business-23079082

with real disposable income falling by 1.7% in the first quarter of 2013, the largest quarterly drop since 1987, as wages fell or stagnated and prices rose.

Economic austerity and political attention directed towards the energy sector, particularly in various manifesto commitments regarding price caps, price freezes and fracking made by main parties in the run up to the June 2015 General Election, is likely to have increased sensitivity towards energy prices, serving as an impetus to change behaviour amongst some participants whilst being a barrier to other consumers whose trust in the sector is relatively low.

1.4 Methodology

The PSC project utilised technologically-supported interventions, an incentive package and a wider community engagement programme to encourage and support behaviour change. The sequence of activities is shown in Figure 1.1:

Figure 1.1: Sequence of activities in the PSC

Period	Activity
1 November 2013 to 31 March 2014	Baseline measurement of all customers' load profiles in the PSC trial area during the hours of 16:00-20:00
April 2014 to 31 October 2014	General community engagement and education programme.
Jun 2014 to October 2014	Recruitment of participants followed by: • Home energy visits (HEV) carried out, during which participants were given free energy-saving and monitoring devices • Baseline customer survey to establish perceptions, attitudes and claimed behaviour. Each household that was recruited was allocated to one of ten teams. Each team was then set an energy reduction target (relative to baseline usage) for their energy usage during the trial period.
1 November 2014 to 31 March 2015 (trial period)	• Measurement of participants' demand profiles during the hours of 16:00-20:00 • Regular performance monitoring reported to participants • Ongoing participant engagement to encourage reduction in peak time energy usage • Mid-trial customer survey (February 2015).
April 2015	• Load profiles during trial analysed. • Participants in teams which succeeded in meeting their energy reduction target receive prizes • End-of-trial customer survey.
After 31 March 2015	Successful participants receive rewards that enable further electricity savings.
1 November 2015 to 31 March 2016	Monitoring of participants' load profiles to determine whether behavioural change has been embedded.
April 2016	• After-trial customer survey • Analysis of after-trial load profiles to determine whether behaviour change had been sustained.

The project's catchment area comprised approximately 1,000 households and covered both Heaton Mersey, which is classified as 'affluent', and Heaton Norris. It was estimated that 19% of the Heaton Norris "lower layer super outputs area"[2] was in fuel poverty, which is substantially higher than the average for the aggregated Stockport region.

This project was entirely focussed on domestic customers; industrial commercial and business customers were out of scope.

Electricity demand monitoring was facilitated by the installation of Kelvatek Bidoyng units at the feeder at the local substation.

1.5 Summary of key customer survey findings

During the course of the PSC engagement four quantitative customer surveys were conducted supported by two qualitative focus group sessions. The objectives of these surveys were to:

- Measure awareness of, and support for, the PSC
- Measure attitudes to energy use and receptiveness to changing consumption patterns
- Measure (claimed) energy usage
- Identify areas for future improvement in terms of further reductions in energy consumption.

Overall, the customer surveys identified that households were positive about the PSC and this along with their satisfaction in taking part increased as the trial progressed.

Noticeable changes in attitudes towards energy use and behaviour change were evident, particularly during the earlier stages of the trial, when HEVs were being completed and targeted advice and energy saving technologies were being distributed.

The customer surveys also sought to measure the participants' level of commitment towards reducing energy usage both during the trial and after it had ended. The findings were positive: the number of households claiming to continue with energy saving methods increased as the trial progressed and a substantial proportion of participants claimed they would seek to reduce their energy use further once the trial had completed – indicating that the behavioural changes observed were likely to be sustained and even improved.

Evidence of improved social cohesion was also identified during the course of the trial. While many participants remained unsure of the benefit to the wider community, believing the trial seemed more of an individual challenge rather than a team one, many others felt that community spirit had been enhanced and that there was greater shared concern for the local environment.

The customer surveys were also a useful channel for evaluate the different communication methods and engagement activities undertaken as part of the PSC. Whilst overall feedback was positive, the surveys did highlight some areas for future improvement:

- Customer events generally achieved high awareness and were well received amongst those who attended. However, attendance was relatively poor due to inconvenient times, suggesting a wider range of times needs to be available to make such events more successful.
- The PSC website was an integral part of the communication strategy and many participants deemed it to be a useful tool. However, the customer surveys did

[2] A lower layer super outputs area is a geographical area coinciding with a postcode, with a mean population of 1,500, designed to aid reporting of small-area statistics in England and Wales.

identify that it was not accessible to all participants and that some of those who could access it tended to forget to look at it. Therefore consideration for other push communications such as email would be beneficial.

1.6 Summary of key technical findings

The primary technical objective of the PSC was to determine whether deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage. In order to determine whether this objective had been had been met, energy consumption (kWh) for the 10 teams was recorded for the entire duration of the three separate measurement periods (2013, 2014 and 2015).

The analysis of this technical data indicates that overall peak energy consumption fell 4.3% across all teams in year 2 (2014) compared to the baseline (2013) and that consumption fell a further 1.5% a year after the challenge had been completed (2015). At an aggregate level, this equated to a 5.8% reduction in peak energy consumption across the lifespan of the project demonstrating that behaviour change had been successfully embedded.

At an individual team level, peak energy consumption reduction over the lifespan of the project varied from no reduction to 14% resulting in seven out of the ten teams successfully reaching their energy reduction target and being awarded a prize.

In addition to analysis of peak energy consumption, 24 hour usage data was studied, where all factors other than the timeframe were kept constant. 24 hour energy consumption during the same winter period across the lifespan of the project fell 0.4% compared to the baseline. The implication of this finding is that on balance, whilst the absolute level of consumption had decreased, the PSC had been more influential in shifting load from peak to off-peak.

The CRC Energy Efficiency Scheme was utilised to measure the emissions from energy supplies and 3,301 kgCO2 was saved at an aggregate level during the PSC project.

1.7 PSC blueprint for similar projects

A blueprint has been created to facilitate replication of the project. This is set out in Section 9, and is a recommended variation of the method used in the ‘original’ PSC project, drawing on the key findings and lessons learned from the project.

This blueprint is intended to be a rapidly deployable, cost effective and acceptable method to customers which is capable of achieving significant and sustained behaviour change.

2 BACKGROUND AND OBJECTIVES

2.1 Project hypothesis

The hypothesis for the PSC project was:

“Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage.”

This hypothesis was tested through a comprehensive programme of customer engagement activities combined with electricity consumption data.

2.2 Project objectives

The overall aim of the project was to test the effectiveness of deploying proactive demand reduction to address network capacity issues whilst delivering additional social benefits. The detailed project objectives were to:

- Establish the most effective method of educating the local community on how to reduce peak and overall demand
- Enable residents to reduce demand through their use of give-away technologies
- Motivate residents to share knowledge with others and to achieve their energy saving goals
- Establish the most effective tools for enabling peak load reduction/behaviour change
- Reduce peak load consumption[3] by up to 10%
- Deliver social and/or environmental benefits
- Establish whether the PSC method leads to sustainable behaviour change
- Enable Electricity North West and other DNOs to deploy the PSC blueprint as a means of avoiding or delaying network reinforcement in the future.

2.3 Customer engagement objectives

Customer engagement is at the heart of the PSC project. The effectiveness of the devised customer engagement programme was identified as a critical factor in the project being able to successfully meet its objectives. The customer engagement objectives were as follows:

- The PSC should be accessible to all eligible customers who wish to participate
- The PSC should develop trust in the organisations operating it
- Engagement activities should maximise recruitment and retention of participants
- Engagement materials should effectively communicate the benefits of the project
- Engagement activities should lead to individual benefits being realised
- Engagement activities should lead to shared social and/or environmental benefits being realised.

The administration and management of all customer touch points included the following activities:

- Establish which customers needed to be engaged
- Plan customer selection and approach
- Develop and implement a customer engagement plan (CEP)
- Recruit customers into the project and associated customer contracts
- Keep customers engaged in the project
- Manage customers' issues, enquiries and complaints
- Manage customers who left the project
- Manage the exit methodology for customers at the end of the PSC.

2.4 Customer research objectives

The research objectives of the customer surveys and focus groups were to:

- Measure the success of the PSC awareness campaign
- Understand the key drivers and barriers for participating in the PSC
- Benchmark and monitor participants' receptiveness to changing their behaviour
- Benchmark and monitor participants' (claimed) energy usage behaviour
- Understand whether households notice a reduction in their bill
- Understand whether households notice a difference in community spirit
- Measure any effect that the project has on households outside the PSC catchment area.

[3] Peak load reduction defined as 1 November to 1 March 16:00-20:00 (Winter Peak)

3 CUSTOMER ENGAGEMENT METHODOLOGY

3.1 Electricity North West internal workstreams

Electricity North West assembled a project team that included two key workstreams; communications and technical.

The communications workstream was accountable for developing, managing and evaluating the customer engagement strategy. The technical workstream was accountable for site selection, data measurement and data analysis.

3.2 PSC project partners

Electricity North West selected four project partners who contributed knowledge and experience relating to fuel poverty, energy saving, the PSC trial area and customer engagement and research:

3.2.1.1 National Energy Action

NEA is a national charity working to promote and enhance energy efficiency in the home. The NEA aims to eradicate fuel poverty and it campaigns for greater investment in heating and insulation programmes to help low income and vulnerable households.

3.2.1.2 Stockport Metropolitan Borough Council Housing Strategies Team

Stockport Metropolitan Borough Council (SMBC) has a Housing Strategies Team which includes an Affordable Warmth Officer who is responsible for the development and delivery of energy saving schemes within private sector housing.

3.2.1.3 Stockport Homes

Stockport Homes provides technology (eg biomass heating and fitting solar panels) to the local council's housing stock, as well as advice on behaviour change and energy billing to support low carbon investment programmes such as the PSC.

3.2.1.4 Impact Research

Impact Research is an independent market research agency specialising in obtaining and analysing customer feedback.

3.3 Project setup and process mapping

The project partners met during the project mobilisation stage to scope the customer journey throughout the trial period. A process map was developed which detailed a planned sequence of events, who had responsibility for the completion of the events, and information relating to any known risks. Figure 3.1 below shows this information for the period leading up to the start of the trial. Figure 3.2 illustrates it for the trial period itself.

Figure 3.1: Process map events during the period leading up to the start of the trial

Timing	Event/process	Responsible	Risk evaluation
April 2014	Warm up postcard to all households	Comms	N/A
May 2014	Initial letter to all households	Comms	N/A

Timing	Event/process	Responsible	Risk evaluation
May 2014	PSC website and social media activation	Comms	N/A
May 2014	Community group forum event	Comms/SMBC	Insufficient attendance/ appropriate marketing
June 2014	Contact centre briefed in advance of calls	ENWL	Insufficient time for training/capacity
June 2014	Call to action letter sent to all households	Comms	N/A
June-October 2014	Exhibition trailer deployments	All	Non-availability of suitable locations/times Supporting materials not available
June 2014	Energy champions recruited	NEA	Lack of participation/ motivation/incentive
June 2014	Local community summer fair	Comms/NEA/ SMBC	Insufficient numbers of target audience at event
July-September 2014	Newsletters sent to all households	Comms	N/A
July-October 2014	Baseline customer survey	Impact Research	Lack of participation
July-October 2014	Home energy visits	NEA	Insufficient resources to complete all HEVs by 1st October 2015
August 2014	Community PSC event	Comms	N/A

Figure 3.2: Process map events to take effect during the PSC trial period

Timing	Event/process	Responsible	Risk evaluation
October 2014	Newsletter recipe book and details of energy usage monitoring	Comms/NEA	Non-availability of recipes/budget to purchase published item
October 2014	Inspirational event/ cookery demo	Comms/SMBC	Poor attendance
October 2014-March 2015	Weekly SMS update to PSC participants	Comms	Annoyance/complaints from recipients
November 2014	Newsletter update to PSC participants	Comms/NEA	Low levels of readership and/or engagement in content
November 2014	Energy Surgery Event for PSC participants	Comms/SMBC	Poor attendance
December 2014	Newsletter update to PSC participants	Comms/NEA	Low levels of readership and/or engagement in content

Timing	Event/process	Responsible	Risk evaluation
January 2015	Newsletter update to PSC participants	Comms/NEA	Low levels of readership and/or engagement in content
February 2015	Newsletter update to PSC participants	Comms/NEA	Low levels of readership and/or engagement in content
February 2015	Mid-trial customer survey	Impact Research	Lack of participation
March 2015	Newsletter update to PSC participants	Comms/NEA	Low levels of readership and/or engagement in content
March 2015	Final celebratory event	Comms/SMBC	Poor attendance

3.4 Pre-trial customer engagement

The challenge area consisted of approximately 1,000 households and in the early stages of the engagement communications were targeted at all of these in order to encourage as many as possible to take part.

As the project progressed, a more concentrated approach to customer engagement was adopted, with targeted messages communicated to challenge 'considerers' and early adopters to sustain momentum in recruitment activity.

The strategy employed to engage with prospective challenge participants, considerers and confirmed households before the registration deadline is set out below.

3.4.1 Communication channels utilised to raise awareness of the challenge

Multiple communication channels were utilised to raise awareness of the challenge and its benefits amongst the target population to maximise accessibility and participation. Details of how each channel was used are given in the following sections.

3.4.1.1 Direct mail

A direct mail postcard was initially distributed to all households in the challenge catchment area to generate curiosity and raise awareness of the trial.

A generic letter was subsequently posted to the same population explaining the benefits of the project, the various methods of registering to take part, and next steps.

Thereafter newsletters were sent at monthly intervals only to registered PSC participants. Each newsletter had a different theme, such as energy saving tips, with the objective of sustaining interest and engagement in the project by providing relevant content and advice. The newsletters also raised awareness of upcoming challenge events and alternative methods of accessing information about the project.

Additions were made to the original process map and planned activities listed in Section 3.3 during the course of the project, reflecting the project team's desire to be responsive to any learning generated when undertaking engagement activities. For example, an additional endorsement letter from SMBC and Stockport Homes was distributed to participants. This communication proved to be very successful in enhancing trust in the organisations operating the project.

Further additions to the literature sent directly to participants included 'join your neighbours' and 'urge your neighbours' mailings. The latter encouraged advocates of the challenge to assist in the recruitment process by signing up two neighbours in the same street.

Participants were incentivised to do so with entry into a free prize draw. A window sticker was also provided for participants to advertise their involvement and act as a catalyst to communication occurring naturally between neighbouring participants.

3.4.1.2 Home energy visit

The HEV was a crucial element of the customer engagement programme. The main objective of this compulsory visit by a fully assessed and trained member of NEA was to provide bespoke energy saving advice, education and technology based on the individual circumstances of the household.

Appointments were arranged in advance and lasted approximately 60 minutes.

In order for NEA to conduct an HEV, customers were required to consent to providing access to their homes and this was documented in a customer agreement form which confirmed that consent was given for:

- An NEA auditor to visit and access the customer's home to install energy saving devices and, where necessary, use ladders within the home to install such measures
- Customers to temporarily move any necessary furniture required for the NEA auditor to be able to install any specified energy saving devices
- Customers to be responsible and liable for any energy saving devices once installed.

During the HEV, data was collected about the household, its occupants, energy appliances, usage and attitudes. This is listed in Figure 3.3:

Figure 3.3: Data collected during the HEV

Data type	Specific questions asked	Reason for collecting data
Demographic	Gender and age	To profile participants and ensure a representative sample participates
Property	Time at address, year built, loft insulation, type of walls and type of electricity meter	To understand preventative measures already taken or that could be taken to enhance energy efficiency
Household	Occupancy, presence of children	To profile energy usage by life stage and identify trends
Energy	Heating sources, heating control, electrical appliances, frequency, timing and duration of use	To understand the greatest source of potential for reducing energy usage in the household
Attitudes	The environment and energy saving, how participants feel about energy and about their role in the PSC	To understand the perceived level of importance attached to energy saving and the PSC initiative
Measures provided	Record of devices and advice provided during the HEV	To enable the measurement of differences in behaviour change by the advice and technology provided

It was possible that Impact Research could have already conducted a baseline customer survey over the telephone with participants and collected much of the data included in Figure 3.3 prior to the HEV taking place. In such cases, and when the customer agreement form had already been physically signed during face-to-face community engagement, NEA project

officers were provided with an abridged questionnaire alongside the data previously collected in the survey. This reduced the length of the visit and enabled NEA project officers to be fully informed and prepare bespoke energy saving advice before attending.

3.4.1.3 Face-to-face events

The project team sought face-to-face contact with prospective participants and stakeholders at group events as it was felt that this provided an enhanced opportunity to engage them more deeply about the PSC's objectives and benefits.

The timing, location, target audience, objectives, content, guest speakers, catering, budget, risks and dependencies of each event required careful planning and mitigation.

One such meeting, which was key to the initial project mobilisation, was set up to engage with several local community groups: 1st Heaton Vale Sea Scouts, Sustainable Living in the Heatons, Heaton Norris Pavilion Community Centre, Heaton Mersey Community Association, Heaton Sports Club on Green Lane and Bzercus Community Circus. These groups were selected because they were relevant to the local community and had registered their interest in becoming involved via a postal application form.

The objectives of the meeting were to facilitate networking with the groups, to establish key contacts, and to drive buy-in to the PSC project. Engagement activities had the potential to lead to shared social and environmental benefits being realised should the community groups be able to assist with recruitment of their members into the challenge. In this case the groups could be rewarded at the end of the project with funding for their activities if participants chose to donate their reward to them.

