

SDRC 8.8

# TM4 (COMMUNITY ENERGY COACHING TRIAL) – FINAL REPORTING



---

## **Solent Achieving Value from Efficiency**

Solent Achieving Value through Efficiency (SAVE) is an Ofgem funded project run by Scottish and Southern Electricity Networks (SSEN) and partnered by the University of Southampton (UoS), DNV GL and Neighbourhood Economics (NEL). The innovative programme evaluates the potential for domestic customers to actively participate in improving the resilience of electricity distribution networks and thereby defer the need for traditional reinforcement. The government has forecasted an increase in electricity demand of 60% by 2050 meaning peak demand is likely to grow to six times higher than what the network was designed for.

---

# CONTENTS

<b>Executive Summary</b>	<b>6</b>	<b>3 Active Engagement – January 2016 to December 2017</b>	<b>20</b>
<b>1 Research Focus</b>	<b>8</b>	3.1 The engagement process	21
1.1 Context	9	3.1.1 Formal Trial Periods	21
1.1.1 Introduction	9	3.1.2 Preparatory Community Mapping	21
1.1.2 The DNO's Investment Challenge	9	3.1.3 The Engagement Journey	21
1.1.3 The LCNI/SAVE research proposal	9	3.1.4 Contrasting Reactions in initial engagement	22
1.1.4 SAVE Overall Sampling Framework	9	3.1.5 The Distinctive Dedicated Strategies (DDS)	22
1.1.6 SAVE Network Modelling	11	3.1.6 Activity Levels	23
1.1.7 CEC trial - Governance documents	11	3.2 Engagement around energy	24
1.2 Aims and objectives of TM4 (the CEC trial)	11	3.2.1 Summary of Interventions	24
1.2.1 LCNF Bid Commitments	11	3.2.2 Intervention Dependencies	24
1.2.2 TM4: Core hypothesis	12	3.2.3 Generation of Creative Material	29
1.2.3 BAU application	13	3.2.4 Key drivers for behaviour change	29
<b>2 Trial Set Up and Methodology – April 2014 to December 2015</b>	<b>14</b>	3.2.5 The 'Power' of the Power Draw Chart	30
2.1 Trial phasing	15	3.2.6 Alternative Cooking	31
2.1.1 Phases of Research	15	3.3 Convergence activities	32
2.2 Preparation and strategic design – key methodological steps	15	3.3.1 Convergence Focus Groups	32
2.2.1 Good Practice Review – August 2014	15	3.3.2 Final Co-design Dissemination Workshop	33
2.2.2 Area Selection – October 2014	15	3.3.3 Use of Video	35
2.2.3 Installation of Substation Monitoring Equipment - December 2014	17	3.4 Delivery issues and persistent risks	35
2.2.4 Recruitment of Stakeholder Group – early 2015	17	3.4.1 Persistent Risks	35
2.2.5 The Theory of Change and Outcomes Chain – June 2015	17	3.4.2 Substation monitoring	35
2.2.6 Formal Trial Governance – June 2015	17	3.4.3 Stakeholders' Complementary targets	36
2.2.7 Recruitment of local Coaches – September 2015	18	3.4.4 Quantification of Social Impacts – Equivalent Unit Value	37
2.2.8 Final choice of Trial Areas – October 2015	18		
2.3 Key coaching principles	18		
2.3.1 Coaching Essentials	18		
2.3.2 Balancing Top Down and Bottom Up change	18		

<b>4</b>	<b>Analysis and Interpretation</b>	<b>39</b>
4.1	Analysis of demand reduction impacts	40
4.1.1	Data Related Interventions	40
4.1.2	Observability of Demand Reduction	40
4.1.3	Feeders being monitored	42
4.1.4	The weather adjusted analysis process	42
4.1.5	Big Switch Off: Promotion/TP3	43
4.1.6	Big Switch Off: sign up/TP3	43
4.1.7	Calibration of Impacts	47
4.1.8	Network Capacity released/Scalability	47
4.2	Analysis of other impacts	49
4.2.1	Other Quantitative Impacts	49
4.2.2	The Priority Services Register	50
4.2.3	Qualitative Impacts	51
4.2.4	Project Cost Breakdown/cost efficiency of individual measures	54
4.2.5	The value of direct DNO/ customer interaction	54
4.2.6	Key feedback quotes	55
4.3	Sustainability of behaviour change impacts	59
4.3.1	The Assumption	59
4.3.2	Energy Literacy Toolkit	59
4.3.3	Making the Emotional Connections	59
4.3.4	Trial Area Legacy Plans	60
4.3.5	Contribution to the Government's current strategy for reducing greenhouse gas emissions as set out in the 'The Carbon Plan'	60
4.3.6	Stakeholders' Good Practice	61
4.4	Learning outcomes	64
4.4.1	5 Key Themes/5 Key Audiences	64
4.4.2	Learning Outcomes	65
4.4.3	The 'Connected Communities' Prototype and potential Rollout	74

<b>5</b>	<b>Appendices</b>	
5.1	Project Management	76
5.2	Parallels and contrasts between TM4 and other trials	78
5.3	Learning Visits – The Key Lessons	79
5.4	Area Selection Process	80
5.5	Description of the Trial Areas	82
5.6	The Distinctive Dedicated Strategies (DDS)	85
5.7	Full Creative Material Inventory	90
5.8	Delivery against Outcomes Chain	106
5.9	Network Scalability	110
5.10	Local Coaching Activity Levels	113
5.11	Project Cost Breakdown	114
5.12	Making the Emotional Connections	115
5.13	Rollout of Connected Communities Coaching Programme	116

A document named 'TM4 (Community Energy Coaching Trial) SSET206/LCNF Tier 2 SDRC 8.8: Supplementary Appendix Post-trial Review 'One Year On' follows this document.