Further face-to-face engagement was scheduled in conjunction with local community events such as the annual summer fair in Heaton Moor Park. As it was anticipated that the fair would attract a broader audience than just households strictly within the PSC catchment area, the main objectives for the event were to raise awareness of Electricity North West and the project itself as well as providing generic energy efficiency advice. It transpired that awareness of Electricity North West and its responsibilities amongst visitors to the fair was relatively poor; consequently attendance at the event was beneficial for this reason alone.

The project team attending the event displayed PSC maps, signup sheets, information leaflets and distributed free, branded gifts as part of the recruitment drive.

3.4.1.4 Exhibition trailer

An Electricity North West branded exhibition trailer was procured to generate awareness, interest and PSC signup within the target community on a street-by-street basis. The expected benefits of the trailer were its mobility and the opportunity it presented to support the direct mail campaign by offering an alternative and more direct method of engagement with customers.

A schedule was devised which deployed the trailer and at least two members of staff to pre-determined locations at set times to engage with the local community about the project. The choice of locations targeted areas where signup had been slowest. Trailer deployments were publicised by letters that were hand delivered to specific addresses notifying residents of the occasions when it would be in their area.

The trailer was stocked with explanatory booklets, PSC maps, DVDs, pens, shower timers (an incentive to sign up for an HEV), refreshments and a range of 'freebies' including Electricity North West-branded confectionary, pens, fridge magnets, thermometers, key rings and USB sticks (containing a project video).

A secondary social benefit of the exhibition trailer was that it had also been stocked with collateral on behalf of trusted and local third party organisations able to offer special assistance to customers finding themselves in vulnerable circumstances (eg debt advice).

It was anticipated that Electricity North West would utilise the exhibition trailer beyond the life of the PSC project, for instance, to serve as a mobile catering van to provide hot food and drinks during prolonged power cuts.

3.4.1.5 Website and social media

The PSC website was a key channel for disseminating information and updates about the project to interested parties. Its development required a significant investment; the costs and resources involved are listed in Appendix 9.1.

The website included the following information and functionality:

- Project registration
- Information about the objectives of the project and benefits of taking part
- PSC catchment area and maps
- Project news and future events
- Energy saving tips and advice
- A forum for participants to engage with each other and share ideas
- Information on the roles of the project partners
- Team statistics throughout the course of the challenge
- The process for claiming any reward due at the end of the challenge
- How to contact the project team.

Social media channels Twitter, Facebook and LinkedIn were used to update stakeholders on PSC outputs, events and project developments.

3.4.1.6 Energy champions

The appointment of ‘energy champions’ in the local community had proved to be a successful strategy in engendering local community support and sustaining project outcomes in similar customer engagement work that NEA had carried out.

Therefore it was anticipated that residents who demonstrated a genuine enthusiasm and shared the ethos and goals of the project during the face-to-face engagement activities outlined in 3.4.1.3 and 3.4.1.4 would be invited to become energy champions.

The intended role of an energy champion was to promote the PSC project and its key messages in a specific geographical area, share energy saving knowledge and encourage others in the community to sign up to the challenge to achieve individual and shared goals.

In practice, the project team were not able to agree on the scope of the energy champion’s role within the restricted timeframe available, the skills required, the incentivisation necessary or how to manage such volunteers. However, energy champions should be considered for future projects.

3.4.1.7 Customer contact centre

The Electricity North West customer contact centre (CCC) is staffed 24 hours a day, seven days a week and is a key channel for receiving and responding to customer enquiries.

The CCC was briefed in advance about all customer engagement taking place. Its staff could post out information booklets, make and change appointments for HEVs and log problems for further action or escalation to the project team (such as replacing a failed LED light bulb).

3.4.2 Key messages communicated

One of the customer engagement objectives (listed in Section 2.3) was that engagement materials should effectively communicate the benefits of the project. This was considered essential for motivating customers to sign up for the challenge and, consequently, realise both individual and shared benefits.

Previous Electricity North West initiatives such as the LCN funded second tier Capacity to Customers (C_2C) and Customer Load Active System Services (CLASS) projects had demonstrated the importance of emphasising the benefits of these innovation projects to households in simple and easily understood language, and this learning was taken into account for the PSC.

Important messages that were communicated included the rewards available for achieving the project objectives, the distinction between reducing energy usage overall and simply changing usage patterns, advice on how to achieve and sustain significant energy usage reduction and the technology available to support this change.

3.4.2.1 The benefits of taking part

It was anticipated that the most attractive tangible, individual benefit to households of taking part in the PSC would be a reduction in energy bills as a direct consequence of reducing energy consumption. For households to realise this benefit, both educational and technological assistance was provided free of charge by the PSC team.

Various items were offered to customers on signing up to the challenge including pens thermometers and electricity monitors.

Energy saving equipment such as LED light bulbs, shower timers, appliance timers and other related items (see Section 3.4.2.4) were distributed during the HEVs, alongside bespoke energy saving advice.

The PSC was positioned as a team challenge. All teams were set the same overall energy reduction target and were encouraged to work together to achieve the goal. Participating households in successful teams were offered a free, energy efficient appliance as a reward or the opportunity to donate an equivalent monetary value into a local community initiative.

Rewards were only dependent on the team attaining their collective target, and did not require them to outperform other teams. If a team did not meet its usage reduction target, none of the households in that team received a reward.

The catchment area was divided into 10 teams, all of whom were named after individuals who made notable contributions to electrical engineering:

- Armstrong (William)
- Bardeen (John)
- Bennett (Abraham)
- Brush (Charles F)
- Conway (Lynn)
- Crompton (Rookes Evelyn Bell)
- Edison (Thomas)
- Farmer (Moses G)
- Gordon (James Edward Henry)
- Kilby (Jack).

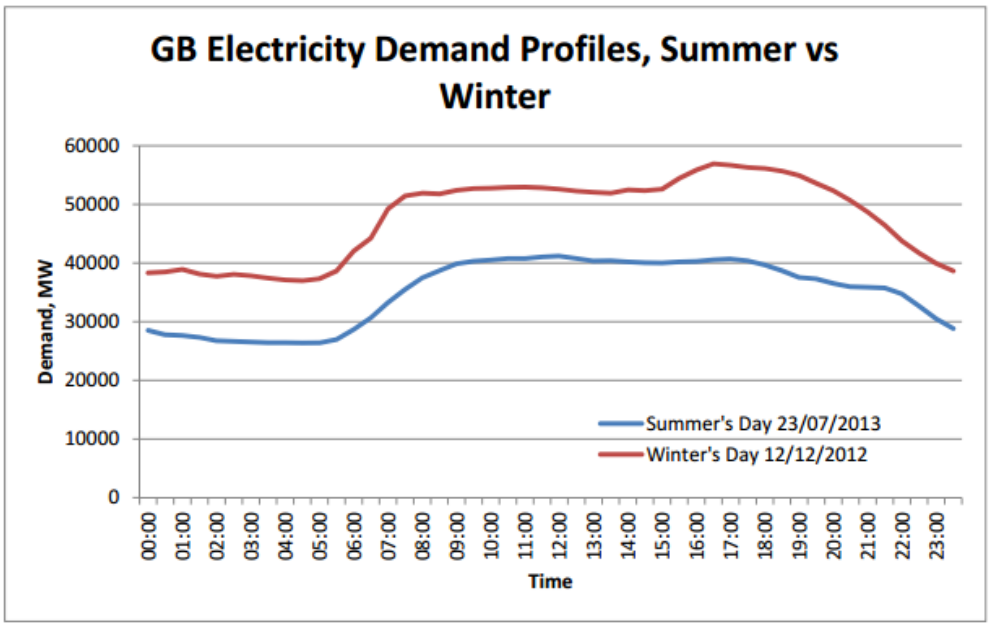
Project messaging emphasised the shared benefits for the customer's local community. This included, but was not limited to, enhancing community spirit, pride and ownership, and the

environmental satisfaction derived from deferring the need to implement traditional reinforcement techniques to expand network capacity.

3.4.2.2 Reducing load versus shifting load patterns

Typically, electricity demand is higher in the winter than in the summer. Peak demands in the summer are also usually lower than peak demands in the winter and low demands in the summer are lower than low demands in the winter. Demand for electricity also tends to fluctuate over the course of the day, determined by human activity. These trends are all illustrated in Figure 3.4 which shows demand profiles on a winter's day and a summer's day. The profiles both show a similar trend, but with the winter's day showing a higher demand throughout.

Figure 3.4: Seasonal variations in electricity demand[4]



As previously stated, the main objective of the PSC was for it to facilitate a significant reduction in energy usage amongst trial participants. In particular, households who signed up were required to actively seek ways to change their energy behaviour to reduce the amount of electricity they used during peak hours (defined as 16:00-20:00). The requirement to reduce peak load was clarified in project communication materials and at events held with participants during the course of the challenge.

A change in behaviour that consisted of households using the same amount of energy but in an adjusted usage pattern where load is shifted outside peak hours could satisfy the PSC reward eligibility criteria. However, this was neither explicitly communicated, nor encouraged because it didn't support the overall sustainability ethos of the project and would also not assist households in reducing their energy bills.

Electricity consumption was monitored at all times of the day despite only peak load usage being reported to participants. This practise enabled the project team to analyse changes in load patterns in addition to any absolute shifts in peak load usage.

4 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/295225/Seasonal_variations_in_electricity_demand.pdf

3.4.2.3 Rewards

Members of teams which met their energy saving target by the end of the challenge qualified for a free electrical appliance as a reward. All appliances offered had a minimum of either A or A+ energy saving credentials. The appliances available consisted of:

- Fridge freezer
- Full size, compact or slimline dishwasher
- Microwave oven
- Washing machine
- Electric solid plate cooker.

As an alternative to receiving an appliance the successful participants had the option of a donation being made to one of the local community project partners.

In the spirit of the project's aim of generating shared benefits in the local region, the project team attempted to procure the services of locally-based organisations to supply these rewards to eligible participants. Unfortunately changes in its procurement tendering process prevented this and a well-known, trusted retailer was appointed instead.

Eligible participants were sent a voucher for the appropriate monetary value by Redwall Creative Limited, based on the preference they had expressed for a specific appliance. Preferences were collected either through direct phone calls, a bespoke form on the PSC website or face-to-face at the end-of-challenge party. A scrappage scheme was offered to encourage households to replace older, less efficient appliances with the reward and to discourage profiteering.

In practice, the process for administering and redeeming the vouchers was unsatisfactory due to a restrictive administrative process in the retailer's stores and inconsistent customer service. This process lead to several complaints, and Electricity North West had to intervene on multiple occasions to reach a satisfactory resolution. Furthermore it came to light that the retailer had allowed some participants to redeem the monetary value of their voucher against a reward not on the approved list of appliances (eg a laptop) which went against the spirit of rewarding participants with energy saving appliances.

3.4.2.4 Technology to support behaviour change

NEA recommended that a range of technology items be made available to PSC participants based on its experience of engaging with local communities concerning energy usage.

The items selected were considered to be cost effective and the most likely to assist households in changing their behaviour. Figure 3.5 lists these items and the quantities made available and subsequently utilised by the project team.

Figure 3.5: Technology provision for PSC participants

Item	Quantity made available	Quantity utilised
Plug-in timers (13A rating with overload protection)	1,000	500
LED light bulbs	3,000	1,200
Shower timers ('Pebble' Effergy or similar)	1,000	500
In-home energy displays/monitors	200	250
Electrical appliance give-aways	1,000	130

The total volume of stock ordered was sufficient for all households within the catchment area to be allocated one plug-in timer, one shower timer and three LED light bulbs. The in-home energy displays were significantly more expensive than the other items and were therefore only provided to households which the HEV auditors considered had either the greatest potential for significantly reducing their energy usage or were in fuel poverty.

Half of the stock was ordered up front which represented a sufficient quantity to obtain a significant volume discount. Stock was held in a secure Electricity North West-managed depot close to the PSC catchment area and was administered by NEA.

Auditors were also able to apply discretion in providing additional units to specific participants where units were available and it was deemed beneficial to do so.

Availability of additional units was created by other households within the catchment area declining the opportunity to take part.

3.5 Consumption data

3.5.1.1 Measurement

Electricity consumption measurement was facilitated by the installation of Kelvatek Bidoyng units by Electricity North West at the feeder of the local substation in the PSC catchment area.

Kelvatek created an installation report detailing unique reference numbers for the Bidoyngs, the date they were commissioned and the precise electrical phase and way in which the technology could be located on trial circuits.

Bidoyngs were set up to provide data at an aggregated circuit level and measured consumption for all households on the circuit, not just households participating in the trial. There were approximately 200 houses on each circuit, although this varied between circuits.

The Bidoyngs measured data every half an hour, allowing average demand readings to be calculated for 30 minute periods throughout a total weekly peak-hours monitoring period of 84 hours.

An automated report was produced showing the total kWh consumption for each aggregated total weekly monitoring period for each electrical phase and way. The report included the total number of hours measured.

Mitigation was put in place to minimise loss of data which consisted of daily automated and weekly manual data quality checks. In addition, each Bidoyng had two fuses; if one fuse ceased to work the other was programmed to take effect which safeguarded against loss of measurement data.

Of the consumption data collected the critical values were those for the peak period; if this were to drop significantly then traditional reinforcement of the network could conceivably be deferred.

3.5.1.2 Fairness

All industrial and commercial customers located on trial circuits were removed from the data measured due to the project being targeted at domestic households.

Each circuit within the PSC catchment area was audited at the start of the project to establish the number of individual connections to Electricity North West's network. Thereafter new connections to the relevant circuits were monitored throughout the project to ensure that no significant changes occurred that could genuinely influence the data collected.

The project team were able to evaluate if PSC participants were being influenced by other third parties e.g. government incentives for home insulation, through collaboration with its partner Stockport MBC and also direct engagement with customers. The evaluation conducted concluded beyond reasonable doubt that any known schemes had not influenced the perceptions or behaviours of participants during the trial period.

A control circuit outside the catchment area with a comparable customer profile was used as a benchmark for behaviour change on trial circuits. Consumption data collected from the control circuit was utilised to calculate a coefficient that calibrated the data to ensure measurements from one time period could be compared like for like with the corresponding time period the year before. This allowed for an adjustment to be made for milder weather.

Electricity North West reviewed electricity loads at the start of the project and determined where a suitable reward level would be. This involved establishing how much load needed to be reduced to sustain and prolong the life of the transformers without the need for capital investment in the short term.

The number of customers on the various trial circuits and therefore in different teams varied. Therefore the target energy consumption reduction per team (in kWh) was set at a proportional level.

3.6 Customer engagement targeted at participants

After a concerted campaign to raise awareness of the PSC and communicate its importance and the benefits of taking part, a programme of customer engagement was devised to manage participants recruited into the project.

3.6.1.1 Signup and HEV appointment booking processes

A range of signup methods was established in order to ensure that the challenge was accessible to the diverse population of households within the catchment area. These were:

- Return of a slip provided through direct mail to a freepost address
- Telephoning the ENWL customer contact centre
- Face-to-face signup at an organised event or door-to-door activity
- Registration via the PSC website
- Texting a PSC short code number.

Offering multiple channels for signing up to the challenge required organised data handling. To achieve this, the Electricity North West CCC was given responsibility for inputting all participants' details to a database. The database was accessible 24 hours a day to relevant individuals working for the project partners engaged in the recruitment of customers.

The CCC utilised Electricity North West's existing customer relationship management system to book and confirm HEV appointments, and to log other project-related customer interactions. Enquiries, complaints and appointments were handled using business as usual standard procedures, such as assigning customers a unique identification number.

The following industry standard, as specified in 'Regulation 17 – Appointments' of Electricity North West's Guaranteed Standards of Performance, were applied to HEVs:

Should we need to visit you, or should you request a visit from us for any reason, you will be offered an appointment during the morning or afternoon or within a two-hour time band. If we fail to make or keep an appointment we will arrange for you to receive a £30 payment.

No personal or sensitive customer data was held in the appointment system; it was merely used as a tool for all parties to use for booking appointment slots for HEVs. Participants were reassured that under no circumstances would any personal or sensitive personal data be provided to any third parties for marketing or sales purposes nor would Electricity North West

use the project or any information collected in connection with it to market any products or services to them.

Customers taking part in the challenge signed an agreement as part of the signup process to confirm that they were satisfied for Electricity North West and its project partners to collect, hold and share data about their household, such as demographic information and electricity usage, with each other for administration and analysis purposes. The data was stored on a central secure server and only used for the purposes of evaluating the trial and communicating with participants during the course of the challenge.

NEA had a lead role in conducting HEV appointments and would therefore routinely log into a shared Google document which served as a booking system to indicate its staff's availability to attend HEVs. Sufficient time was left between appointments to allow staff to travel to and from customer's homes and attend punctually.

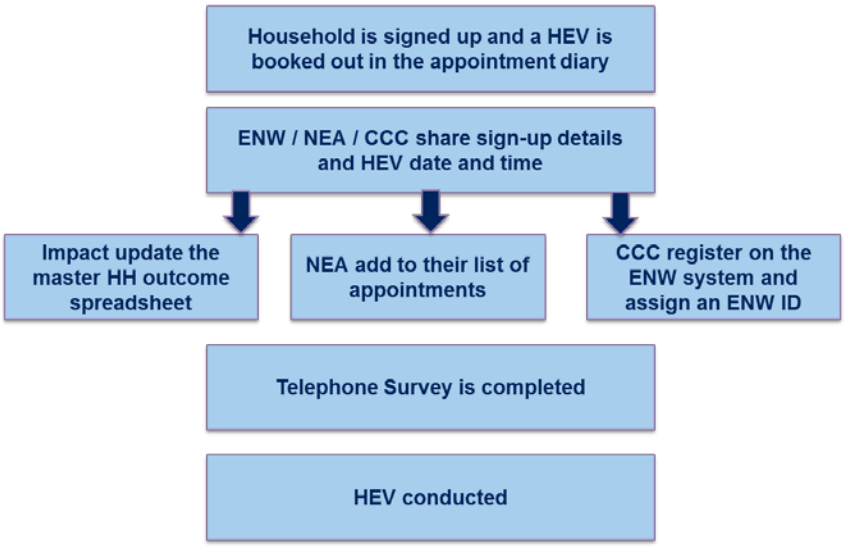
Once an HEV appointment had been made, a letter was sent to the customer confirming the appointment date and time, detailing any preparations necessary (such as having recent electricity bills to hand) and naming the person who would be conducting the audit as well as explaining how to verify their identity on the day. Subsequently the NEA auditor would contact the customer in question to re-confirm the HEV appointment and answer any questions.

At the end of each day during the allocated recruitment window, all new signups, along with their unique IDs and HEV appointment dates and times, were exported into an encrypted, password protected spreadsheet which was sent to NEA.

Households were informed at the registration stage that Impact Research would be permitted access to their personal data (contact information) and would telephone them during the course of the challenge to ask questions about their electrical appliances and typical energy usage. Where possible, the first, baseline telephone survey was conducted before the customer's HEV appointment so that data from it could be used by NEA representatives to prepare bespoke energy saving advice for imparting during the visit.

Figure 3.6 summarises the booking process adopted by the project team.

Figure 3.6: Overview of the household booking process



The Google document booking system was also used to reserve the exhibition trailer (see Section 3.4.1.4) for events.

3.6.1.2 Managing resources effectively

It was important that the HEV appointment system and data management protocols were fit for purpose and permitted an efficient customer signup process. With a target population of 1,000 customers and multiple registration methods being administered by different project partners, a finite number of possible HEV appointments needed to be managed carefully.

Call operatives within the CCC were therefore provided with this process to follow as requests were received from customers wishing to take part in the challenge:

1 Verify whether the customer's postcode is within the PSC catchment area
2 Allocate the customer's address to a PSC team
3 Provide an overview of the project, what's involved and gain consent for data sharing
4 Schedule an HEV in approximately 10 to 14 days' time
5 Confirm the HEV appointment in writing
6 Inform households that a NEA representative would contact them to confirm the HEV
7 Update the booking database and manually send an email alert to NEA.

NEA monitored the booking document keeping available appointment slots up to date based on the location and movement of its five field staff. A lead time of 10-14 days for HEVs also provided a sufficient window for Impact Research to attempt to conduct its first customer survey before the visit. However, priority was given to identifying a convenient time for customers to receive an HEV and this sometimes meant that appointments fell short of the 10-14 days and the telephone surveys only took place after to the visit.

3.6.1.3 Baseline customer survey (pre-launch)

An ongoing programme of quantitative customer surveys was used to test the hypothesis that the PSC method achieves both significant and sustained changes in energy usage. Quantitative research is a logical and data-led approach which provides a measure of customers' perceptions from a statistically robust perspective.

These customer surveys monitored participants' perceptions, attitudes and claimed behaviour during the course of the challenge.

The first customer survey was designed to:

- Measure the success of the PSC project awareness campaign
- Understand the key drivers and barriers for participating in the PSC
- Baseline participants' (claimed) energy usage
- Baseline participants' receptiveness to changing their energy usage behaviour.

Energy usage behaviours and customer attitudes measured in subsequent surveys were compared with these baselines to identify potential changes.

During May to November 2014, 268 participants completed an HEV, of whom 249 (93%) participated in the 'baseline' survey prior to the challenge commencing. The completion of an HEV was interpreted as a firm commitment from customers to participate in the challenge and therefore represented the sample frame population for on-going customer research. The baseline survey was intended, as far as possible, to be a census of customers completing an HEV.

Participation in the baseline and any subsequent surveys was strongly encouraged, but it was not mandatory and was not specifically incentivised with additional rewards.

The development of the survey instrument was guided by Impact Research's experience in conducting very similar engagement exercises and was done in accordance with the Code of Conduct of the Market Research Society.

Surveys were all completed by telephone.

The 20 minute survey included questions pertaining to; household demographics and composition; appliance ownership and energy consumption; attitudes towards energy and environmental issues; receptiveness to changing existing energy usage behaviour; current energy bill levels; and awareness and/or membership of local community groups.

3.6.1.4 Challenge launch party

An official launch event was held to celebrate the start of the challenge two weeks after the challenge began and measurement commenced. This took place at the Heaton's Sports Club in Stockport on the evening of 14 November 2014.

A launch party leaflet was distributed to all households in the PSC catchment area which positioned the event as being open to all residents and offering an opportunity to have any unanswered questions addressed during a sociable occasion when they could also meet local team members.

The leaflet encouraged participants and other local residents to attend and find out:

- Who was in each team
- Their energy saving target
- How they could achieve the target
- The rewards available for achieving the target.

The event was also promoted as a final opportunity for those who hadn't signed up to do so and attendance was encouraged with free refreshments and a prize draw to win a slow cooker.

Impact Research further promoted the event by telephoning customers who had already signed up to take part in the challenge and encouraging them to attend.

Customers were asked to register their intention to attend in order to assist Electricity North West administratively (eg catering requirements).

3.6.1.5 Monitoring surveys conducted (post-launch)

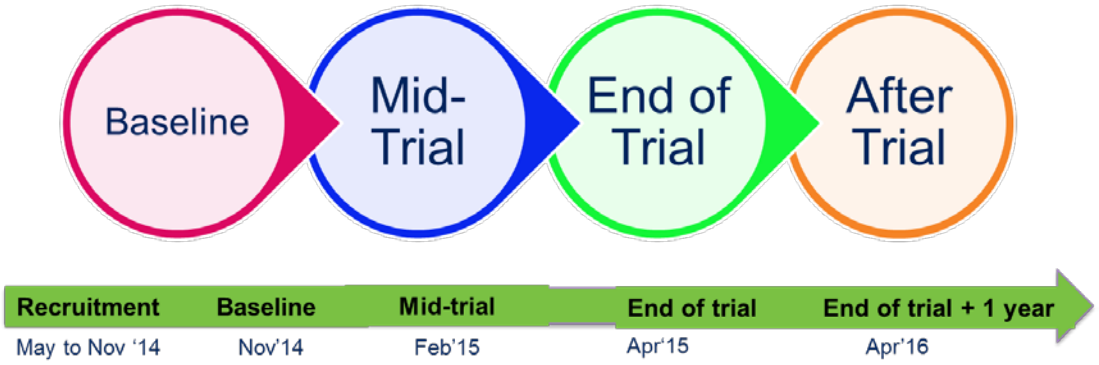
The baseline customer survey described in Section 3.6.3 provided a reference point for customer perceptions, attitudes and claimed behaviour prior to the challenge commencing.

A suite of quantitative monitoring surveys were subsequently utilised to:

- Monitor participants' (claimed) energy usage behaviour
- Monitor participants' receptiveness to changing their behaviour
- Understand whether households noticed a reduction in their bill
- Understand whether households noticed a difference in community spirit.

The monitoring surveys were strategically scheduled at three points to obtain repeat measurements from customers at the mid-point of the trial, shortly after the end of the challenge period and a year later, after the third winter monitoring period, as shown in Figure 3.7.

Figure 3.7: Sequence and timing of monitoring surveys



This sustained pattern of engagement was designed to allow the determination of the likely *causes* of any changes observed in customers' perceptions, attitudes and energy usage behaviour.

Surveys were completed by telephone and were targeted at all participants who had completed the initial baseline survey. The average survey length was approximately 15 minutes and participation was not subject to any additional incentivisation.

Further research was also conducted at the mid-trial stage amongst:

- Customers living within the PSC catchment area but not participating in it
- Customers living in close proximity to the PSC catchment area.

Customers living within close proximity to the PSC catchment area were identified as belonging to one of three zones of equal population size in the Norris and Heaton Moor area: Green Lane, Haleseden Road and Hesketh Street. These zones were all within a one mile radius of the PSC catchment area.

Surveys were designed to understand awareness levels of the challenge, drivers and barriers to taking part and to measure any potential halo effect that the project achieved amongst non-triallists.

The number of responses gathered for each survey (as shown in Figure 3.8) allowed for detailed analysis to be undertaken within an acceptable statistical margin of error. Quotas were also set within each survey to ensure that the demographic profile of customers interviewed was representative of the profile of customers within the Stockport area.

Figure 3.8: Volume of completed surveys

Customer survey	Number of completed surveys
Baseline	249
Mid-trial monitoring survey (participants)	194
Mid-trial ad hoc survey (non-participants living in the PSC area)	74
Mid-trial ad hoc survey (non-participants living outside the PSC area)	75
End-of-trial customer survey	150
After-trial (long term) customer survey	104

3.7 Unscheduled engagement activities

3.7.1.1 Monitoring the PSC participant experience: first focus group meeting

A focus group of early PSC adopters was convened on 20 August 2014 in a convenient location within the PSC catchment area.

A focus group is a form of qualitative research which is primarily exploratory by nature and is carried out to understand underlying reasons, opinions and motivations. It provides insights into a problem or helps to develop ideas or hypotheses for quantitative research.

Although the focus group had not been part of the initial customer engagement plan, the project team considered that it would provide a useful mechanism for understanding participants' preferred methods for being kept informed about the progress of the PSC and to optimise communication materials in order to sustain levels of engagement during the challenge.

Ten participants were recruited from a list of customers who had been quick to opt in to the challenge, to ensure that a minimum of eight actually took part. This allowed for any natural attrition on the evening owing to unforeseen circumstances amongst confirmed attendees, and is a standard industry recruitment approach for focus groups.

Participants were provided with free parking, refreshments and a £30 charity donation per person in return for taking part in a 90 minute roundtable discussion.

The project team was aware that such early adopters of the challenge may not be truly representative of the views of the wider pool of potential participants. However, it was anticipated that valuable learning could be obtained from this group and it was also hoped that they would thereafter be further galvanised to recruit other customers into the project.

A professional moderator from Impact Research asked the focus group semi-structured questions linked to a predefined list of discussion topics. This format provided the flexibility to question participants further on issues arising through open discussion and also enabled a natural progression in understanding underlying reasons, opinions, and motivations.

A discussion guide was developed to ask the focus group three key questions;

1 What information should be shared with participants about the challenge?
2 How frequently should information be provided?
3 What communication channel(s) should be used to provide the information?

A range of stimuli were shared with participants, depicting energy usage and team performance relative to targets set.

Representatives of Electricity North West, Impact Research and SMBC attended the focus group and discussed the project with participants during and immediately after the event and answered any questions raised during the meeting.

3.7.1.2 Monitoring the PSC participant experience: second focus group meeting

A second qualitative focus group of PSC participants was convened on 18 November 2014.

The recruitment criteria for this event was broadened to include a random selection of customers who had been recruited during May to November 2014, drawn from all ten teams.

20 participants were recruited to attend the event and 15 were present during the evening meeting with all 10 teams represented.

Participants were provided with free parking, refreshments and a £30 charity donation per person in return for taking part in a 90 minute roundtable discussion.

Feedback from the focus group was used to:

1 Evaluate customers' overall experience of taking part in the PSC to date
2 Confirm the most effective communication strategy for use during the trial
3 Explore the best ways to keep people engaged in the challenge.

A relatively informal environment was created to facilitate the event whereby participants were able to attend with other friends and family members. This led to several participants choosing to stay longer than the allotted time in order to socialise with fellow team members and discuss the PSC project with representatives of Electricity North West, Impact Research and SMBC.

3.7.1.3 Intervention activities (targeted energy surgeries)

During customer engagement activities conducted during the pre-trial and trial periods, it became apparent that some participants were feeling a sense of inertia towards the challenge. This was often caused by not knowing how to reduce their energy usage any further than they already had.

To sustain their interest, a letter was therefore sent to the various teams inviting them to attend an energy surgery whereby knowledge and advice could be provided by the challenge organisers and also fellow team members.

The letter encouraged participants to attend the energy surgery in order to "win an energy-efficient appliance, receive free, long-lasting LED lightbulbs and save money on electricity bills". It also emphasised the total number of neighbours already taking part, so as to highlight the role of collective community action.

Convenient locations such as local churches and community centres were chosen to improve attendance at team-specific surgeries. The events were further publicised through telephone calls and door-to-door visits.

In addition to the energy surgeries, fun, themed events such as bingo and cooking inspiration were organised to enhance the enjoyment and community cohesion of the PSC.

3.8 Managing customers' issues, enquiries and complaints

The CCC and wider business were educated about the PSC project and a process was implemented to capture and record all queries or concerns raised by customers relating to it. This business as usual process adopted by Electricity North West for handling customer contact ensured that the relatively small number of enquiries or complaints received were handled promptly and appropriately, and resolved in all cases to the satisfaction of the customer.

The large majority of customer enquiries were resolved during the initial contact. Those which were not resolved at the first point of contact were managed centrally by the PSC project team.

In total 15 complaints were escalated to the project team including issues relating to HEV appointment times, the parked position of the exhibition trailer in local communities; ineffective technology including, but not limited to, LED light bulbs (the full list of technologies is given in Section 3.4.2.4*)* and, in particular, the prize selection and claim process.

3.8.1.1 Managing the exit methodology for customers at the end of the challenge

At the end of the project a newsletter was produced and distributed to PSC participants that included an infographic illustrating the key findings and successful outcomes of the project.

After the PSC intervention period ended in March 2015, Electricity North West handed over responsibility for customer liaison regarding the PSC and more general energy saving matters to SMBC, whose profile as a trusted organisation ,meant that they could offer participants advice and support, or refer them to other organisations where appropriate.

PSC participants reported that they had enjoyed the social and networking aspect of the project and intended to continue communicating with their neighbours and team members beyond the life of the project.

4 ANALYSES AND RESULTS

4.1 Baseline customer survey findings

4.1.1.1 The role of Electricity North West and the PSC in the local community

All communication materials about the project that were utilised to engage with customers incorporated the PSC name and logo in a prominent position. Electricity North West branding was also displayed on this literature but in a subordinate position. This was a deliberate strategy, and created an easily transferable and rapidly deployable project identity that was not inextricably linked to the DNO.

Prior to being recruited to take part in the challenge, 40% of all baseline survey respondents were aware of Electricity North West and its responsibility for ensuring that households and businesses in the North West have a safe and constant supply of electricity.

Analysis of customer feedback (see Figure 4.1) found that there were no statistically significant differences in the level of commitment to reducing energy usage between those aware or not aware of Electricity North West in the run up to the challenge, during it or after it. This demonstrates that prior awareness of Electricity North West did not influence the level of positivity towards the challenge.

The strongest level of commitment to reducing energy usage observed amongst all participants was after the challenge had commenced. Encouragingly, this level of intention was maintained for the period beyond the trial.

Figure 4.1: Commitment towards reducing energy usage

Baseline survey	Previously aware of Electricity North West	Not previously aware of Electricity North West
I will reduce my energy usage in the run up to the challenge starting in November 2014	63%	61%
I will reduce my energy usage throughout the challenge (November 2014 to March 2015)	79%	81%
I will reduce my energy usage beyond the end of the challenge (March 2015 onwards)	79%	79%

A third of participants were not aware of any of the five local community groups associated with the PSC. However, these participants, who became aware of the community groups through the project, were significantly more likely than those already aware of at least one of

the groups to agree that the PSC was positively influencing behaviour in their community. This finding represented early support for the partnership created with local community groups for realising shared benefits.