## List of Figures

Figure 1: All Trial Sampling Framework	10
Figure 2: MINDSPACE: Key Determinants of Behaviour Change	11
Figure 3: Checklist of LCNF Bid Commitments – The TM4 Focus	12
Figure 4: The SAVE Community Energy Coaching Trial	13
Figure 5: Overall CEC Trial Timeline – Key Events	16
Figure 6: Final Choice of Trial Areas –October 2015	18
Figure 7: The Coaching Process	18
Figure 8: TM4 Integrated Win/Win/Win Solutions	19
Figure 9: The Active Engagement Journey	21
Figure 10: Local Branding Platforms	23
Figure 11: Summary of TM4 Research Interventions	26
Figure 12: Focus Group/Feedback Sequencing	27
Figure 13: Potential Behaviour Change Drivers	30
Figure 14: Energy Literacy: the Power Draw Chart	31
Figure 15: Final Co-Design Dissemination Event March 2018	34
Figure 16: Stakeholders Complementary Targets	37
Figure 17: Data Related Interventions	41
Figure 18: BSO Promotion – Measured Consumption – KW Feeders	44
Figure 19: BSO Promotion – Measured Consumption – SW Feeders	45
Figure 20: Measured Demand Reduction – BSO Sign Up	46
Figure 21: BSO - Sign Up: Shirley Warren	46
Figure 22: BSO – Sign Up: Kings Worthy	46
Figure 23: BSO – Sign Up: Shirley Warren Control	47
Figure 24: BSO – Sign Up: Kings Worthy Control	47
Figure 25: Other Qualitative Outputs (Non Substation data)	49
Figure 26: PSR Impacts	50
Figure 27: Array of Attributable Social Impacts	52
Figure 28: What Participants have said about the CEC Trial	55
Figure 29: Legacy Plans - SWWT	62
Figure 30: Legacy Plans - CKW	63
Figure 31: 5 Key Audiences	64
Figure A1: The TM4 Delivery Team	76
Figure A2: Learning Visits – The Key Lessons	79
Figure A3: Host/Area Selection Process	81
Figure A4: TM4 Trial Areas – Demographic Profile	83
Figure A5: Baseline Consumption Profiling - 2015	83
Figure A6: Kings Worthy – DDS Options	85
Figure A7: Shirley Warren – DDS Options	86

Figure A8: SWWT – Key DDS Components	88
Figure A9: CKW – Key DDS Components	89
Figure A10: Theory of Change: Outcomes Chain	107
Figure A11: Outcomes Chain – Underlying Assumptions	108
Figure A12: Outcomes Chain – Strategic Interventions	109
Figure A13: BSO Event – Intervention Effects	110
Figure A14: Load Reduction Per Customer	111
Figure A15: Estimated CO2 Savings Based on the CEC BSO Event	112
Figure A16: Indicative Local Coaching Activity Levels in SW and KW	113
Figure A17: Project Cost Breakdown	114
Figure A18: Making the Emotional Connections	115
Figure A19: Connected Communities – Provisional Rollout Costs	118
Figure A20: Connected Communities – Progressive Scaling	119
Figure A21: Programmatic Definition of ‘Connected Communities’	120
Figure A22: ‘Stackable’ Programme Benefits	121

---

## Glossary of Terms

---

Co-design approach	<p>The co-design approach enables a wide range of people to make a creative contribution in the formulation and solution of a problem. This approach goes beyond consultation by building and deepening equal collaboration between citizens affected by, or attempting to, resolve a particular challenge. A key tenet of co-design is that users, as 'experts' of their own experience, become central to the design process. The role of facilitation is an essential component of a successful co-design project. Facilitators provide ways for people to engage with each other as well as providing ways to communicate, be creative, share insights and test out new ideas.</p> <p>The immediate benefits of employing a co-design approach include:</p> <ul style="list-style-type: none"><li>• Generation of better ideas with a high degree of originality and user value</li><li>• Improved knowledge of customer or user needs</li><li>• Immediate validation of ideas or concepts</li><li>• Higher quality, better differentiated products or services</li><li>• More efficient decision making</li><li>• Lower development costs and reduced development time</li><li>• Better cooperation between different people or organisations, and across disciplines</li></ul> <p>The longer-term benefits include:</p> <ul style="list-style-type: none"><li>• Higher degrees of satisfaction of, and loyalty from, customers and users</li><li>• Increased levels of support and enthusiasm for innovation and change</li><li>• Better relationships between the product or service provider and their customers</li></ul>
Top down/bottom up	<p>In the 'top-down' approach, key decisions are made at an executive (management or organisational) level and presented to the staff, stakeholders or customers making it easier to make decisions more quickly. By contrast, the 'bottom-up' approach starts with getting input from those who will be using or affected by the product/service or outcome with consensus decisions then finalised by the executive</p>
Community Engagement	<p>Developing and sustaining a working relationship between one or more public body and one or more community group, to help them both to understand and act on the needs or issues that the community experiences</p>
Community Development	<p>A process which enables people to organise and work together to identify their own needs and aspirations, take action to exert influence on the decisions which affect their lives, improve the quality of their own lives, the communities in which they live, and the societies of which they are a part</p>
Customer engagement	<p>Is the means by which a company creates a relationship with its customer base to foster brand loyalty and awareness</p>
Energy Literacy	<p>These are the essential principles and fundamental concepts underpinning energy education, helping individuals and communities to make informed decisions about the use of energy</p>
Value/Action Gap	<p>Is the space that occurs when the values (personal and cultural) or attitudes of an individual do not correlate with subsequent actions. More generally, it is the difference between what people say and what people do</p>
Substation	<p>A place where high-voltage electricity from power plants is converted to lower-voltage electricity for homes or businesses</p>
kW	<p>Stands for kilowatt. A kilowatt is simply 1,000 watts, which is a measure of power. So, for example, a 10,000 watt electric shower could also be called a 10 kilowatt shower</p>
kWh	<p>A kilowatt hour (kWh) is a measure of energy. So a 1,000 watt drill needs 1,000 watts (1 kW) of power to make it work, and uses 1 kW of energy in an hour</p>
Power Draw	<p>Or instantaneous power – is the amount of energy being used (or generated) at any one particular moment in time</p>
Constraint Managed Zone (CMZ)	<p>A CMZ is a geographic region served by an existing network where security of supply is met through the use of flexibility services, such as Demand Side Response, Energy Storage and stand-by generation</p>

---

## Acronyms

ASB	Anti-Social Behaviour
BAU	Business as Usual
CEC	Community Energy Coaching
CKW	Connecting Kings Worthy
DCLG	Department of Communities and Local Government
DDS	Distinct Dedicated Strategy
DECC	the former Department of Energy and Climate Change
DoT	Department of Transport
KW	Kings Worthy
LCNF	Low Carbon Network Fund
NEL	Neighbourhood Economics
NOMIS	National Online Manpower Information System
Ofgem	Office of Gas and Electricity Markets
ONS	Office for National Statistics
RIIO	(Revenue = Incentives + Innovation + Outputs)
SAVE	Solent Achieving Value from Energy
SDRC	Successful Delivery Reward Criteria
SSEN	Scottish and Southern Electricity Networks
SW	Shirley Warren
SWWT	Shirley Warren Working Together
tEC	the Environment Centre (Southampton)
TM4	Trial Method 4
UoS	University of Southampton
WinACC	Winchester Action on Climate Change