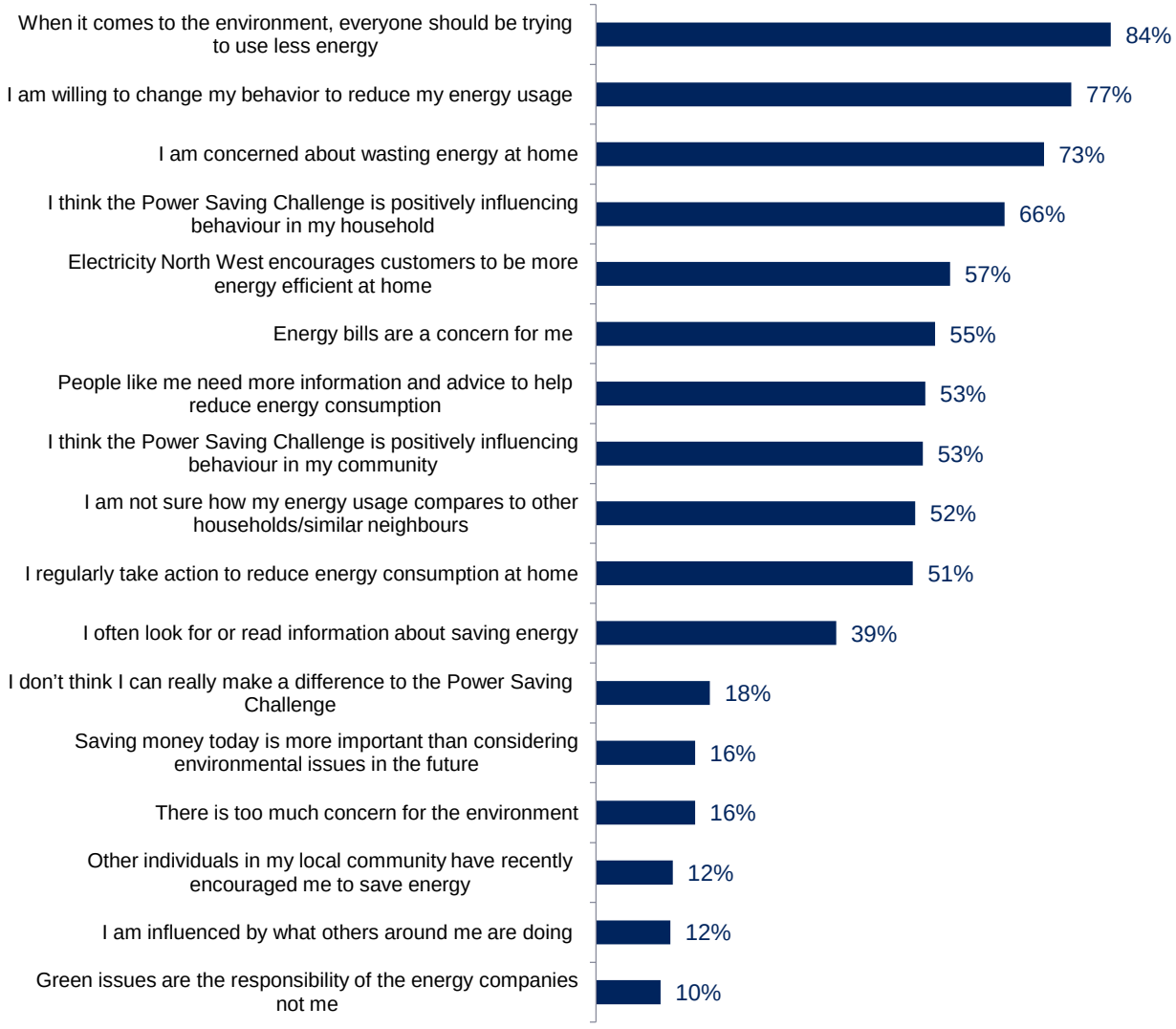
4.1.1.2 Attitudes towards the PSC

The baseline survey identified that there was significant goodwill towards the ethos of the challenge with 84% agreeing that “everyone should be trying to use less energy”.

The survey also uncovered an opportunity for Electricity North West to increase the proportion of its customers who felt that the company encourages them to be more energy efficient at home. At the baseline survey stage, 57% agreed with this sentiment. The project team hoped to achieve this by more actively educating participants so that they feel empowered to take proactive steps to reduce their peak consumption.

51% of those responding to the baseline survey felt that they were already taking regular action at the time of the baseline survey to reduce energy consumption at home (see Figure 4.2). This was an important key performance indicator and served as a baseline as the challenge progressed. Encouragingly, the proportion of participants taking action to reduce their consumption was significantly higher (81%) once they had completed an HEV; a testament to the impact that targeted advice combined with the provision of energy saving technologies can have on energy saving behaviour, at least in the short term.

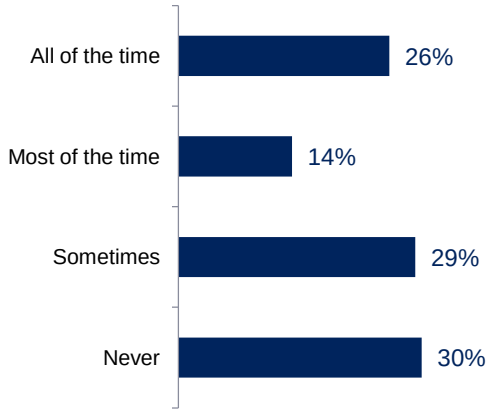
Figure 4.2: Attitudes towards energy usage and the PSC (% based on aggregated ratings of 8-10 on a 1-10 agreement scale)



4.1.1.3 Potential for behaviour change in energy usage

Analysis of customers' claimed usage patterns revealed that a relatively high proportion of participants leave their electrical appliances on standby for long periods of time (see Figure 4.3). This learning provided an opportunity to provide specific energy saving advice to participating households in order to build momentum in reducing consumption during the challenge.

Figure 4.3: Frequency of leaving electrical appliances in standby mode



Detailed analysis of peak demand appliance usage (16:00-20:00 inclusive) indicated that considerable potential existed to reduce the usage of washing machines and tumble driers during this timeframe and to increase the usage of slow cookers as an energy efficient cooking method.

4.1.1.4 Barriers to reducing household energy usage

A third of participants felt that they had already reduced their energy usage as much as they possibly could before the trial had commenced. Although this could be accurate, it is also possible that some or all of them would, in fact, be able to reduce their usage further but were simply not aware that there were ways in which thus could be done. In addition, over half of participants said that they did not know how to reduce their usage any further. Taking both of these findings together; more information and advice was clearly needed to support sustained behaviour change amongst the engaged challenge population.

4.2 Monitoring the PSC participant experience

4.2.1.1 First focus group meeting

The first focus group, comprising early PSC adopters, perceived participation as a win-win scenario, as it was associated with the likelihood of saving money on energy bills through reductions in consumption whilst simultaneously assisting Electricity North West in deferring the need for traditional network reinforcement by reducing peak electricity demand. By virtue of being early adopters the focus group had been quick to grasp the potential for shared benefits and recommended emphasising possible bill savings in future communications with other potential or ongoing PSC participants.

Feedback from the group was valuable in determining perceived ambiguity over whether the objective of the challenge was to reduce overall energy consumption and/or to shift usage patterns so as to reduce peak demand within the 16:00-20:00 time bracket. In reality the project was set up to measure any change in behaviour, be it the former or the latter scenario and the decision was taken to make it clearer in future communication that participants should reduce *peak* usage to fulfil the project commitment to avoid or defer network reinforcement and attempt to reduce *overall* usage to benefit from reduced energy bills in the short term.

The group were keen for there to be more face-to-face communication in order to:

- Meet other participants (both within and across teams)
- Receive updates on team performance during the challenge period
- Exchange tips on how to reduce consumption further
- Learn from other teams' successes.

The early adopters also requested an online forum be implemented on the PSC website so that participants could communicate with other members of their team and the project organisers.

The consensus within the group regarding the optimal channel for communicating team performance was that monthly newsletter updates would be sufficient during the challenge. However, there was some enthusiasm for more frequent (weekly) website updates to increase the availability of relevant information.

The format adopted for updating participants during the challenge was informed by this focus group and ratified by the project steering group in October 2014.

A dedicated team stats portal was also set up in response to focus group feedback. The portal enabled participants to:

- View performance data for all teams
- Understand which teams, if any, were on track to qualify for a reward
- Access more granular data for all teams.

It was agreed that the data would be made available to participants on the portal every Tuesday during the 23-week challenge period.

The decision was taken to share electricity consumption data with participants that reflected the total KWh used between 16:00-20:00 by each team. This measurement was an average reading taken weekly amongst all households that had completed an HEV.

The focus group approved three formats for disseminating energy usage data:

1. A house infographic demonstrating electricity consumption (by team) for a week comparing the current year to the previous one, along with the target needed to qualify for a reward
2. A cumulative line graph demonstrating electricity consumption (by team) for each week comparing the current year to the previous one, along with the target needed to qualify for a reward
3. A table of statistics indicating the week number, KWh used (2014 to 2015), the target KWh, the difference in KWh versus the target and a smiley or unhappy face symbol as a quick means of determining if the target for a specific week had been met.

The three formats are illustrated in Figure 4.4, Figure 4.5 and Figure 4.6 below.

Figure 4.4: Electricity consumption house infographic

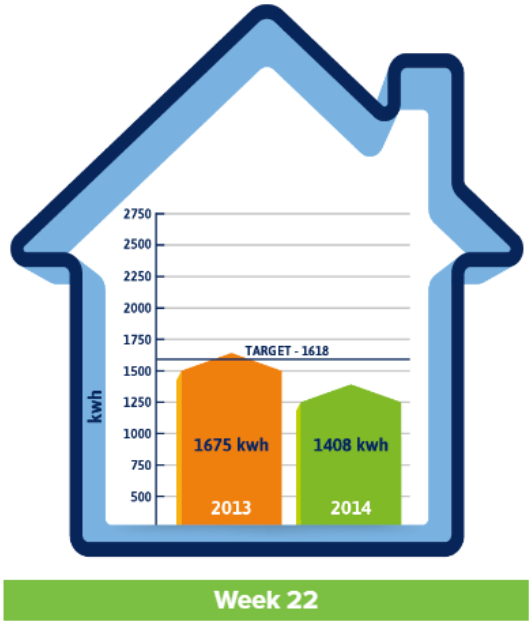


Figure 4.5: Electricity consumption cumulative line graph

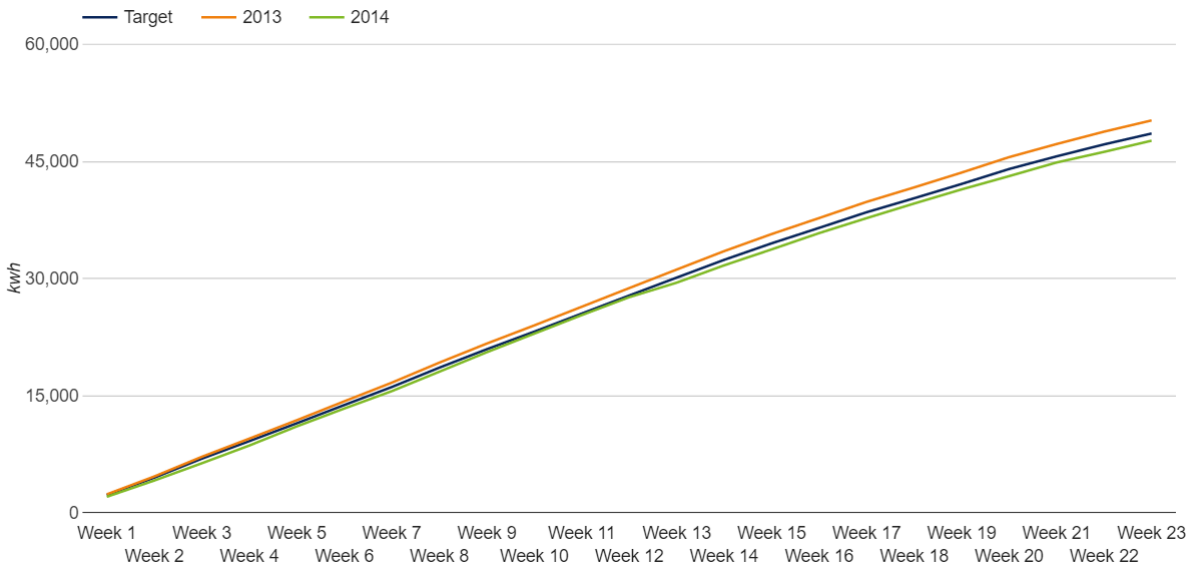


Figure 4.6: Electricity consumption table of statistics

Week	Kwh used (2014-15)	Target	Difference from target
20	2,300	2,447	-147 ☺
21	2,153	2,118	35 ☹
22	1,775	1,983	-208 ☺
23	1,871	1,864	7 ☹

Data collection commenced on 1 November 2014. Reporting weeks ran from Monday to Sunday inclusive and data for the previous week was automatically extracted from Kelvatek Bidoyng network monitoring devices every Monday.

Performance data was also summarised in alternative formats, such as the monthly printed newsletters, and posters displayed on noticeboards within local community centres. This ensured that all participants were able to access the data.

4.2.1.2 Second focus group meeting

The second focus group meeting collected timely feedback from a representative group of PSC participants shortly after the challenge had commenced.

The group confirmed that the primary driver of participating in the challenge was curiosity about how much money could be saved on energy bills. Interestingly, there was little prompted recall of the reward available to individuals in winning teams; appetite was mainly targeted at saving money.

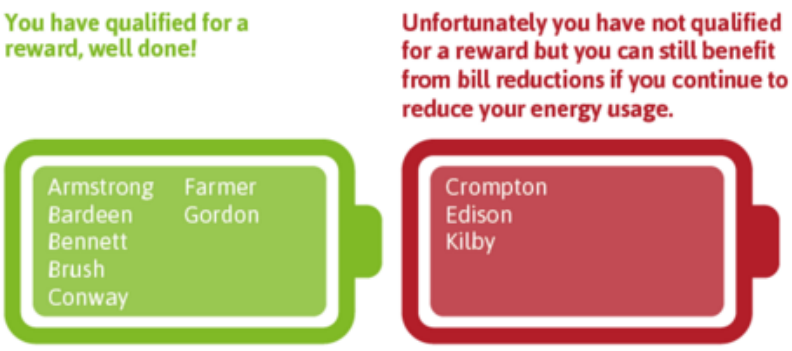
An intensive recruitment period for the PSC had preceded this focus group meeting, and group members perceived that this had used a 'scattergun approach' resulting in some duplication. Participants reported having received a mixture of mailshots (from Electricity North West); telephone calls (from Impact Research); a nomination to take part from a neighbour; a knock at the door (from Impact Research) and/or an invitation to the PSC exhibition trailer.

However, no complaints had been received by the CCC regarding the recruitment methods employed and the focus group concurred that the multiple methods were necessary in order to maximise recruitment.

Disappointingly, only a minority of the group were aware of the PSC launch party and actually attended it. It transpired that there was some confusion as to who the event was targeted at and others commented that its date and/or time were not convenient.

Some frustration was expressed that the team stats portal had not been updated as early as hoped in the first two weeks of the challenge due to unforeseen administrative constraints. Despite the delay, the group considered that the suggested format of the electricity consumption infographics to be appropriate, clear and easy to understand. A strong desire emerged for an additional 'league table' to allow direct comparison with other teams and encourage a competitive community spirit. An additional infographic (see Figure 4.7) was therefore added to the portal which displayed all of the teams eligible for a reward (based on cumulative reduced load) and also those not currently qualifying for one.

Figure 4.7: Team reward eligibility infographic (Week 23)



The headings shown in this graphic are those displayed once the trial had finished. During the course of the trial, the headings for each part of the graphic indicated which teams were on track to qualify for a reward, and which were not. This graphic was updated weekly.

The point was also made that the website relied on participants proactively visiting the portal to review their results. An alternative approach would have been to collect email addresses during registration and then 'push' updates to participants to reduce the effort required.

Feedback was obtained which included common misconceptions and/or areas where further information was required. One such subject was the fairness of the data and the comparisons made by team which covered different geographical areas and consisted of varying numbers of participants.

"I don't think it' a level playing field, because I think the property types will be very different – I think that everybody else in the room has more of a potential to make savings."

The implication of this finding is the importance of promoting fairness and equality in the approach taken to measurement to ensure all teams remain equally motivated. For example, Team Kilby had raised concerns about its ability to reduce its peak consumption of electricity due to its existing energy-efficiency arising from having effective external wall insulation and because its off-gas status meant that it was dependent on electricity for heating. The team felt appeased by the fact it had to achieve the same proportional decrease as all other teams, not the same absolute reduction of kWh.

Participants generally did not accurately understand the rewards available with an underlying perception that there was only one prize and therefore there would only be one winning team. It was anticipated that the new infographic shown in Figure 4.7 would assist in correcting this misunderstanding.

Another frustration amongst participants was that standard data protection restrictions prevented them from being informed of the identity of other members of their team without their explicit consent. This was a significant drawback because it prevented social cohesion which could have been achieved through participants working together to attain a common goal. Representatives from Impact Research, SMBC and Electricity North West worked together to alleviate this frustration by providing participants willing to share their involvement in the challenge with neighbours with stickers which they could display it in a suitable place at the front of their property. Further social and team events were also arranged which had the potential to bring participants together.

4.3 Mid-trial customer survey findings

4.3.1.1 How effective was the PSC pre-trial customer engagement?

The large majority of mid-trial survey participants were aware of at least one of the events organised by the PSC project team, however, conversion to attendance was, on the whole, disappointing with only a quarter attending an event (see Figure 4.8).

The energy surgery interventions (described in Section 3.7.3) and launch party achieved the highest attendance, despite only having been added to the schedule of events at a late stage. These were the only events where participant awareness and attendance was supported by telephone calls being made to customers by Impact Research in addition to direct mail being distributed.