---

## Note to readers

The CEC Trial Delivery Team appreciates that the results of the trial research will be of interest to a wide range of potential audiences. It is suggested that particular audiences will be most interested in particular sections of the report as follows:

- **DNO Network Planners** – interested in optimising network investment and potentially open to alternatives to straightforward reinforcement of network capacity. See Sections 3.4 (Delivery Issues), 4.1 (Analysis of Demand Reduction) and 4.4 (Learning Outcomes);
- **DNO Customer Engagement Teams** – interested in looking for innovative tools and techniques for engaging customers and communities (especially ‘hard to reach’ groups) to address vulnerability issues and increase resilience. See Sections 3.2 (Engagement around Energy), 4.2 (Analysis of other Impacts) and 4.4 (Learning Outcomes);
- **DNO Stakeholder Engagement/Other Utilities and Strategic Partners** – interested in developing strategic alliances to support organisational performance, deliver on key social obligations and maximise collaborative social impacts and cost efficiencies. See Sections 3.2 (Engagement around Energy), 3.3 (Convergence Activities), 3.4 (Delivery Issues), 4.2 (Analysis of other Impacts), 4.3 (Sustainability of Behaviour Change Impacts) and 4.4 (Learning Outcomes);
- **Third Sector infrastructure bodies and community-based organisations** - interested in promoting energy efficiency and related ethical behaviours. See Sections 4.1 (Analysis of Demand Reduction), 4.2 (Analysis of other Impacts), 4.3 (Sustainability of Behaviour Change Impacts) and 4.4 Learning Outcomes);
- **Industry bodies, Government Agencies and academic institutions** - interested in promoting research based innovation, best practise and identifying means of achieving wider policy level targets. See Sections 3.3 (Convergence Activities), 4.1 Analysis of Demand Reduction), 4.2 (Analysis of other Impacts) and 4.4 (Learning Outcomes).

To assist accessibility to relevant learning across these audiences, key learning points are check-listed at periodic points throughout the report. In particular, the Learning Outcomes set out in Section 4.4 are also colour-coded to indicate which audience groups might be most interested in any particular outcome.

---

# EXECUTIVE SUMMARY

*The SAVE Project as a whole is about exploring the scope for behaviour change and increased energy efficiency amongst customers leading to predictable peak demand reduction as an alternative to automatic network reinforcement.*

There are 4 trial methods in all. Three are household based, each with a sample group of 1000 random households with dedicated monitoring equipment installed, receiving different 'cut' or 'shift' messages over a 2 year period. As distinct from the household based trials, the **Community Energy Coaching (CEC) trial** is community based, with local substation level monitoring installed across 2 differentiated communities of 1000 households each, one in Southampton and one in Winchester. The research focus for the CEC trial has been on collaboration with the communities and other stakeholder agencies in delivering potentially deeper and more sustainable impacts in terms of peak demand reduction and contingent social benefits.

The CEC trial research has been delivered in several phases over the period January 2014 to June 2018, with the aim of applying a co-design methodology to test an outcome-based theory of change, exploring different engagement and behaviour change techniques in the process. The trial has endeavoured to attribute measured demand reduction at local substations to specific research interventions. It has also captured other positive social impacts linked to local community and wider stakeholder engagement with a view to evidencing replicable third party and business benefits as part of a potentially sustainable process of behaviour change.

Through the course of the CEC trial research, a number of **key actions** were undertaken. These include:

- bringing together a multi-agency Stakeholder Group to design and oversee trial delivery;
- co-creation of a branded, community-driven organisation within each trial area as an intermediary in delivering a dedicated local change programme;

- establishing a local co-design group in each area as a consistent point of reference for the Delivery Team;
- provision of professional empowerment/coaching support to each community through a trusted environmental host organisation;
- selective installation of substation (and subsequently feeder level) monitoring equipment within each trial and control area in order to observe consumption behaviour;
- conducting baseline energy usage and awareness surveys;
- development of an Integrated Intervention Programme embracing both community and energy agendas;
- running Open Days in the format of focus groups and workshops to finalise intervention options and legacy plans;
- securing formal sign up to reducing peak electricity usage;
- demonstrating the value of utilities and local authorities working together in empowering positive change;
- building a legacy of positive, sustainable change within each community.

Substantial **Learning Outcomes** arising from the research trial offer a range of positive benefits for the DNO, other key stakeholders and local communities to build upon, notably:

- the value of the 'Connected Community' concept as a compelling driver for collective behaviour embracing both physical and emotional connections;

- 
- clear buy-in at the community level to peak demand reduction based on increased levels of Energy Literacy and the associated 'earning the right' principle of co-design;
  - for the final campaign 'Big Switch Off' event, an average reduction in peak electricity demand (6-7pm) of 10.6% across the selected substation feeders. This could be an incentive for a DNO to operate as the catalyst in focused community engagement – with an associated need to review lower cost peak monitoring options;
  - the generation of 'stackable' social impacts which could justify cost-effective multi-agency collaboration – with an associated need for clearer quantification of benefits;
  - the potential for sustained transformation of communities with demand reduction (and other positive impacts) embedded in legacy plan commitments and locally branded change strategies;
  - a potential community engagement protocol, based upon 5 key principles, which can underpin the co-creation of trusted local intermediary organisations able to support and embed change as part of any future collaborative work;
  - follow up 'SAVE revisited' events which will take place in November 2018, reviewing with local residents and stakeholder partners the continuing durability of the outcomes achieved through the research trial.

With a view to **scaling up** the positive benefits of the CEC trial research to a viable BAU programme, the research has effectively served to create a prototype for non-traditional, DNO led engagement blending the change agendas of the DNO, other stakeholder agencies and the community itself.



# RESEARCH FOCUS

---

## 1. Context

### 1.1.1 Introduction

This is the Final Report for the Community Energy Coaching Trial (Trial Method 4) within the SAVE Project (Solent Achieving Value from Efficiency). SAVE is a Low Carbon Network Fund (LCNF) research project led by Scottish & Southern Electricity Networks (SSEN). It began in January 2014 and is due to complete in June 2019. Involving over 8000 domestic customers, the project aims to establish whether and how energy efficiency measures can be considered as a cost effective, predictable and sustainable tool for managing peak demand as an alternative to network reinforcement.

The Coaching Energy Coaching Trial (CEC) is one of four trial methods within the overall SAVE project. It is focused on two differentiated trial communities, one in Southampton and one in Winchester. The other three trials involve randomly selected groups of individual households across the Solent area. Across all trials, the research aims to explore a range of energy efficiency messaging formats in achieving predictable behaviour change amongst domestic customers.

Distinctively, the CEC Trial focuses upon whole communities rather than individual households. It aims to build 'win/win' relationships with and between local residents and other stakeholder agencies to assess the relative impact and sustainability of collaborative, community-based engagement.

Neighbourhood Economics (NEL) has been responsible for overall management of the CEC trial since its inception in 2014. The 2 year active engagement phase of the trial started in January 2016 and was completed in December 2017. The active engagement phase for other trials runs throughout 2017 and 2018. They will accordingly report in June 2019.

### 1.1.2 The DNO's Investment Challenge

SSEN is responsible for the electricity network that brings electricity to homes in the Solent and surrounding area. This area is representative of much of the UK where local authorities are implementing a strategy of supporting and encouraging local communities and businesses to develop and grow. This is positive but increases the challenge of demand on the electricity network.

The electricity network is sometimes characterised by periods of peak demand which can cause overloads on the existing distribution infrastructure. The aim of the SAVE project is to find out whether it is possible to reduce demand at peak times through encouraging and facilitating changes in customers' usage behaviour.

In addition the RIIO framework (Revenue = Incentives + Innovation + Outputs) is changing the way that DNO's operate with the adoption of social obligations as a primary output category within the framework, driving renewed strategic focus amongst DNOs in delivering social benefits to customers, especially the most vulnerable.

### 1.1.3 The LCNI/SAVE research proposal

SAVE is designed to trial and evaluate the effects of four particular methods of energy efficiency in influencing positive behaviour change. Each Trial Method (TM) has been chosen to allow an assessment of multiple factors, notably the cost and effort required to install equipment and/or implement research tests.

The four methods are:

- TM1 - LED installation – testing different engagement routes to encourage customer take up of LEDs along with the impact of LEDs upon electricity consumption once installed.
- TM2 - Data-informed engagement campaign – a focused customer engagement campaign using tailored messaging to encourage behavior change and deliver subsequent reduction in peak and overall demand.
- TM3 - Electricity Distribution Network Operators price signals direct to customers plus data-informed engagement – a focused customer engagement campaign as for TM2 but with added financial incentives.
- TM4 - Community Energy Coaching (CEC) – the subject of this Final Report.

Trial Methods 1-3 have sample groups of some 1,000 customers each, with a further 1,000 making up a control group for comparison, all selected on a randomised basis across the Solent region. These trials have been managed by DNV GL, and analysed by the University of Southampton (UoS). TM4 has 2 differentiated Trial communities of 1000 households each with matched, equivalent sized control areas.

### 1.1.4 SAVE Overall Sampling Framework

The CEC Trial (TM4) is distinct from the 3 household based trials as can be seen in the 'All Trial Sampling Framework' (Figure 1 below). Due to its interactive nature, working closely with residents and stakeholders as part of a co-design approach, it has been able to add value to the other trials by providing insights into why customers respond to energy efficiency in specific ways – understanding rather than just observing actions taken.

Given the CEC trial's aspiration to understand how local residents act together to achieve a collaborative impact on local networks it was designed to be monitored at substation level. Supported by the UoS the trials have been monitored at feeder level with 71 monitors (across 22 substations).

### 1.1.5 The Determinants of Behaviour Change – the MINDSPACE model

The SAVE project is about exploring and identifying the most reliable determinants of behaviour change in different customer settings. In exploring the key determinants of positive change, the CEC trial builds upon the MINDSPACE model<sup>1</sup>. Figure 2 below sets out the key influencing factors underpinning local co-design work through the trial.

Figure 1: All trial sampling framework

TM1 – Trial Sample	4000+ randomly selected households across the Solent region, roughly 1000 per sample group. Households were recruited on a voluntary 'opt in' and 'trial neutral' basis with no acknowledged assignment to any particular sample group.	Designed to provide definitive research platform for determining attributable demand reduction linked to individual household consumption
TM2 – Trial Sample		Sample size determined by aspiration to ensure statistical validity of measured changes in demand at minimum 5-10% reduction level.
TM3 – Trial Sample	All households with individual consumption monitoring equipment installed generating consumption data at 10 minute intervals	Demographic and housing profile information captured for all households allowing subsequent correlation with response data;
TM1-3 – Control Sample		
TM4 – Trial Sample	1000 households in 2 areas differentiated demographically. Selected in association with stakeholder agencies.	Trial and control areas subject to wider area monitoring with consumption data generated at 10 minute intervals through 71 feeders across 22 substations in total.
TM4 – Control Sample	1000 households in 2 areas differentiated demographically to mirror Trial areas.	Sample size selected to mirror household sample groups but with no equivalent aspiration regarding statistical significance of measured demand changes.

<sup>1</sup> As published by Cabinet Office and Institute for Government in 2010. See also SAVE SDRC 1 (June 2014)



### 1.1.6 SAVE Network Modelling

A key outcome of the SAVE Project is the development of the Network Investment Tool to be made available to all DNOs. The aim of this tool will be to allow DNOs to assess whether using customer engagement and energy efficiency measures to cut demand, or traditional technology based measures and 'smart' solutions will be more cost-effective for managing a network constraint in any given situation.

In order to best capture and apply the CEC trial learning for other feeder monitored trials as part of SAVE's Network Investment Tool, the team has worked closely with the University of Southampton (UoS) to develop an additional 'community model', sitting alongside the project's existing 'customer model'. The community model is inherently designed under the same methodology as the customer model<sup>2</sup>. The premise being that if a DNO can understand how customer demographics (aligned with census data) impact the way in which a customer responds to an intervention then anticipated smart intervention effects can accurately be scaled and hypothesised across the UK. For the build of the customer model this means matching individual consumption data with household demographic information (from surveys on the project). For the CEC trial where consumption is measured at the substation rather than household level, this granularity in data does not exist. Instead the community model looks at how certain combinations of customer demographics interacting together might predictably elicit positive demand reduction.