Figure 4.8: Face-to-face event awareness and attendance

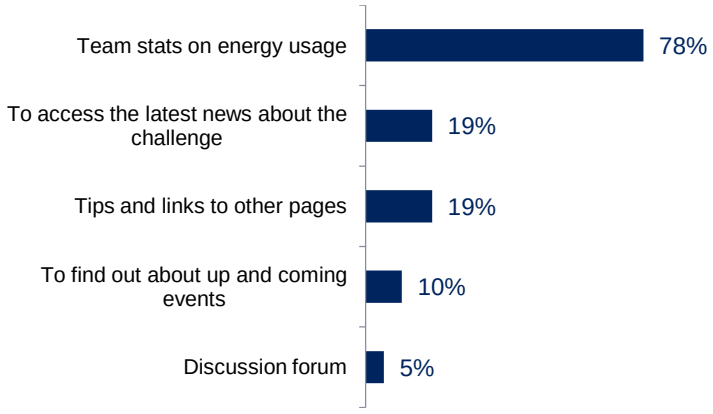
PSC face-to-face event	Aware of event	Attended event
Energy surgery	77%	13%
Launch party	74%	12%
Cooking session	43%	7%
Exhibition trailer	26%	5%
Summer fair	21%	2%
Bingo event	18%	1%
All events (ie awareness of/attendance at one or more event/s)	90%	25%

The face-to-face events were highly regarded amongst those who attended with satisfaction scores in excess of 80% for the convenience of the venue, date and time, method used to notify participants and overall enjoyment of the event.

60% of participants not attending any of the events claimed that this was due to them being held at inconvenient times. A key lesson learned therefore is that a range of times should be offered to ensure events are widely accessible, well attended and return on investment enhanced.

57% of participants claimed to have visited the PSC website; however, this was mainly limited to viewing the team stats portal rather than exploring all of the relevant content, as illustrated in Figure 4.9.

Figure 4.9: Content accessed on the PSC website



Relatively few site visitors had accessed the energy saving tips and even fewer had visited the discussion forum that had been requested by early adopters.

25% of participants not using the website claimed they didn't have internet access at home and a further 25% hadn't made time to fulfil their intention to visit the website. This finding emphasises the need to have a multi-channel approach to communicating with participants and the value that could be gained from collecting email addresses to distribute updates more proactively and in a timely manner.

A range of printed leaflets, letters, postcards and newsletters were distributed to participants throughout the course of the challenge to keep them informed and engaged. 90% of participants recalled receiving one or more pieces of literature through the post; 75% of whom were satisfied with the usefulness of information and 62% of whom were satisfied with the volume of mail received.

The most significant concern arising from the mid-trial survey was the relatively low proportion of customers who perceived that they were aware of how their team was performing in the challenge (29%).

Although only a secondary benefit of the project and not a core objective, it was somewhat disappointing that only 27% of survey participants perceived a greater sense of community spirit as a result of taking part. The implication of these findings was that more needed to be done to foster a community ethos during the challenge and to build and sustain engagement.

4.3.1.2 Monitoring attitudes towards the PSC

Engagement in taking part in the PSC at the mid-trial stage was favourable with 81% feeling involved in the challenge and 73% enjoying participating. Large increases could be seen in the majority of attitudes measured (compared with the baseline statistics in Figure 4.2) such as a 23% increase in the proportion of customers who perceived that Electricity North West encouraged customers to be more energy efficient at home.

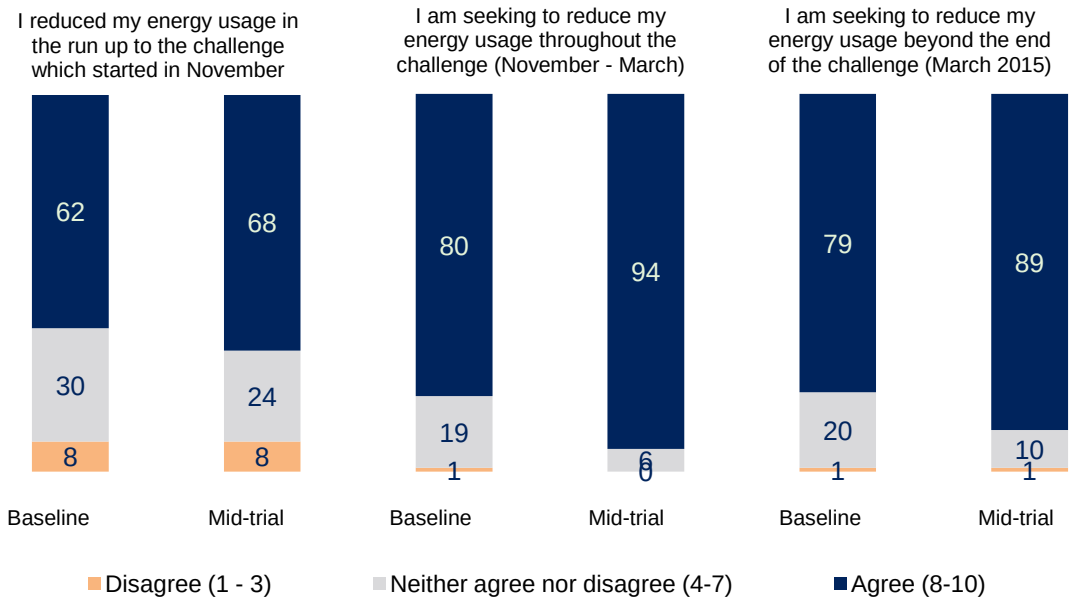
Survey participants also strongly endorsed the value of the HEV and the professional advice imparted during it with 95% of recipients satisfied with the usefulness of the visit and 97% satisfied with the knowledge of the NEA representative administering the visit.

Customers received various free technologies (described in Section 3.4.2.4) during the HEV. The energy saving monitor was considered to be the most effective in helping reduce energy usage, followed by LED light bulbs.

4.3.1.3 Monitoring PSC participants' commitment to change

The mid-trial survey reported positive advances in the commitment of participants to reducing their energy usage at present and in the future. Figure 4.10 illustrates that the proportion of participants who intended to reduce their energy usage beyond the lifespan of the project increased 10% from the baseline observation to 89%. This represented an important development in attitudes towards energy usage and pointed to a greater potential for the sustainability of the PSC method.

Figure 4.10: Commitment to reducing energy usage (asked on a 1-10 agreement rating scale)



4.3.1.4 Barriers to reducing household energy usage

The mid-trial survey saw a significant increase in the proportion of customers claiming that they had already reduced their energy usage as much as possible; rising 29% to 61% of all survey participants. This increase corresponded with a decline in the proportion of respondents claiming that they didn't know how to reduce their usage any further; decreasing 25% to an absolute level of 31% overall. The implication of this finding is that as the challenge progressed increasing numbers of participants began to feel a sense of inertia towards their ability to make further gains, meaning further inspiration and support was required to sustain their progress and enthusiasm for the challenge.

4.3.1.5 Learning from engaging with customers who had not opted into the challenge

An ad hoc survey was conducted in February 2015 amongst customers living within the PSC catchment area who had not signed up to the challenge either deliberately or for other reasons. The survey provided valuable learning about the recruitment of customers that should be considered in future, similar customer engagement activities.

57% of non-participants had heard of the challenge, mainly via an initial postcard (71%) or a face-to-face visit from a PSC representative (40%), with the majority of these customers perceiving these two methods as the most appropriate channels for making them aware.

Non-participants approved of the postcard as an easy and non-intrusive notification method which allowed them to read the information and make a decision about their involvement in their own time. They were also not averse to face-to-face visits although, were the challenge to be replicated, they felt that more effort should be made to ensure that PSC representatives are not interpreted as cold callers and visit at more convenient (pre-appointed) times.

76% of non-participants understood what the challenge required of them and hoped to achieve. The top three barriers to their not taking part were:

1 Doubting that behaviour change would stimulate reductions in bill prices (31%)
2 Perceiving there to be no need for energy saving advice (29%)
3 It not being a convenient time to dedicate full attention to the challenge (21%).

These barriers could be effectively challenged by communication materials featuring positive case studies about customers who had saved money as a result of changing their behaviour, along with information on the time investment required and how their household achieved tangible benefits.

The barrier of not perceiving a need for energy saving advice was similar to that for participants; in reality customers cannot be aware of what they don't know and require expert advice and guidance to stimulate meaningful behaviour change.

Non-participants were also as concerned about energy bills as participants; therefore, were the PSC project were to be replicated, potential bill savings should be the primary benefit communicated to customers with supporting evidence included.

4.3.1.6 Learning from engaging with out-of-catchment area participants

An ad hoc survey was conducted in February 2015 amongst customers living outside but in close proximity to the PSC catchment area. The key findings from this survey have been used as a benchmark against which data for various groups within the catchment area can be compared.

The majority of these survey participants were unaware of the PSC (11%), even when prompted (12%). Customers unaware of the challenge agreed with in-area non-participants (Section 4.3.5) that the optimal method for making them aware would have been via a postcard and/or letter initially (62%) followed by a face-to-face visit (29%).

The main drivers observed for customers to be encouraged to sign up were the offer of free technologies in combination with expert advice to facilitate a reduction in bills. This key finding was consistent across all of the surveys conducted. The exclusion of a reward for all individuals in winning teams as a key influencer is notable, casting further doubt over whether a reward of this nature (see Section 3.4.2.3) is necessary to stimulate behaviour change.

The attitudinal metrics utilised in the baseline survey (see Section 4.1.2) were replicated in the out-of-area survey to understand the potential impact of dedicated customer engagement on customers' views on energy related issues. Out-of-area survey participants had markedly lower scores for several metrics compared to the baseline such as; being concerned about wasting energy (-26% vs. baseline), being willing to change behaviour to reduce energy usage (-39%) and Electricity North West encouraging customers to use less energy (-18%). These results infer a positive relationship between being exposed to the PSC customer engagement programme and customers being more affirmative about energy saving principles.

Attitudes to the challenge were relatively positive with 45% perceiving PSC to be a good idea and 32% agreeing that the PSC is something they would have liked to have taken part in had the challenge have been running in their area. This level of advocacy is similar to the 25% of the PSC catchment area who, in effect, revealed their preference by signing up to take part.

Just 24% of survey participants claimed that they had taken any steps to reduce their energy usage since December 2014. This measurement is significantly lower than the 44% of in-area non-participants, indicating a halo effect amongst those living near to the trial area.

4.4 End-of-trial customer survey findings

Of the 249 customers who took part in the baseline customer survey (see Section 4.1), significantly fewer (150) completed the end-of-trial survey. By this stage participants had been invited to take part in multiple surveys, forums and events, and therefore natural attrition occurred in engagement response rates. Nevertheless the total number of customers completing the end-of-trial survey was statistically robust and the socio-demographic profile

of respondents taking part was representative of all PSC participants. The implication of this sampling outcome was that results could be reliably compared between surveys.

4.4.1.1 Monitoring attitudes towards the PSC

Overall engagement and enjoyment of taking part in the PSC continued to increase as the trial elapsed (see Figure 4.11); a positive reflection upon participants' experiences.

Figure 4.11: Participant engagement levels (% based on aggregated ratings of 8-10 on a 1-10 agreement scale)

Attitudes towards the PSC	Mid-trial	End-of-trial
I was involved in the Power Saver Challenge	81%	89%
I liked being part of the Power Saver Challenge	73%	79%

Although enjoyment of taking part in the PSC increased, attitudes towards behaviour change didn't materially change after the mid-trial survey; with parity scores achieved for the majority of key metrics in the end-of-trial analysis (see Figure 4.12).

Figure 4.12: Attitudes towards energy usage and the PSC (% based on aggregated ratings of 8-10 on a 1-10 agreement scale)

Attitudes towards the PSC	Baseline	Mid-trial	End-of-trial
When it comes to the environment, everyone should be trying to use less energy	84%	91%	90%
I am willing to change my behaviour to reduce my energy usage	77%	72%	73%
I think the Power Saver Challenge has positively influenced behaviour in my household	66%	57%	73%
Electricity North West encourages customers to be more energy efficient at home	57%	80%	77%
I regularly take action to reduce energy consumption at home	51%	73%	73%
I think the Power Saver Challenge is positively influencing behaviour in my community	53%	49%	49%

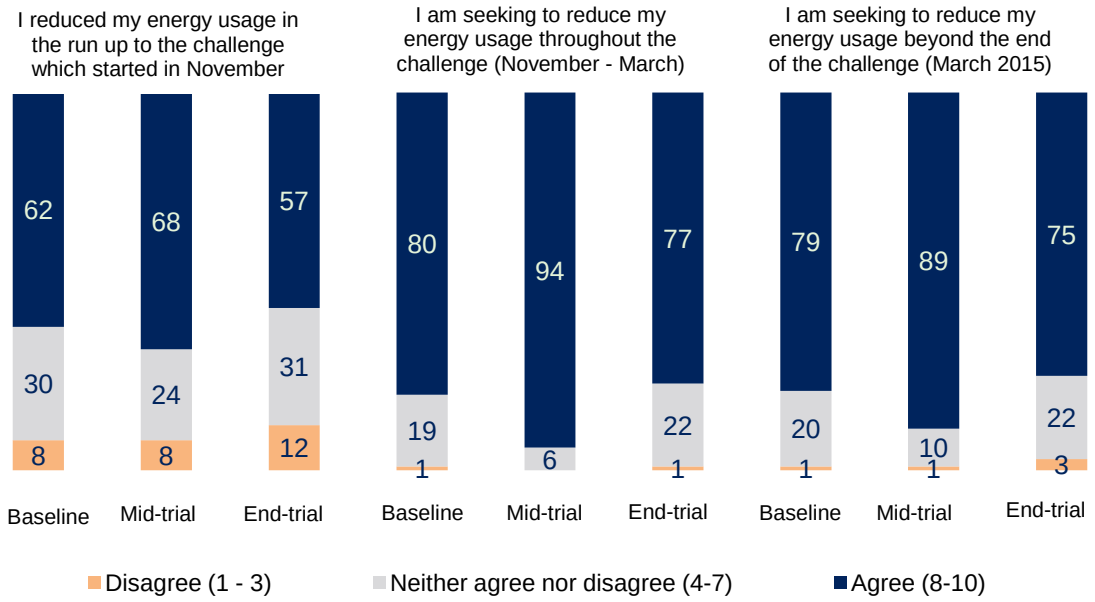
The strength of agreement in the attitudes held by participants regarding behaviour change at the end of the trial is an encouraging finding in support of the PSC method being sustainable. The importance of engagement activities during the trial is also evident in the increase in proactive steps being taken to reduce energy consumption between the baseline and mid-trial survey.

4.4.1.2 Monitoring PSC participants' commitment to change

98% of customers claimed that since the challenge had finished their household had continued with the majority of the energy saving method(s) it had consciously adopted during the challenge in order to reduce electricity usage.

Although this is overwhelmingly positive, Figure 4.13 illustrates that at the end of the trial the proportion of participants who intended to reduce their energy usage beyond the lifespan of the project had dropped significantly to a level in line with that observed at the outset of the challenge. The emphasis in this key metric is *further* reduction in energy usage; therefore although the incremental gain in commitment had decreased since the mid-trial it is positive to observe 75% of participants still pledging to further reduce their usage.

Figure 4.13: Commitment to reducing energy usage (asked on a 1-10 agreement rating scale)



Commitment to change was also measured through the extent to which participants were claiming to have recently taken new forms of action to reduce their consumption. Figure 4.14 demonstrates the downward trend on this measure, particularly between the mid-trial and end-of-trial surveys. This level of drop-off is unsurprising given the level of effort households applied early on in the challenge, which meant that it was easier to sustain their behaviour than enhance it further.

Figure 4.14: Taking recent action to reduce energy usage (% yes)

Attitudes towards the PSC	Baseline	Mid-trial	End-of-trial
% of customers saying that they had taken further steps or used new methods to reduce the amount of energy they had used	56%	44%	21%

4.4.1.3 Barriers to reducing household energy usage

In line with the mid-trial survey (Section 4.3.4) 61% of participants felt that the main barrier to reducing energy usage further was that they have reduced their energy usage as much as they could or knew how to. This barrier showed the greatest upward trend (+29%) between the baseline and the end of the trial followed by a 16% increase in the proportion of participants feeling that other people in the community were not making the required effort.

4.4.1.4 Satisfaction with taking part in the PSC

86% of participants were satisfied were with the PSC overall and many took positive learning from it,

"*It gave me ideas on how to further reduce my usage. For example, I try to have my tea before 4pm, so I miss the high demand at the substation.*" *Team Bennett*

The HEV was particularly positively appraised,

"*I didn't have any negative experiences with the challenge. I thought the home energy visit was really helpful and the agent I spoke to was really good. I liked that there were opportunities to meet up with other people taking part as well.*" *Team Crompton*

Social cohesion was also, mentioned as a key advantage of taking part:

"It got the community together too." Team Edison

Encouragingly, 89% of participants claimed that they would be likely to take part if the PSC was run again in their local area. In addition, 94% of participants said that they would recommend the challenge to neighbours and friends, which represents a strong endorsement for the trial and acceptance of the method.

77% of participants were satisfied with the way in which the announcement of the prize-winning teams was communicated to them and 70% of those eligible were satisfied with the process implemented for claiming their prize. Although this represents a reasonable level of satisfaction, the process could be refined in future projects with greater information about the activities of community groups who qualify for donations:

"*We donated ours to a community group but we didn't know much about the groups so it would've helped if they'd given information about them so we could've made a more informed decision.*"

Greater flexibility could also be built into the prize-claiming process:

"I wanted to change my prize and wasn't allowed to."

Despite high levels of overall satisfaction with the challenge, only 21% of survey participants claimed to have attended the end-of-challenge party. In common with comments about the launch party (Section 4.2.1), some commented that it was not held at a convenient date/time. The implication of this was that it was a missed opportunity to engender greater positivity during the exit methodology for customers at the end of the challenge. Poor attendance at the event denied the organisers the opportunity to share constructive feedback from participants such as 46% already claiming to have seen a positive change in their energy bills. It was subsequently decided that an end-of-challenge newsletter would be distributed to all participants to share positive feedback and anecdotes contributed by the various teams.