By working closely with the University of Southampton to understand those demographic variables which have the greatest impact on consumption (number of bedrooms, number of people per household and heat source) the overall project can match household addresses at feeder level to census Output Areas (OAs) to understand the 'types' of customer likely to reside on each feeder. Coupling this range of customer types with intervention effects gives an overview of what a given cluster of customers may achieve when interacting together. The community model can then build on this anticipated effect across customers, working with SAVE's other models in order to scale the effects across the UK, much like the customer model. Inherently no two communities will match exactly and as a result parameters are anticipated to match similar communities or highlight data gaps where not enough evidence exists. It is intended that this approach could then be built upon, scaled and added to by other community based projects monitored at substation/feeder level.

Figure 2: MINDSPACE: Key Determinants of Behaviour Change

<b>Messenger</b>	we are heavily influenced by who communicates information
<b>Incentives</b>	our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
<b>Norms</b>	we are strongly influenced by what others do
<b>Defaults</b>	we 'go with the flow' of pre-set options
<b>Saliency</b>	our attention is drawn to what is novel and seems relevant to us
<b>Priming</b>	our acts are often influenced by sub-conscious cues
<b>Affect</b>	our emotional associations can powerfully shape our actions
<b>Commitments</b>	we seek to be consistent with our public promises, and reciprocate acts
<b>Ego</b>	we act in ways that make us feel better about ourselves

### 1.1.7 CEC trial - Governance documents

This final report draws upon a wealth of governance material created over the last 4 years of the project's delivery. Notable sources of information include the minutes of the monthly SAVE Project Partner Report Board (PPRB) meetings, bi-monthly CEC trial Stakeholder Group, various formal and informal Co-design and Focus Group meetings, CEC trial Quarterly Reports and Learning Logs.

More detailed information on the formal aspects of CEC trial governance, learning processes and the CEC trial Delivery Team are included under Appendix 1.

## 1.2 Aims and objectives of tm4 (the cec trial)

### 1.2.1 LCNF Bid Commitments

Figure 3 below sets out the range of outcome commitments made in the SAVE LCNF funding bid, along with an indication of how each one has been addressed by the TM4 Delivery Team through the CEC trial.<sup>3</sup>

<sup>2</sup> As developed by UoS - see SAVE SDRCs 2.1 and 2.2

<sup>3</sup> This SDRC (Successful Delivery Reward Criteria) submission 'TM4 (Community Energy Coaching Trial) – Final Reporting' is the only formal SAVE submission relating to TM4 required by Ofgem.

**Figure 3: Checklist of lcnf bid**

	Commitment	How addressed
<b>Bid objectives:</b>	<ul style="list-style-type: none"> <li>Monitor effect of energy efficiency measures on consumption across range of customers</li> </ul>	Formal energy interventions over several trial periods culminating in Big Switch Off event, November 2017
	<ul style="list-style-type: none"> <li>Analyse effect and attempt to improve in subsequent iterations</li> </ul>	
	<ul style="list-style-type: none"> <li>Evaluate cost efficiency of each measure</li> </ul>	Activity cost analyses undertaken. Given interactive nature of the trial, relatively difficult to apportion costs in detail between energy and social impacts
<b>Knowledge gaps:</b>	<ul style="list-style-type: none"> <li>What engagement approaches are available to DNOs to facilitate uptake of energy efficiency measures by domestic customers?</li> </ul>	Through baseline surveys/Co-design Groups/Focus Groups/formal trial iterations exploring a specific non-traditional, multi-agency coaching approach
	<ul style="list-style-type: none"> <li>What do DNO led energy efficiency campaigns look like and how can they be run successfully?</li> </ul>	Experimentation with different message formats and different types of messenger focusing ultimately upon collective community action as (i) the primary driver of change and (ii) the foundation for sustained legacy impacts.
	<ul style="list-style-type: none"> <li>What are the most cost-effective energy efficiency measures for DNO's?</li> </ul>	
	<ul style="list-style-type: none"> <li>How enduring are the impacts of each measure and what costs if any are associated with sustaining the impacts?</li> </ul>	A follow-up review is planned for November 2018 to assess the durability of impacts.
<b>Learning outcomes:</b>	<ul style="list-style-type: none"> <li>to gain insight into the drivers of energy efficient behaviour for specific types of customers</li> </ul>	Through baseline surveys/Co-design Groups/Focus Groups/formal trial iterations
	<ul style="list-style-type: none"> <li>to identify the most cost effective channels to engage with different types of customers</li> </ul>	
	<ul style="list-style-type: none"> <li>to gauge the effectiveness of different measures in eliciting energy efficient behaviour with customers</li> </ul>	
	<ul style="list-style-type: none"> <li>to determine the merits of DNOs interacting with customers on energy efficiency measures as opposed to suppliers or other parties</li> </ul>	Exploring in particular the options for (i) improving Energy Literacy (ii) the role of a trusted local intermediary in facilitating behaviour change and (iii) formal guidelines for rollout of a replicable BAU multi-agency programme

Appendix 2 summarises the parallels and contrasts between TM4 and other trials in the way these commitments were addressed.

### 1.2.2 TM4: Core hypothesis

The CEC trial represents an alternative, non-traditional approach to engagement, seeking as part of a local coaching process, to:

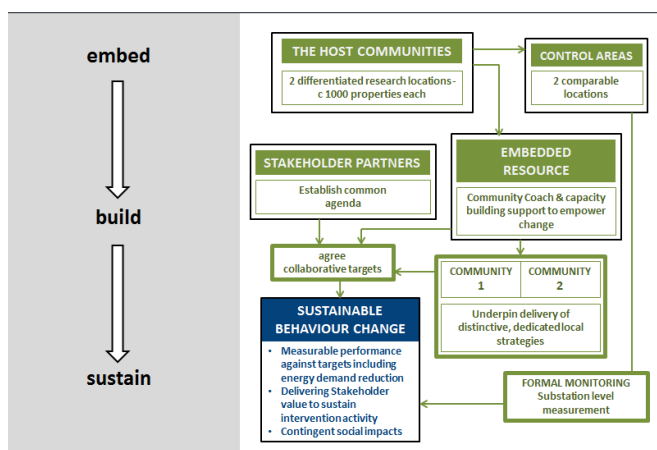
- ‘**embed**’ a Community Energy Coach in a target community to provide a dedicated and consistent local presence
- work with all local stakeholders and partners to ‘**build**’ the capacity to embrace change in energy consumption; and
- draw on the support of all stakeholders and partners in empowering and integrating grassroots effort to deliver and potentially ‘**sustain**’ its own demand reduction, along with contingent social impacts and positive behaviour change which the engagement process has served to trigger.

Reflecting this approach, the working hypothesis for the CEC Trial was summarised as follows:

**“Measurable changes in localised consumption behaviours generally – and in terms of peak energy demand reduction in particular – are more likely to be achieved with key local and national stakeholders working intensively together to resource and empower defined geographical communities in actively embracing a compelling, locally relevant, collaborative sustainability-related theme. Furthermore, resultant positive behaviour change is more likely to be reinforced and sustained in the long-term by the momentum of pooled stakeholder effort”.**

The 'embed, build and sustain' model (as set out in Figure 4 below) provides a novel route to delivering behaviour change compared to more traditional approaches typically employed by DNOs and other utilities. Bringing together the 'bottom up' agenda of the community and aligning it with the 'top down' energy agenda of the DNO has provided a range of learning opportunities for all of the stakeholders involved.

**Figure 4: The SAVE Community Energy Coaching Trial**



### 1.2.3 BAU application

The key priority of the CEC trial and the wider SAVE project is to provide the learning and knowledge framework to underpin improved operational effectiveness in electricity distribution.

The research is accordingly focused on the replicability of trials in a 'business as usual' (BAU) setting with, in the case of the CEC trial, an imperative to consider the potential scaling up of the coaching approach to deliver positive and cost-effective operational outcomes for the DNO and other stakeholders.



# **TRIAL SET UP AND METHODOLOGY – APRIL 2014 TO DECEMBER 2015**

---

## 2.1 Trial phasing

### 2.1.1 Phases of Research

The CEC Trial was delivered in a number of distinct phases over the period January 2014 to June 2018 as specified at the project outset:

- **Phases 1 and 2** took place over 2014 and 2015, the focus of which was primarily the pre-trial set up work including a good practice review, the preparation of the initial Project Manual (including the theoretical Outcomes Chain) the identification of the trial and control communities, recruitment of host organisations and the multi-agency Stakeholder group and the installation of substation monitoring equipment.
- **Phase 3** in 2016 saw the commencement of the 'live' trials focussing on the engagement of the two trial communities, the development of local branding, co-design groups and local strategies, along with the first of the formal energy related interventions.
- **Phase 4** took place in 2017 and saw the continuation of the local development work with both locally branded co-design groups, further trial iterations with more formal focus group activity, culminating at the end of 2017 with the 'Big Switch Off' event which saw the 'bottom up' local action agenda and the 'top down' energy efficiency agenda integrate with the development of local legacy plans.
- **Phase 5** has seen the formal conclusion of the project with a shared dissemination event with residents from both communities and the multi-agency Stakeholder group, agreed legacy plans in place and the writing of this formal end of project report.

Figure 5 overleaf gives a flavour of headline events during each of these phases over the length of the trial research, with some of the key preparatory steps being elaborated in Section 2.2.

As an extension to the original phasing at the outset, it has been agreed that the NEL team should revisit the project in November 2018 to review the durability of legacy impacts. As such, substation/feeder monitoring equipment will remain in place as such through 2018

## 2.2 Preparation and strategic design – key methodological steps

### 2.2.1 Good Practice Review – August 2014

As part of the trial preparation in 2014, the Delivery Team put together a review of good practice in community engagement focusing upon behaviour change in the energy sector ('Background Review of Good Practice in Community Engagement' August 2014). This provided the team with a useful checklist in shaping the trial and highlighted the relative absence of engagement projects centring on a collaborative 'win/win' coaching approach to behaviour change. A key element to the review was the importance of establishing a clear 'behaviour change' framework providing a structured reference point for developing and testing local interventions. The MINDSPACE model (para 1.1.5) was identified as an appropriate and relevant starting point.

As part of the trial preparation and initial design process, the team looked widely at previous DNO-related demand reduction and community engagement projects. Four projects in particular were looked at in depth – 'Less is More' (WPD), Power Saver Challenge (ENW), Energywise (UKPN) and Sola Bristol (ENW). The key lessons taken on board from these projects at this early stage in the strategic design process are detailed in Appendix 3.

### 2.2.2 Area Selection – October 2014

From a research perspective, the aim of the selection process was crucially to identify 2 differentiated trial areas each of 1000 households:

- one relatively affluent and aspirational, being seen as an attractive place to live with a relatively high quality of life allowing greater local engagement in choices regarding sustainability; and
- one relatively disadvantaged and increasingly susceptible to adverse effects in the local economy, many within the community being disaffected and potentially harder-to-engage on sustainability issues.

In 2014 the team delivered a series of localised Roadshows (awareness/workshop sessions) across the Solent region centred on Eastleigh, Isle of Wight, Portsmouth, Southampton, Gosport, Test Valley, Fareham, Winchester, Havant and East Hampshire. This led to the formulation of a long-list of potential trial locations based on the generally high levels of interest from potential partner authorities. Those interested authorities were then invited to submit an 'expression of interest' and put forward communities to be considered for the trial.

In October 2014, based on analysis of the bids received, the community pairings selected for the CEC trial were Shirley Warren/Townhill Park in Southampton and King's Worthy/New Alresford in Winchester.

Based on the 'bidding' process, 'Host' partner organisations appointed to support the operational delivery of the SAVE project within the trial areas were Winchester Action on Climate Change (WinACC) and The Environment Centre, Southampton (TEC).

The timetable and detail of how the selection process was conducted is summarised in Appendix 4.