4.4.1.5 Social cohesion

By the end of the challenge 47% of households felt that the PSC had improved community spirit, a significant improvement upon the 27% in agreement during the mid-trial survey.

Just over a quarter of participants also expressed a view that taking part in the PSC had made their local area more of a place where people from different backgrounds and communities can live together harmoniously. Participants holding this perception felt enhanced harmony had manifested through the PSC demonstrating:

- People can help each other to reduce their energy usage (98% agreement)
- A greater shared value of caring for the environment (98% agreement)

- An increased sense of pride in the local community (93% agreement)
- People can work together as a team to reduce energy usage (90% agreement).

Conversely, half of all survey participants claimed that taking part in the challenge had not increased harmony in their area and a quarter were not sure. Amongst the former the main reason driving this perception was the observation that people did not work together as a team; the implication being it was more of an individual challenge:

"The community bit was a bit contrived; I had no control over what they (the team) were doing. I think we won because of a fluke, there was no 'working together to one goal' here."

This perception may have been fuelled by data protection restrictions preventing participants being directly informed about the identity of their team members:

"No one knew who else was involved in the challenge, so I felt we could not work together as effectively as we would have otherwise."

Some participants cited the community prize donation as a useful mechanism to invoke a call to action amongst the population:

"No, it's just apathy, people either get involved with it or not. I think if the prize had put the money onto a community project that affected everyone; it would have drawn people together."

The implications of these findings are that if the challenge is repeated in the future the blueprint for this should make reference to methods designed to induce greater collaboration amongst teams.

4.5 After-trial (long term) customer survey findings

The after-trial (long term) customer survey commenced in May 2016, a year after the challenge ended, and fieldwork was completed in early June 2016.

Of the 249 customers who took part in the initial baseline customer survey (see Section 4.1), significantly fewer (104) completed the final survey. Nevertheless the total number of customers completing the final survey was statistically robust and the socio-demographic profile of respondents taking part was representative of all PSC participants. The implication of this sampling outcome was that results could be reliably compared to those from previous surveys.

4.5.1.1 Monitoring attitudes towards the PSC

The vast majority of the attitudes measured in the after-trial survey achieved parity with the end-of-trial results. Encouragingly longevity was observed in the positive perception of overall enjoyment in taking part in the PSC (see Figure 4.15); a positive reflection upon participants' experiences.

Figure 4.15: Participant engagement levels (% based on aggregated ratings of 8-10 on a 1-10 agreement scale)

Attitudes towards the PSC	Mid-trial	End-of-trial	After-trial
I liked being part of the Power Saver Challenge	73%	79%	76%

Attitudes measured in the after-trial survey (see Figure 4.16) also revealed a long term downward trend in the proportion of participants feeling they needed more information to help

reduce their energy consumption. This is a positive reflection on the effectiveness of the engagement programme administered during the challenge.

Figure 4.16: Participant engagement levels (% based on aggregated ratings of 8-10 on a 1-10 agreement scale)

Attitudes towards the PSC	Baseline	End-of-trial	After-trial
People like me need more information and advice to help reduce energy consumption	53%	38%	33%

4.5.1.2 Monitoring PSC participants commitment to change

Participants overwhelmingly agreed (98%) that since the challenge had finished they and other members of their household had continued with the majority of the energy saving method(s) consciously used during the challenge to reduce their electricity usage.

Evidence also emerged from the survey that participants were using a broad range of energy saving methods, including actions they started during the trial which had been successfully embedded into their daily routine. These included, but were not limited to:

- Introduction of shower timers
- Introducing time switches for household lighting
- Changing appliances to energy efficient models
- Turning off appliances instead of leaving them on stand by
- Avoiding consumption during peak load where possible
- Measuring the correct amount of water to reduce consumption when boiling.

4.5.1.3 Satisfaction with taking part in the PSC

86% of participants were satisfied with the experience of taking part in the PSC overall. The implication of this finding is that there had been no dilution of satisfaction since the trial had ended where exactly the same level was recorded. Advocacy also remained high with 91% of participants saying they would recommend taking part to a friend or neighbour.

The proportion of participants noticing a positive change in their electricity bills (46%) remained unchanged from the level reported in the end-of-trial findings. Analysis of satisfaction trends indicated that the reality of individual benefits such as reduced bills being realised by customers during the trial enhanced the credibility of and satisfaction shown towards the PSC. This evidence would be useful in future projects and communication materials as a testament to the positive outcomes that can be achieved through participation.

Encouragingly 54% of participants could not think of any improvements that could be made to the challenge should it be run again in a different region. There were lessons to be learned from the feedback given amongst the remaining group where improvements fell into three broad categories; setup and logistics, prize giving and communication.

a. Setup and logistics

To facilitate recruitment it was felt that more could be done to:

- Reduce the lead time between recruiting participants and starting the trial
- Clearly delineate communication materials as being important and not sales literature (eg suppliers encouraging switching behaviour)
- Appoint team leaders/champions to promote the challenge to neighbours and friends
- Arrange face-to-face meetings at a range of convenient times and locations.

The first point is particularly pertinent given the additional pressure it placed upon the project team to sustain the interest of participants joining the challenge at all different times:

"They need to engage people early and not have such a long lead time between recruiting people and actually starting the challenge because people lost interest during that time."

This feedback has been incorporated into the overall project lessons learned which are documented in more detail in Section 6.

b. Prize giving

Recognition and reward at the end of the project formed an integral component of communicating the project's successful outcomes and therefore some participants felt that improvements could be made to:

- Clarify the process for claiming prizes at the start of the challenge (ie the voucher system) and whether the prizes have different monetary values
- Provide an acknowledgement letter from the beneficiaries of charitable donations
- Stage a more enthusiastic celebration of the winning teams at the end of challenge party
- Provide a clear point of contact and escalation for prize-related questions.

More could be done in future projects through partnership with local community groups to promote the benefits and acknowledgement of charitable donations in order to prevent doubts regarding shared benefits being realised:

"We donated our prize to a local organisation and received no thanks so we are not sure whether they received it which left a bad taste."

c. Communication

On-going communication with participants formed an essential part of the PSC customer engagement plan and a range of methods was utilised to facilitate this, which has been described in more detail in Section 3. Feedback regarding possible enhancements to the volume and usefulness of communication was heavily concentrated on the following topics:

- Making it easier for participants to establish who else is on their team
- Providing case studies with practical examples of how other participants have achieved successful outcomes
- Providing more comprehensive information regarding shared benefits and outcomes from different perspectives (financial and non-financial).

The feedback received indicated a deep understanding of the broader project objectives amongst some of the more engaged participants and in future projects the benefit of this could be harnessed further through the appointment of team champions.

"I think they need to make more people more aware of the impact that having to build a new substation in the area would actually have, really drive home how much it'll cost and the fact that the cost will be passed on to the local people."

4.5.1.4 Social cohesion

The level of community cohesion being reported amongst PSC participants a year after the trial had ended declined slightly from 47% to 38%, however, this is still higher than midway through the trial where community cohesion was measured at 27%.

The Kilby and Armstrong teams most felt that the PSC had improved community spirit and conversely Crompton, Gordon and Conway felt this the least. Interestingly the strongest advocates of improved social cohesion were also the teams with the highest reported

attendance at face-to-face engagement events. The implication of this is a correlation between repeat intra-team communication and a perception of enhanced social cohesion as a result of taking part in the challenge.

4.6 Technical findings

4.6.1 Winter peak monitoring 2014-2016

Overall peak energy consumption (kWh) for the 10 teams taking part in the PSC across the entire duration of the three separate measurement periods is summarised in Figure 4.17.

The analysis indicates that overall energy consumption dropped by 4.3% across all teams during the challenge period in year two compared to the baseline measurement period in year one. The implication of this is that the active customer engagement during this period enabled a significant reduction in peak electricity consumption.

In the third year of the challenge participants' behaviour was measured from 1 November 2015 to 31 March 2016 to determine whether behavioural change had been embedded.

Figure 4.17 indicates that overall participants achieved a further incremental drop in energy consumption of 1.5% one year after the challenge had been completed. At an aggregate level a 5.8% reduction in peak energy consumption was achieved across the lifespan of the project demonstrating that behaviour change had been successfully embedded.

Figure 4.17: Energy consumption throughout the measurement period in kWh

	Actual 2013 winter cumulative consumption kWh	**Actual 2014 winter cumulative consumption kWh**	**% Year on year difference**
Total	534,308	511,179	-4.3%
	Actual 2014 winter cumulative consumption kWh	**Actual 2015 winter cumulative consumption kWh**	**% Year on year difference**
Total	511,179	503,604	-1.5%
	Actual 2013 winter cumulative consumption kWh	**Actual 2015 winter cumulative consumption kWh**	**% Year on year difference**
Total	534,308	503,604	-5.8%

Section 3.5 of this report explains the protocols utilised for monitoring electricity consumption fairly throughout the project measurement period. One such protocol was the collection of consumption data from a control circuit which formed the basis of a coefficient that calibrated the data to ensure measurements from one time period could be compared like for like with the corresponding time period the year before. Overall peak energy consumption (kWh) for the control circuit across the entire duration of the three separate measurement periods is summarised in Figure 4.18.

The analysis indicates that overall energy consumption on the control circuit increased by 6.1% during the challenge period in year two compared to the baseline measurement period in year one. At an aggregate level a 5.1% increase in peak energy consumption was observed across the lifespan of the project demonstrating the relative success of the PSC

project in achieving behaviour change against a background of energy consumption increasing on comparable electricity networks.

Figure 4.188: Energy consumption (control circuit) throughout the measurement period in kWh

	Actual 2013 winter cumulative consumption kWh	Actual 2014 winter cumulative consumption kWh	% Year on year difference
Total	370,479	393,081	6.1%
	Actual 2013 winter cumulative consumption kWh	**Actual 2015 winter cumulative consumption kWh**	**% Year on year difference**
Total	370,479	389,193	5.1%

The protocols utilised for monitoring electricity consumption fairly also allowed for an adjustment to be made for potentially milder weather.

For completeness average temperature data for the 23 weeks of measurement in each annual cycle was collected and analysed. The average temperature across each cycle is illustrated in Figure 4.19 and shows no significant differences across the three years.

Figure 4.19: Average temperature data for Stockport in degrees centigrade

	Winter 2013-2014	Winter 2014-2015	Winter 2015-2016
Stockport average temperature °C	6.7	5.6	6.6

Total peak electricity consumption was also disaggregated by team in order to identify the full distribution of behaviour change across the participant population. Figure 4.20 illustrates that all 10 teams reduced their consumption during the challenge period in year 2 compared to the baseline measurement period in year 1. Energy consumption reduction ranged from 0.8% through to 8.9% indicating significant variation by team. Teams which achieved an energy usage reduction of greater than 3.5% were eligible for prizes.

Figure 4.20: Energy consumption in the challenge and third measurement period compared to the baseline measurement period in kWh

Weeks 1-23	% Year on year difference (winter 2014 vs. winter 2013)	% Year on year difference (winter 2015 vs. winter 2014)	% Year on year difference (winter 2015 vs. winter 2013)
Team 1 – Armstrong	-4.0%	-5.5%	-9.5%
Team 2 – Bardeen	-8.9%	-5.2%	-14.1%
Team 3 – Bennett	-6.2%	9.3%	3.1%
Team 4 – Brush	-5.1%	0.0%	-5.1%
Team 5 – Conway	-4.4%	2.3%	-2.1%
Team 6 – Crompton	-0.8%	-1.6%	-2.4%
Team 7 – Edison	-1.4%	-2.5%	-3.9%
Team 8 – Farmer	-5.2%	-2.5%	-7.7%
Team 9 – Gordon	-3.7%	2.8%	-0.9%
Team 10 – Kilby	-2.9%	0.7%	-2.2%
Total	**-4.3%**	**-1.5%**	**-5.8%**

The analysis in Figure 4.20 also demonstrates that five of the teams had embedded their behaviour change and made further incremental reductions in their energy consumption in the final measurement period. In addition, one team achieved parity with the previous year and four teams were unable to sustain their behaviour change and increased their usage. The overall impact of these changes was a further 1.5% reduction in energy consumption which was a positive endorsement for sustained behaviour change.

The summary provided in Figure 4.20 indicates that nine teams successfully reduced their peak energy usage over the duration of the project with Team Bardeen achieving the highest single decrease of 14%.

4.6.2 Winter 24 hour monitoring 2015-2016

The main objective of the PSC was for it to facilitate a significant reduction in energy usage amongst trial participants during peak hours (defined as 16:00-20:00).

A secondary piece of analysis was conducted to establish if the PSC had reduced overall energy consumption or alternatively if it had served to shift usage patterns from peak to off-peak and maintain overall energy consumption (kWh).

Overall 24 hour energy consumption (kWh) for the 10 teams taking part in the PSC across the entire duration of the three separate measurement periods is summarised in Figure 4.21.

Figure 4.21: Energy consumption (24 hour) throughout the measurement period in kWh

	Actual 2013 winter cumulative consumption kWh	Actual 2014 winter cumulative consumption kWh	% Year on year difference
Total	1,948,146	1,982,241	1.7%
	Actual 2013 winter cumulative consumption kWh	**Actual 2015 winter cumulative consumption kWh**	**% Year on year difference**
Total	1,948,146	1,940,754	-0.4%

The analysis in Figure 4.21 indicates that by the end of the three year measurement period total energy consumption had decreased by 0.4%. The implication of this finding is that on balance, whilst the absolute level of consumption had decreased, the PSC had been more influential in shifting load from peak to off-peak.

The CRC Energy Efficiency Scheme was utilised to measure the emissions from energy supplies according to the relevant conversion factor[5]. The relevant conversion factor in 2016 to 2017 for electricity supplied from the grid in kWh was 0.446620 (Emissions Factor kgCO2 / per measurement unit). The reduction in energy consumption reported in Figure 4.21 between 2013 and 2015 was then converted by the registry into tonnes of carbon dioxide by the application of standard emissions factors. The outcome was that 3,301 kgCO2 was saved during the PSC project.

4.7 An assessment of participant social and financial benefits

Customer engagement was utilised to directly measure:

1. Changes in community pride, cohesion and ownership
    - Financial benefits achieved through reduced energy bills.

Positive results were achieved in both cases, with bill savings helping to build traction in sustaining behaviour change during the course of the project.

In addition to customers realising individual bill savings and, in some cases, rewards from belonging to a winning team, local community groups also benefited from project-related donations as follows:

- Sustainable Living in the Heatons (community prize): £1,800
- Sustainable Living in the Heatons (donation): £4,000
- The Heatons Sport Club Ltd: £600
- Friends of Heaton Chapel Station: £500
- Bzercus Community Circus: £250
- Heaton Moor Evangelical Church: £80
- Love Heaton Norris: £800
- Four Heatons Traders Association: £40.

These groups include the five main community groups involved in the project as well as others to whom participants specifically requested that their prize money be given.

[5] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2016

Anecdotal evidence was also observed of customers in vulnerable circumstances being signposted to third party support schemes such as free debt advice.

Although out of the scope of this project, future work could build on the social and financial benefits observed in the PSC by seeking to:

- Measure the impact of energy reduction on vulnerable and fuel-poor households
- Measure changes in awareness of environmental considerations
- Measure any additional funds levered into the local area as a result of the project
- Measure improvements in the accessibility of support schemes such as the priority services register (eg awareness and volume of signups)
- Measure the impact of effective signposting of third party organisations (eg awareness of, number of referrals to and usage of support schemes for participants).

4.8 Objectives met

During the course of the research, all project objectives (Section 2.2) customer engagement objectives (Section 2.3) and customer engagement research objectives (Section 2.4) were achieved.

5 PEER REVIEW

Dr Ariel Bergmann, a Lecturer of Energy Economics at the University of Dundee, conducted a peer review of the Power Saver Challenge Project Closedown Report. The purpose of the peer review was to evaluate the soundness of the evidence and findings and the resulting guidance for DNOs.

5.1 Summary of Dr Ariel Bergmann's Peer Review

The Power Saver Challenge (PSC) project tested ways to engage with residential household customers to reduce their electricity consumption and shift the time of day usage to relieve high demand during peak hours.

The PSC project was implemented in November 2013 in Heaton Moor and Heaton Norris areas of Stockport with 1,000 households participating. Both technological and educational services and support were utilised to carry-out a statistically robust and representative sample within the test area. Electricity North West and Impact Research engaged with 250 of the households in a more direct manner to understand perceptions and attitudes toward the PSC, as well as more detailed measurement of behavioural changes of energy usage.

The project has with a strong certainty confirmed the operating hypothesis that:

"Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in the energy usage."

The PSC survey data demonstrates that households can and will change their energy usage behaviour and attitudes towards energy consumption when given sufficient knowledge, support and incentives. While not all households will be successful in changing their energy usage behaviour most households will adopt enduring energy reduction behaviours.

The methods proposed and implemented in the trial have been proven effective. With the detailed post-project review and analysis, and the resulting recommendations the Power Saver Challenge – Project Close Down Report confirms that the method is ready for wider usage and larger scale implementation.

6 LESSONS LEARNED FOR FUTURE INNOVATION PROJECTS

6.1 Project setup and initiation

Similar challenges should be launched in the spring: As the recording of the data had to be done during the winter when load on the network is at its highest, the challenge needs to be launched during the preceding spring to allow for approval, recruitment, and data capture setup.