**Figure 5: Overall CEC Trial Timeline – Key Events**

2014	Phase 1 - Start up /Preparation & Recruitment											
Q1	Project partner and programme familiarisation		Develop detailed work programme		Input into Customer/Stakeholder Engagement Plan		Identify and initiate key stakeholder engagement		Identify criteria for trial area selection			
Q2	Roadshow workshop sessions with all Solent Local Authorities			Agree selection process to identify trial areas & host organisations					Commence best practice review			
Q3	Area selection process initiated		Short list of areas identified for network assessment		Area profiles prepared for shortlisted areas to inform selection process		'Background Review of Good Practice in Community Engagement' submitted to Ofgem			'Less is More' learning visit		
Q4	Trial and control communities agreed		Substation monitoring installed in trial & control areas			Revised SAVE intervention periods agreed & project timeline amended			Ongoing stakeholder engagement & recruitment to planned group			
2015	Phase 1 & Phase 2 - Initial Monitoring											
Q1	Stakeholder Group established		Host organisations in place		Coach recruitment process approved		'Outcomes Chain' developed		Multi Agency Project Manual & Local Governance Pack developed		UKPN information exchange	
Q2	Stakeholder Group recruitment complete with meetings held to review Terms of Reference and supplementary targets				Coaches successfully recruited and Host SLA's in place			Ongoing Stakeholder engagement		Ongoing alignment with wider SAVE trial focus and design		
Q3	Coaches in post 1 September – induction & community profiling commenced			Stakeholder 'bus tour' of trial areas and 1to1 meetings to identify key supplementary targets			Ongoing alignment & review of key messages with wider SAVE trial			SoLA Bristol project review		
Q4	De-synchronisation of SAVE trials		Coaches initial assessment of key DDS issues as per profiling work			Sharing the 'coaching' approach with coaches and Stakeholders		Initial baseline data analysis by UoS / tEC		Learning visit to CSE/WPD/Bath University re 'Less is More' and SoLA Bristol		
2016	Phase 3 - First Trial Iteration											
Q1	Local engagement commences		Trial design / baseline activities and associated recognition of Energy Literacy issues			Stakeholder Group input into co-design process		Mitigation planning as lack of data analysis support and attributability issues become apparent			Learning Visit to ENW re Power Saver Challenge	
Q2	Connecting Kings Worthy – People, Places and Power agreed as DDS framework			Shirley Warren Working Together identified as likely way forward			Change of SW Coach		Data streaming / creative platform design ongoing		Impact measurement model options reviewed	
Q3	CKW local branding and activities especially around shortcuts and walking to school			First community co-design sessions take place		SSWT branding & framework in place – focus on community café & clean ups			Develop Area Level model to support data analysis		Detailed Intervention Programme in place	
Q4	Feeder level monitoring in place		Formal trial interventions delivered to targeted households		Ongoing DDS and co-design work in both communities		Analysis of 2015 baseline data		Stakeholders meet residents in KW		Creative platform now tied to local branding	Change of KW coach
2017	Phase 4 - Further Trial Iterations											
Q1	2 <sup>nd</sup> phase of formal trial interventions moving into 'challenge' year		Doorstep feedback undertaken		Stakeholders meet Shirley Warren residents		Full Energy Test programme finalised		Lightbulb Challenge launched as overarching 'energy' brand		SWWT formally constituted	KW Welcome Map distributed
Q2	Integrated DDS & Interventions Programme now in place		Formal 'Situation Statement' reviewing options & mitigating activity to compensate for data shortcomings				Ongoing local activities for example Money Saving Event in SW/ local fairs in KW		Focus Group sessions held to design next formal interventions			
Q3	Final intervention co-design and creative materials developed		Messaging Focus Groups held		Feeder selection for final planned interventions now made			Worthys Festival and fundraising activity in SW			Data analysis template agreed	
Q4	Lightbulb Community & Big Switch Off promotion and event		Final set of Formal interventions delivered		Convergence Focus Groups held		'Making the Emotional Connections' video		Ongoing DDS activity in both communities with a focus on hand over and legacy preparations			
2018	Conclusions & Wrap Up											
Q1	Review of trial interventions to date		Legacy meetings with SWWT, CKW & Host organisations to review lessons learned and intentions to sustain actions				Meetings with SSEN Engineers and CRT to review initial findings			Final dissemination session with Stakeholders and residents from both communities		
Q2	Final data analysis approved for sharing publicly		Wider dissemination activities for example WRC Measuring the Impact Close Down event				Creation of project video(s) to aid dissemination		Formal submission of SDRC 8.8 end of project report to Ofgem			

---

### 2.2.3 Installation of Substation Monitoring Equipment - December 2014

Having selected the trial and control area pairings in October 2014, the CEC Delivery Team were able to install monitoring on 22 substations in December 2014 across the 4 areas – with an average of 5 substations being monitored in each. This provided more than a year’s historical data by the start of the active engagement phase in January 2016 to enable baseline profiling.

Later, in order to increase the granularity of data being received, additional feeder level monitoring was installed selectively in October 2016 allowing the team to monitor consumption at feeder level (generally fewer than 100 customers) as well as substation level (generally up to 300 customers). Feeder monitoring provided greater flexibility in comparing the intensity of intervention impacts across smaller groups of households and allowed greater statistical sensitivity.

### 2.2.4 Recruitment of Stakeholder Group – early 2015

The Stakeholder Group was a distinctive feature of the CEC trial underpinning the detailed co-design process and subsequent delivery. As part of the coaching approach, it was important that these other partner agencies could be involved to share the ‘ownership’ of accumulated learning and any agreed, potentially replicable, solutions.

Supported by the NEL team the Group comprised representatives from the 3 utilities (SSEN, Southern Water and (SGN) Southern Gas Networks), 3 local authorities (Southampton, Winchester and Eastleigh), the 2 local Host Organisations (tEC and WinACC), the housing sector (First Wessex/Boulter Mossman) and the wider SAVE project (UoS, DNV GL and Future South).

There was a marked enthusiasm from the individual stakeholders and the group as a whole in contributing to the project and the prospect of shareable, transferable learning as identified in 1-2-1 interviews with members of the group. The novelty of the coaching approach along with access to detailed substation usage data provided a unique opportunity for stakeholders to be able to prove the effectiveness of different engagement approaches to energy efficiency.

The group’s willingness to engage in the research was also underpinned by a genuine interest in testing the viability of joint public, private and third sector working with the DNO as a catalyst in promoting community development activity.

Although some of the Stakeholders were known to each other this was effectively the first occasion that they had been involved in partnership work of this nature and the first time that SSEN, Southern Water and Southern Gas Networks had come together as joint utilities on a project.

### 2.2.5 The Theory of Change and Outcomes Chain – June 2015

The ultimate outcomes of the Community Energy Coaching approach in an operational ‘business as usual’ (BAU) setting were seen as threefold:

- DNOs (for example SSEN) are able to predict peak network demand and defer (and/or plan) associated network reinforcement accordingly;
- Communities are empowered to manage positive change impacts including local energy consumption;
- Stakeholders can accrue ‘value for money’ benefits from positive (perhaps more qualitative) social, economic and environmental impacts matched to each organisation’s particular agenda.

The Outcomes Chain put together in June 2015 as part of the early planning for the trial, illustrates the rationale which underpins the CEC programme. This ‘starting with the end in mind’ theoretical change model was devised working back from these 3 ultimate outcomes through a chain of intermediate outcomes to the programme’s starting point.

Further information in Appendix 8 outlines how final outcomes, intermediate outcomes, underlying assumptions and strategic interventions as originally defined, interact with each other to allow progression towards the desired behaviour change scenarios. The stated assumptions made in charting the desired change were tested and monitored as part of the trial research, as were the series of strategic interventions undertaken where change (forward progression from outcome to outcome) could not be expected to occur naturally. These strategic interventions inherent in moving progressively through the chain form the core of the methodology.