External influences should be factored into the method: The original project objective focused on load change, but there were no controls around the data that could account for external influences such as weather. Future projects should be designed so that external influences can be factored in.

The delivery method will determine practical targets for the area in scope and number of participants: The original proposal was modelled on an area including 5,000 households with a target of 1,000 participants. After significant changes were made to the delivery method following acceptance of the proposal, the target area was adjusted to 1,000 households with the aim of recruiting 500 participants. This target was chosen without reference to similar projects, and represented a challenging 50% conversion rate. The actual signup rate of 27% of the target group should be recognized as a significant project success and proof of the feasibility of the model as it was developed in practice.

Key local partners must be identified as early as possible: These will include the local authority and housing providers, local charities, business forums and community networks.

A process map of the customer journey is invaluable: In order to facilitate the mobilisation of the team, which proved slow to do, the partners developed a process map and defined the customer journey from pre-trial to trial and post-trial. This process map is crucial and should be developed as part of a customer engagement plan as early as possible.

6.2 Recruiting customers into the project

Link the project to trusted local groups and establish a clear brand for it: Householders are subject to many communications from third parties, including the energy sector, seeking to inform them of, involve them in or persuade them to enter into direct commercial arrangements on a range of marketing offerings. In addition, research[6] shows that energy suppliers in the UK are less trusted than other industries while anecdotal evidence from the trial area indicated that local authorities and other community/local agencies have much higher levels of public trust. The project overcame residents' consequent wariness by linking the project to trusted, influential local groups (particularly SMBC) and developing a distinct brand for it.

Endorsement from the local authority is key: At the outset of the recruitment some households perceived that the recruiters were attempting to sell a product and/or service to them. Following this, recruiters were equipped with a letter from SMBC that reinforced the credibility of the challenge. SMBC also supported the project by attending events, sending out communications, accompanying door knocking, and taking calls and speaking to residents about the PSC.

Partner brands are valuable: Householders typically do not appreciate the difference between DNOs and fuel suppliers whose unsolicited communications tend to be perceived as 'selling'. This perception can be heightened because householders are not familiar with the DNO brand because DNOs do not generally have direct contact with electricity users.

[6] Source: 'Trust in the Energy Sector and Billing', Citizens Advice: https://www.citizensadvice.org.uk/global/migrated_documents/corporate/attachment-2---summary-of-energy-trust-polling.pdf

Therefore incorporating the DNO name and logo in publicity material may not have a positive effect. Including the brands of key partners such as the local authority and/or housing provider in communications is therefore particularly important. In the longer term, reinforcing the identity of DNOs and the role they play in energy supply would be valuable for other initiatives of this type.

General community engagement is useful but is not an effective recruitment method: Engagement with community networks built profile, acceptance and 'buy in' for the project but as the project required participation from households within specifically defined geographic boundaries there was only a limited value in undertaking extensive community engagement activity with local groups offering services across and beyond those boundaries because not all members of such groups were eligible to participate. It addition, it meant that some organisations which are typically supportive of such initiatives (eg charities such as Age UK) may not be appropriate partners on this occasion. Signups at community events were lower than expected.

Targeted community events are more effective than broad ones: Broad community events (eg the Summer Fair) were not always that productive in terms of attendance, raising awareness and gaining signups. More tightly focused events, targeted at specific participant teams, to which households in the team can be personally invited, may achieve better attendance.

Investment in a trailer is not critical: The trailer is useful for engagement events but issues with parking and moving it around make it hard to use. It would be easier to use community facilities or focal points to host events.

Use telephone, face-to-face and web follow-up for recruitment: These methods were implemented once it became clear that there would be insufficient signups from community engagement events and direct mail alone. These activities were best supported by identifying and actively working with SMBC and Stockport Homes, which all householders in the geographic areas trusted.

Consider peer-to-peer recruitment: Future projects might usefully investigate methods for enabling neighbours to recruit each other, drawing on the 'halo effect'. Individuals who have been persuaded of the benefits of the project can be strong advocates to their peers, and could be incentivised to sign up their neighbours. Appointing a team captain might boost this process.

When incentives are offered to encourage people to sign up, there needs to be a way of tracking the effectiveness of these and a mechanism for ensuring the incentive is delivered: For example, the 'sign up your neighbours' campaign had a reference number on the communications materials which the CCC could log to ensure that those eligible for the reward could be identified.

The website is not a key generator of signups but is critical for other purposes: The website is an ideal channel to which warm enquiries can be directed and gives residents a platform to register their interest. It was also useful for disseminating team statistics, particularly as it was not possible to do this by email.

Duplication is inevitable but acceptable: The focus groups confirmed that using multiple recruitment and communication methods is the only way to reach to the broad population and there was acceptance and tolerance of the fact that this leads to "doubling up of efforts".

Recruitment processes need to be simple and led by a single organisation.

Set a realistic recruitment window but make provision for contingency: The project achieved an average of 15-20 signups per week. As this was slower than anticipated, the recruitment window was extended.

Begin recruitment as early as possible: As recruitment took much longer than was expected, it should be commenced as early as possible before the start of the challenge.

Accurate telephone numbers should be sourced before recruitment commences: There was a significant delay in the telephone recruitment starting caused by the time taken to obtain contact information. Contact numbers for customers were obtained through internal records of customers who had contacted ENW in the past about a fault and from information passed on from energy suppliers. The data was incomplete and not always accurate and future projects would benefit from a real drive at the beginning of the project to source accurate records, perhaps through partnership with energy suppliers.

Use appropriate recruitment approaches for different customer groups: A mixture of recruitment methods are required to capture the broad demographic of customers in the challenge area. Door knocking or telephoning in the day will capture a greater proportion of retired customers. Specific approaches are also needed to capture shift workers or customers who are on holiday.

Give customers who are unwilling or unable to make an immediate decision an opportunity to find out more: Where customers are busy, or would like time to think about the challenge, it was found to be helpful to direct them towards an upcoming event they can attend where they can find out more, such as an energy surgery. The opportunity of signing up was then still available to them, and they did not feel pressured into it.

Consider recruiting one team at a time: It may have been more effective (had the data been available) to recruit one geographically-based participant team at a time, starting with telephone recruitment and then moving to face-to-face contact. Had this been done, face-to-face recruiters could have been booked well in advance (and the same ones would then have been able to move from area to area during the recruitment period). Team-by-team recruitment would also have led to a greater concentration of HEVS in the same area in a particular period, which would have been logistically easier.

Do not use texting for recruitment: Texting was found not to be a suitable way to recruit customers as many of the numbers available were landline and not mobile. Text to speech messaging is seen as an irritant and this tool was dropped immediately when it received a negative response from the initial testing amongst a small number of customers.

Weekly conference calls are required between project partners during the recruitment process: This is due to the high level of activity and the need to keep reviewing strategy and progress against targets set. Key performance indicators should be decided upon and reviewed weekly.

Electronic data is recommended for all contact points: This means that data can be updated rather than recaptured at offline points of contact. For example if the qualifying addresses were pre-populated into a database and all given a unique reference number then the door knockers could use a tablet to capture basic information, the telephonists could update it and the HEV auditor would complete it. Customers can sign their name on a tablet too. This would have been much more efficient than the more manual process used, which involved cross referencing spreadsheets and manual input of the HEV answers, and would allow reports and trends to be generated automatically.

Have two recruitment administrators: The nature of the administrative support required during the recruitment stage ideally lends itself to one person handling it and that one person being totally dedicated to the project so that they can co-ordinate the many approaches and the multiple project partners are involved in the process. However, for business continuity reasons, two members of staff with experience in recruitment and database management should be allocated to this type of project with time invested at the beginning of the project to streamline processes and remove as much duplication of effort as possible.

Use standardized, dated forms throughout the process: At the beginning of the project, emails were used to communicate recruitment updates, eg a new signup, instead of using forms to record any changes, with the result that changes often got lost in email chains, and it was also difficult to cross check any information as there were no forms identifying people or changes by date.

Maintain an action log listing incomplete task and, any risks or dependencies: The high level of administrative input required by all parties can lead to data not being forthcoming, being inconsistent or being delayed. An action log keeps track of outstanding tasks, and should be supported by project partners and their staff being regularly re-briefed on the importance of data collection.

Allocate a single member of the CCC team to work on the project: This individual will provide administrative support for the customer recruitment process, especially during the main recruitment period.

Book HEVs during the signup process: A large number of participants were signed up without an HEV being booked at the time of signup and it was difficult to re-contact these individuals to book the HEV appointment.

Maintain a minimum time between signup and the HEV: It had originally been planned that there would be at least a week between a customer's recruitment and their HEV. This was not adhered to and in some cases HEVs were booked during signup for less than 24 hours' time. This increased the urgency of circulating survey information in a timely fashion which generated a lot of pressure for all involved. It is recommended that a minimum time frame is agreed and adhered to for scheduling HEV appointments, however, this requirement ceases to exist if the customer survey is carried out independently of the HEV as recommended in Section 6.5.

A wide range of appointment times should be available to recruiters: NEA/Impact found it difficult to get signups to commit to a date for an HEV at the time of customer signup because there wasn't a wide enough range of appointment times available.

Recruiters need real-time access to available HEV appointment slots: Real time use of the Google calendar for telephone recruitment was effective, but didn't work for the team of 'door knockers' who had a hard copy printout of the calendar at best. Ideally they should have a phone number to contact at any time to book appointments, or real-time access to the calendar via a mobile device.

Separate the HEV appointment calendar from participant records: With multiple parties involved, it was difficult to find an easy-to-access, secure, shared booking system that met data protection requirements. The solution was to split the information across two systems, with a real-time Google calendar document (which held no personal data) available to all for bookings and respondent details kept securely at Electricity North West.

6.3 Customer engagement

The range of prizes and the process for choosing them could be simplified: There was feedback that the opportunity to win a prize was not an important aspect of the project for some participants and that simplifying the range of prize offers would not necessarily detract from their willingness to participate. The process of choosing prizes did not run smoothly in all cases: it worked best when recruiters gave participants the project booklet at the point of signup (rather than only receiving it at the HEV) and pointed them to the specific pages in the booklet which discuss the prizes so that they had time to make a decision which they could then communicate during the HEV.

If possible find an office base near or within the target area: This means that the project team is always accessible to residents even when doing non-contact administrative work. A

heated portable cabin would be suitable. If this is not possible, ensure that access points, such as telephone numbers, social media, postal address etc, are communicated.

Consider having a single point of contact for resident liaison: Customers had various communication touch-points with different PSC partners for their initial recruitment, HEV, the website, energy surgery events, telephone surveys, event reminders etc. As the target area for PSC projects is only 1,000 properties, it should be possible for a single phone number to be able to respond to all queries, rearrange HEVs, and so on, throughout the project. This could either be a mobile number or the local office base. This provides a direct relationship that can be built on and engenders trust.

Collect participants' email addresses: A customer agreement form was used to obtain consent for the NEA auditor to access participants' homes for the HEV, install energy saving initiatives, and for the customer to accept responsibility for the gadgets and to commit to reducing their energy usage. Contact details were collected on this form; but email addresses were not given by the large majority of customers. This meant that this valuable, cost-effective channel was not available for communicating with customers, many of whom prefer this type of 'push' communication as opposed to the 'pull' medium that the website offered.

Ensure all phone numbers are recorded accurately at the HEV: Contact details were sourced from the main shared database in order for customers to be called and asked to take part in the survey. Sometimes these details had not been recorded or recorded accurately at the HEV which meant further contact with the customer to obtain them. Re-contact should be limited to important information only.

Conduct the HEV as soon as possible after signup: Analysis of customer feedback indicates that customers are significantly more likely to engage in energy reducing behaviour after a HEV than before it. Therefore it is important for project momentum for the HEV to be completed as soon as possible and certainly before the trial starts.

Demonstrate the energy monitor during the HEV: The energy monitor was demonstrated by fitting and then turning on various appliances, typically a kettle, oven or toaster (or lighting if there are multiple halogen bulbs) to demonstrate the increase in electricity usage. This was usually very well received.

Suggest alternative ways of monitoring usage if the energy monitor cannot be installed: In some cases it was not possible to install the energy monitor. Sometimes the cables are too short, too bent or too close to other items for the clamp to fit. Feedback from customers was that the monitor was the most useful tool and therefore when it could not be supplied, it is recommend that the reason is explained to the customer and alternative ways of measuring usage are suggested.

Ensure that the person recruited by phone or face-to-face is the householder: The person recruited should be a main householder and not a relative under 18, elderly relative or landlord.

Combine advice with usage figures to optimise behaviour change: Experience and the results of the mid-trial survey indicate that the most effective approach is to combine written and face-to-face advice about energy efficiency with usage data feedback.

HEVs should not be compulsory: The HEV played an essential part in terms of encouraging customers to be proactive towards their energy saving. However, it should be offered as tailored advice based on a self-evaluation – something that is recommended and encouraged, but not compulsory. The final number of customers who signed up was adversely affected by the mandatory HEV policy as some customers didn't want a home visit or couldn't accommodate one within the timeframe suggested.

6.4 Communications

6.4.1 Events

The events and the communication plan should be agreed before the launch of the project: This will allow key dates for events to be advertised as early as possible, which will help ensure that participants are kept engaged in the project. This will be easier in future PSC projects as the content will largely be the same.

Book the launch event before engagement starts: Encourage all teams to come to the event and provide plenty of notice of the date. Experience from conducting multiple events on different days and times has shown that there is no 'magic formula' for selecting the most convenient day for this type of event.

Ensure event times are convenient for the customer segment targeted: The event time being inconvenient was the main barrier to attendance. In the case of the energy surgeries which were often planned for the evening from 6-8pm, elderly customers and customers with children were often not able to attend, despite being keen to participate. For example, many elderly customers do not drive and were uncomfortable about walking to evening events in the dark. Mums were unable to attend due to childcare issues because 6pm was too early for partners to be back from work to take over, and at this time they are in the middle of feeding/bathing kids anyway. In addition, more notice should be given to allow mums to organise childcare and for the elderly customers to arrange a lift to the surgeries. Alternative sessions were later arranged at lunchtime to enable these customers to attend.

Phone calls to participants about 5-10 working days before an event is an effective way of increasing attendance: The phone call should make customers aware of the date, time, location, agenda, refreshments (the caller can ask about dietary requirements) and who is able to attend (partners welcome etc)

Commence energy surgeries earlier: The energy surgeries should ideally have started as early as April.

Emphasise the community element: Feedback from the focus groups indicated that participants liked the social aspect of the community events and having the opportunity to learn from each other's experiences. It is important to play on this community cohesion effort and facilitate both educational and fun social interactions (across all teams).

6.4.2 General communications

Send out endorsement from the local authority and local social housing registered providers before any project communications: This will pre-establish the validity of project communications before they arrive.

Messages must be clear, concise, informative and honest: Scripts are needed for everyone involved to ensure that this is achieved.

Ensure that the challenge goals are clear: Absolute clarity is needed in messages to customers regarding the energy reduction target, the bigger picture (reducing overall load versus shifting load away from peak hours) and how to win the prize (available to any team that meets its target).

Customers like the concept of competitive challenges: Additional incentives and communications are therefore useful in building the challenge element such as prizes, league tables, team of the month, and providing a forum for customers to learn from each other (ie finding out why other teams are doing well).

Energy efficiency targets need to be motivating for customers who have already been the subject of similar initiatives: One area (Kilby) had already been the target for

significant investment in reducing energy usage (biomass), an some residents felt that there was limited scope for them to 'compete' with other teams, and so were not motivated by the target. The solution was to emphasise the proportional nature of the reduction target, which meant that the absolute reduction target was different for each team.

Customer questions relating to fairness should be addressed by the frequently asked questions (FAQs) document: When customers were engaged, they ask questions relating to adjustments being made for different weather conditions, different levels of signups etc. These should be included in the FAQs document and be covered during the HEV to encourage buy-in from an early stage.

Consider ways for team members to identify each other: Team members wanted to know who else was on their team but appreciated that data protection constraints meant they could not be given a list of names. The PSC window stickers helped to mitigate this and other suggestions included a street party and use of the community noticeboard in Team Kilby's area. The communication of team performance could also be facilitated by team members knowing who else is in their team.

Give each newsletter a theme: Newsletters are more engaging when each one has a specific focus/theme.

Manage the number of communications and plan them in advance: It was felt that too much had taken place, especially at the beginning of the project. It was also felt generally, that communications should be planned months ahead so that events and communications are booked in advance, rather than produced reactively.

Communications should include energy-saving advice and information about ENW: Overall the communications were too focused on recruitment and should have been more informative and helpful, offering advice on energy reduction and team performance. The communications also should have been used to set the scene at the start of the challenge, to help households understand what ENW does, and the difference between DNOs and suppliers. This would mean that when recruitment starts there is awareness and acceptance of ENW and it becomes less of a cold calling exercise.

6.4.3 Website

Include videos and useful links to external sources on the PSC website: The focus groups recommended that there should be YouTube videos (not necessarily videos produced for the project but relevant ones form the YouTube library) and a Useful Links section on the PSC website.

Use the newsletter to drive traffic to the website: Information such as the explanations about substations and how DNOs work, suggested above, could be added to the website and the newsletter could direct customers to it.

Processes are required to ensure timely updates: This applies to the promised weekly updates of performance data.

6.4.4 Data

Use visual formats for reporting data: The focus groups emphasised the importance of how data is communicated to customers. The most appealing format was a house infographic and a line chart with weekly/cumulative updates and like-for-like comparisons with both the previous year and other teams.

Formats need to make actual data clear: In practice, the graphs used on the website were still not very clear, with the gap between the actual usage and target line so small for most teams that it is hard to distinguish between the two, or between movements in performance from one week to another.

Formats should remain consistent: The format and presentation needs to be agreed at the outset (but should be designed to be appropriate for likely data values) and remain the same throughout the process.

6.5 Customer survey

Complete the survey *after* the HEV: The importance of the immediacy of the HEV (described in Section 6.3) is a key learning. The process map used aimed for the majority of surveys to take place before the HEV, which would aid NEA staff by reducing the time spent during the HEV asking customers these questions eg household size, presence of loft insulation etc. Impact Research would attempt to conduct the survey as soon after signup as possible and send NEA a pdf of the customers' answers before the HEV took place. This scenario still required NEA to complete questions that could not be asked over the phone which, in turn, meant data being stored in two places (in the survey response database and on paper copies held by NEA). Although the process was effective, its complexity significantly increased administrative work, and caused a delay in processing the data because it had to be merged together. Therefore it is recommended that the two exercises are separated in future projects.

Ensure that participants are aware that they will be contacted about the customer survey: Although the survey was not a mandatory element of the challenge, it was important that customers were at least told that they may be called and asked to take it. There was some resistance to taking part in the survey, especially at the beginning of the project where the expectation of this was not set.

6.6 Prize management

Simplify the prize options and reduce their value: A key problem faced in the process was determining which prize the winning customers had selected. Many prize winners did not select a prize and a lot of time was spent trying to get in touch with them to confirm. It would be more efficient to remove the element of choice from the challenge give all winners the same prize (high street vouchers or a counter-top Halogen cooker for example). The value of the prizes could also be reduced without affecting their utility.

Consider when rewards are given: It was suggested that part of the reward might be moved to the recruitment process to encourage customers to sign up, for example offering a Halogen cooker (which could also reduce energy consumption during the trial). A lower value of vouchers would then be offered at the end of the trial to maintain the incentive to stay engaged throughout the process.

Use a reward supplier that has online as well as store channels and a flexble voucher system: The reward supplier's 'reward card' system was too rigid as it only allowed the project team to process values to the cards once all of the prize selections were available. In addition, the cards could only be used in store and not online, which participants understandably found unnecessarily inflexible and also led to the negative experience of store staff attempting to sell them further products.

6.7 Data

Formal contracts are needed to ensure timely data supply: A **f**ormal contract is required with any third party that stipulates clear deliverables to ensure data is updated on time for it to be useful for customers. Not having this data on time led to lost momentum.

Automate data processes: The process of uploading and collating data was open to human error throughout the trail, further compounded by the process having too many hand offs. This process needs to a robust automated process with minimum input required

7 CONCLUSION

The evidence presented in this report which has been produced and disseminated as a result of expert analysis of the data collected during the customer surveys has confirmed the hypothesis that:

> *"Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage."*

This hypothesis held true amongst a statistically robust and representative sample of Electricity North West customers.

Participating households changed their energy usage behaviour and their attitude towards energy consumption, both during the trial and after it had ended.

There was also evidence of improved social cohesion during the course of the trial.

Overall peak energy consumption fell 4.3% during the trial (2014) compared to the baseline (2013) and then fell a further 1.5% a year after the challenge had been completed (2015). At an aggregate level, this equated to a 5.8% reduction in peak energy consumption across the lifespan of the project demonstrating that behaviour change had been successfully embedded.

In addition to analysis of peak energy consumption, 24 hour energy consumption during the same winter period across the lifespan of the project fell 0.4% compared to the baseline. This finding demonstrates a tangible shift in usage patterns to off-peak.

The CRC Energy Efficiency Scheme was utilised to measure the emissions from energy supplies and 3,301 kgCO2 was saved at an aggregate level during the PSC project.

DNOs can therefore be confident that implementing the PSC blueprint will achieve the desired behaviour change leading to demand reduction.

8 PSC BLUEPRINT FOR SIMILAR PROJECTS

The blueprint set out below is a recommended variation of the method used in the 'original' PSC project, and draws on the key findings and lessons learned from the project.

This blueprint is likely to be a rapidly deployable, cost effective and acceptable method to customers which is capable of achieving significant and sustained behaviour change.

The blueprint assumes that a lead organisation will coordinate the project if the method is replicated; in the original project this role was fulfilled by Electricity North West.

8.1 Hypothesis

Deploying proactive demand reduction measures can alleviate network capacity restrictions by achieving both significant and sustained changes in energy usage.

8.2 Geography/ population size

The population size could be as large as 10,000. However the specific geography is important to ensure that communication plans can be cost-effectively delivered and a sense of community cohesion achieved. The trial area should be mapped around local communities, ensuring all streets (and parts of streets) in a local community are included.

8.3 Project personnel/team (both internal and external partners and endorsements) roles and responsibilities

The following project support and leadership is recommended:

1. **Lead organisation** (eg Electricity North West)
   The key roles and departmental support required within the lead organisation are:

   - Lead Project Manager (and supporting team)
   - Communications Department
   - Customer Contact Centre
   - Engineers/Technical Team
   - Vulnerable Customer Team.

   The project should be branded as the Power Saver Challenge delivered by '*Lead organisation'*.

   The lead organisation is likely to be accountable for:

   - Recruiting customers into the project (either leading or bringing on board an external agency to administer household recruitment)
   - Delivery of the customer engagement plan (CEP)
   - Delivery of the communications plan
   - Installation of monitoring equipment on trial networks.

2. **Local housing providers**
   The collaboration of local housing providers can support the aims and objectives of the project and enhance credibility and trust amongst participants. Local housing providers may:

   - Send out endorsement letters
   - Promote face-to-face events where relevant
   - Attend and actively participate in engagement events.

3. **Local community networks/charities/community groups**
   Local community groups can assist in the successful delivery of the project by raising awareness of the PSC which may include but should not be limited to:

   - Generating positive PR around the programme
   - Promoting participation in PSC events
   - Attending, co-hosting and/or hosting customer engagement events.

   It is recommended that a stakeholder event is run in the local area to identify and understand local bodies that can support the project and to understand levels of support and commitment to it before commencing a PSC study.

8.4 Appropriate load reduction target

Targets of 5-10% are reasonable. However, a feasibility assessment of current load and community infrastructure should be undertaken to determine a load reduction level that is appropriate for the defined area.

8.5 Most effective method(s) of recruiting customers to take part

The recruitment phase should comprise two stages:

1 A brand awareness campaign
2 Signup to the PSC.

It is recommended that an initial brand awareness campaign is undertaken within the defined geographic area to overcome barriers of trust, credibility and/or general cynicism towards the PSC. The aims of such a campaign are to:

- Ensure the lead organisation's name is familiar
- Ensure the community is aware of the role of the lead organisation and what its services/benefits to households are and how it is differentiated to other service providers.

The approach for encouraging households to sign up to the PSC should use a range of tools (some of which will be more effective in some geographic areas than others):

- Door to door activity
- Phone calls to relevant households
- Digital methods such as website and social media
- Targeted letters and mailshots
- Signup events eg energy surgeries.

A full schedule of events should be planned before the recruitment phase begins, with estimates made of signup numbers from each activity. Parties responsible for each activity should be defined and timescales agreed.

The challenge should be managed in teams to promote the community aspect of the programme, with each participating household assigned to a team. The teams can be given names relevant to the local community and subsequent communication directed at both teams and individual households.

The lead organisation should try to utilise as much external support as possible to execute the recruitment phase. The most effective support is likely to be the involvement of partners who operate within the local vicinity eg the Local Authority. However, depending on the scale of the geographic area and resources available, it may also be necessary to hire specialist recruitment agencies eg for door knocking or telephone calls.

8.6 Lead time required for recruitment

Three to six months is required for a brand awareness campaign and a further three months for the recruitment phase.

8.7 Most effective method of educating the local community on how to reduce peak and overall demand

During the recruitment phase, households should be encouraged to take part in a Home Energy Visit (HEV). This would ideally be administered by the lead organisation in the participant's home. The HEV should incorporate a review of current electricity consumption leading to tailored advice and gadgets, such shower timers, being provided to stimulate behaviour change.

An alternative facilitation method would be to provide the household with the ability to self-complete the HEV process, although this is not preferred.

A programme of community events should be organised, such as energy surgeries, where energy saving tips can be disseminated to complement the HEV and reinforce its messages. Other effective communication channels include providing a telephone support service and a dedicated website.

It is also important to ensure that regular dialogue and engagement is sustained with households after they have signed up, particularly if the signup phase lasts for several months. Households that sign up at the start of the period need to be kept actively engaged

until the challenge fully launches, which is why capturing telephone numbers and email addresses at the recruitment stage is worthwhile.

8.8 Customer incentivisation to achieve targets (prizes, giveaways etc)

An exhaustive and expensive incentivisation system is not required to support behaviour change. Two main incentives are recommended:

- Free giveaways/gadgets eg LED light bulbs
- A gift voucher upon completion of the programme – in the region of £25-50 – with the option to forego this personal gift voucher and to donate the amount to a local community group/network partner supporting the challenge.

8.9 Most effective way of communicating team performance (eg website)

Communicating team performance is important to ensure continued engagement and commitment towards the project. Updates on team performance need to be timely, accurate and easy for customers to access. It is recommended that, as far as possible, this information is proactively pushed out to households though a variety of media such as emails, hard-copy newsletters or a closed Facebook group. Communication plans need to include online and offline access.

8.10 How best to motivate participants to share knowledge with others and achieve their energy saving goals

In order for participants to share knowledge and encourage one another they need to know who else is on their team. This will help to promote a sense of competition between the teams and to develop cohesion within them.

A number of approaches are required to facilitate knowledge sharing:

- Setting up a closed Facebook community group
- Events – fun, themed events aimed at sharing information
- Working with local community groups to promote knowledge sharing.

8.11 Most effective method of sustaining behaviour change (team events, interventions etc)

Sustaining commitment to the PSC and facilitating behaviour change should be a primary focus of the CEP and be supported by a well-structured communications plan.

Regular, fun, themed events supported or hosted by local project partners should be booked and communicated to participants at the outset of the study in order to leverage behaviour change.

The communications strategy should include regular challenge updates in the form of newsletters, website refreshes, emails and Facebook posts.

8.12 Likelihood of tangible social and/or environmental benefits

Administering the challenge in a team structure enhances cohesion and a feeling of ‘community spirit’ within the geographic area. If this is achieved, it is likely that a ‘halo effect’ effect’ (the tendency for an impression created in one area to influence opinion in another area) will also be felt by others in the local community who had not decided to take part in the challenge.

Broader social benefits can also be reaped:

- Registrations to priority services registers

- Additional assistance to specific vulnerable households
- Financial support to local community groups
- Development (and strengthening) of relationships between local partner agencies and the lead organisation.

9 APPENDICES

9.1 Appendix A: Project replication

The list of physical components required to replicate key PSC activities is shown below:

Preliminary scoping

- Feasibility assessment of current load and community infrastructure

Registration process

- Process map incorporating registration processes and procedures
- Endorsement letters from project partners (eg local authority)
- Promotional materials (eg mailshots, newsletters)
- Data privacy statement and associated protocols
- Customer agreement form
- Shared-access CRM database of PSC participants including a appointment-booking facility
- Team allocation maps and database.

Home energy visit

- Letter to confirm HEV appointment and preparation required
- HEV information pack (consent form, booklet containing incentive information and participation FAQs)
- HEV energy efficiency assessment form
- Energy efficiency gadgets (eg. energy monitors, LED lightbulbs).

Communication toolkit

- PSC website
- PSC video
- PSC social media presence
- PSC telephone number
- PSC postal address.

Sustaining engagement

- Venue for face-to-face events (eg church hall for energy surgeries)
- Equipment to facilitate face-to-face events (eg slow cooker for cooking demonstration)
- Information leaflet(s) with energy efficiency hints and tips.

Technical

- Kelvatek Bidoyng devices.

Qualitative customer research

- Database of customers in the geographical area of interest

- Recruitment screener
- Recruitment quotas
- Discussion guide
- Stimulus materials
- Focus group venue
- Transcripts and audio recordings.

Quantitative customer research

- Recruitment questionnaire
- Recruitment quotas
- Baseline questionnaire
- Monitoring questionnaires (mid-trial, end of trial and after trial)
- Interviewer briefing instructions
- Letter of survey endorsement (part of interviewer briefing pack)
- Database of customers in trial area.

The knowledge required to replicate the outcome of key PSC activities is as follows:

- Knowledge of the geographical area of interest
- Knowledge of customer profile
- Knowledge of trusted third parties operating within the geographical area of interest
- Knowledge of how to asses/audit household energy efficiency and utilise this knowledge in the provision of specialist advice
- Knowledge of a CRM system for storing, handling and analysis of customer data
- Knowledge of how to build and sustain a PSC website
- Knowledge of how to utilise multi-channel communication channels (eg social media to communicate effectively with participants)
- Knowledge of best practise approaches to recruiting participants into the project
- Knowledge of the most effective methods of educating the local community on how to reduce peak and overall demand
- Knowledge of how to deploy monitoring devices to electricity networks to monitor electricity consumption
- Knowledge of how to check, extract and analyse technical data from network monitoring devices
- Knowledge of best practise approaches to disseminating technical monitoring data to participants to make them aware of their teams performance
- Knowledge of how best to motivate participants to share knowledge with others and achieve their energy saving goals
- Knowledge of optimal customer incentivisation strategies to achieve targets
- Knowledge of various methods of recruiting and maintaining sufficient participants for the trial and managing the exit strategy upon close down of the project
- Knowledge of various methods of recruiting customers for focus groups and surveys
- Knowledge of qualitative research methods required to produce the physical components listed above for recruitment; design; moderation; analysis and reporting
- Knowledge of quantitative research methods required to produce the survey instrument
- Knowledge of methods used to enhance the accuracy of customer contact data
- Knowledge of IT systems to produce the physical research components above for recruitment, design, analysis and reporting.

Indicative costs associated with the physical components listed above are as follows:

- Producing a video - £10,400
- Producing and maintaining the PSC website - £12,925
- Marketing – £105,816

- Qualitative and quantitative market research and analysis - £110,500
- Technology to support behaviour change– £213,900

Figure 3.5 in Section 3.4.2.4 of this report provides a breakdown of the type and volume of equipment provided to PSC participants to support behaviour change. The aggregate cost is provided above and the unit costs were as follows:

- Plug-in timers (13A rating with overload protection) - £10
- LED light bulbs - £9
- Shower timers ('Pebble' Effergy or similar) – £5
- In-home energy displays/monitors- £20
- Electrical appliance give-aways- £180

It is anticipated that substantial cost savings could be made in future projects should the blueprint set out in Section 9 be utilised to facilitate replication of the project outcomes.

9.2 Appendix B: Stakeholder feedback

9.2.1.1 Stockport Metropolitan Borough Council Housing Strategies Team

What was your role in the Power Saver Challenge?	Local Authority Lead, providing local intelligence and advice to residents.
How do you feel the Power Saver Challenge helped local residents to reduce their energy consumption?	Greatly, all the feedback from events and social interactions was that participants had learned something or been prompted to make changes to how they use energy within the home. The general consensus was that energy should be conserved, not only to reduce the demand on the network but also to give them financial savings.
What broader community & social benefits did you feel the Power Saver Challenge delivered?	Many people told us that they enjoyed the social events where we facilitated everyone coming together to meet. Anecdotally some of these people have gone on to join community groups and many said they had met neighbours that they had never talked to before.
How do you feel the Power Saver Challenge has directly benefited your organisation?	Working on a targeted prevention project has brought lots of learning which is now being used for future projects. Having a partnership approach to the project also helped to give the project credibility, especially from the customer's perspective.
What, if anything, do you think could be changed to improve the Power Saver Challenge if it were to be rolled out to other geographic areas?	Some participants struggled to understand why some homes on their street were included and others not. A more geographically led approach would be easier to manage and understand for the community engagement, it would also help with including local schools, clubs etc.

9.2.1.2 National Energy Action

What was your role in the Power Saver Challenge?	National Energy Action Group To support the delivery of the challenge and build awareness of and registration to, the Priority Services Register.
How do you feel the Power Saver Challenge helped local residents to reduce their energy consumption?	It was a very practical challenge that armed households with simple and easy ways in which they could reduce their energy usage and therefore bills. It also was a great vehicle for educating households about energy use and the broader support that is available.
What broader community & social benefits did you feel the Power Saver Challenge delivered?	During the challenge there were a number of events which gave households an opportunity to meet others in their local community. As the pilot was a challenge it also instilled a sense of pride and competitiveness in ensuring their community was working together to reduce energy consumption.
How do you feel the Power Saver Challenge has directly benefited your organisation?	The Power Saver Challenge has been hugely beneficial in spreading awareness of our organisation and enabling us to build our presence with vulnerable households.
What, if anything, do you think could be changed to improve the Power Saver Challenge if it were to be rolled out to other geographic areas?	Some of the administration in the running of the challenge could be simplified particularly around the Household Energy Visits. It would also benefit the challenge if households were notified who else was in their team with team leaders or champions identified to try and encourage more of a team spirit within individual teams.