An assessment of performance in progression through the trial to the ‘ideal’ outcomes is included under Appendix 8 along with key learning points from the process.

### 2.2.6 Formal Trial Governance – June 2015

The Stakeholder Group was established in early 2015 with its initial role being to contribute to, shape and approve the Local Governance Framework and the Project Manual (including the Outcomes Chain) for the trial as formally adopted in June 2015.

The Stakeholder Group provided a key function as a multi-agency governance body operating collaboratively to maximise win/win opportunities for stakeholders, whilst facilitating and overseeing the fundamental learning outcomes regarding local energy efficiency behaviours.



The key co-production, delivery and review activities of the Group were established through the adoption of formal Terms of Reference for the group and controlled through conventional contracts and agreements with the Host Organisations to keep the 3 ultimate Outcomes Chain aspirations in sight.

### 2.2.7 Recruitment of local Coaches – September 2015

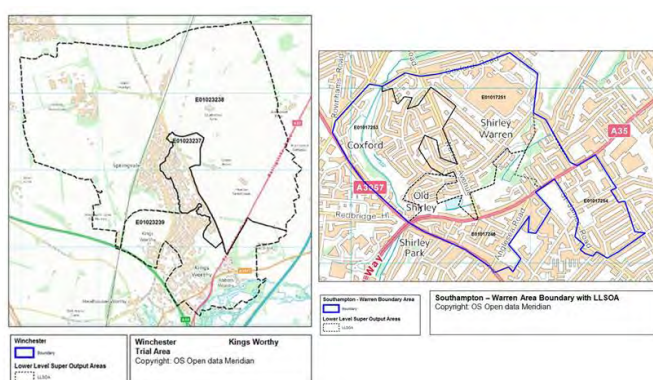
Both of the Host Organisations were able to identify a current member of staff who could readily assume the role of coach on a part time basis within their respective trial areas. Given that in a future operational context an external recruitment process might be needed, Southampton Council for Voluntary Service was commissioned to undertake an independent assessment of required competencies prior to any commitment to appoint. On this basis, the 2 in-house candidates were appointed, taking up post in September 2015.

The coaches' initial 3 month work programme ahead of the formal active engagement period starting in January 2016 focussed upon programme design, project compliance and due diligence, learning visits and initial community mapping.

### 2.2.8 Final choice of Trial Areas – October 2015

With the appointment of the coaches, final decisions on the selection of the Trial areas were made jointly, Shirley Warren and Kings Worthy being selected in October 2015. The Trial areas are shown in Figure 6 below.

Figure 6: Final Choice of Trial Areas –October 2015



A fuller description of the demographic character and consumption profiles for the selected trial areas is set out in Appendix 5. The composition of the Delivery Team as it changed over the course of the trial is set out in Appendix 1.

## 2.3 Key coaching principles

### 2.3.1 Coaching Essentials

The CEC approach is a non-traditional, co-design methodology which has been used to test an outcome-based theory of change.

The coaching process is about moving from where you are now, to where you want to be, more quickly and effectively than if you acted alone - the 'you' in this case being collectively the DNO, stakeholder partners and the community itself – as per Figure 7 below.

Moving forward in this way is more likely to create the basis of trust between the parties involved, which will reinforce both the depth, and durability, of positive behaviour change.

Figure 7: The Coaching Process

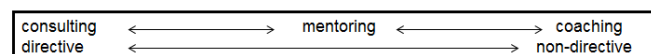
### COACHING IS:

- Non-judgemental
- Non-directive
- Client-centred
- Goal driven
- Trust based
- About self awareness
- Open to skills acquisition

### A DEFINITION

"... moving from where you are now to where you want to be ...

... more quickly and effectively than if you acted alone ... "



### 2.3.2 Balancing Top Down and Bottom Up change

The coaching approach does not reflect the typical relationship between communities and large service providers, such as utility companies and local authorities. The tendency is usually for these organisations, given immediate time and budget constraints, to focus upon organisationally driven 'top down' approaches to change reflecting a relatively short-term, delivery focussed agenda.

By applying coaching principles, the CEC trial research has sought to create collaboration between all parties on a wider, collective agenda which they can each recognise as coherent and meaningful for themselves. This has been referred to throughout the life of the trial as 'balancing top down and bottom up change'.



---

It has been recognised as part of the CEC trial that large service organisations may rarely have the ‘luxury’ of this relatively rich form of engagement. This has served to reinforce the emphasis throughout on the replicability of positive outcomes in a cost-effective, ‘business as usual’ (BAU) setting.

There is an emerging possibility of a BAU programme which could deliver a range of ‘stackable’ benefits to the DNO, other utilities and stakeholder agencies, in the process aligning energy and water efficiency with increased carbon monoxide awareness and wider policy level strategies such as the Carbon Plan.

Figure 8 below summarises this balancing process in terms of a win/win/win solution combining the aspirations of the DNO, other key stakeholders and the community itself.

**Figure 8: TM4 Integrated Win/Win/Win Solutions**





# **ACTIVE ENGAGEMENT – JANUARY 2016 TO DECEMBER 2017**

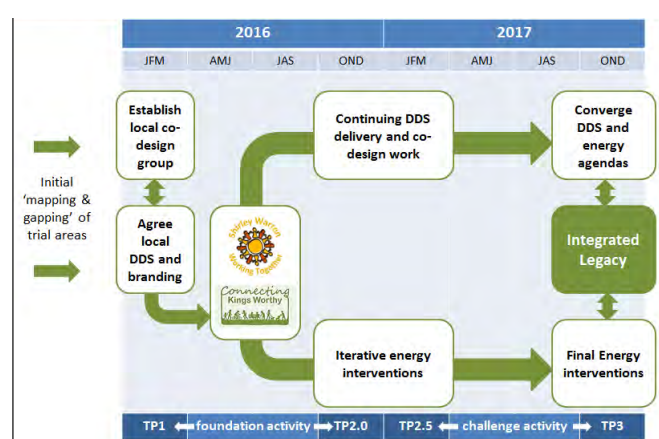
## 3.1 The engagement process

### 3.1.1 Formal Trial Periods

In accordance with the original SAVE Project bid, the 2 year Active Engagement period included 3 formal Trial Periods (TPs) during the winter months when energy demand is highest:

- **Trial Period 1: January to March 2016** – TP1 was about building relationships, establishing local Distinctive Dedicated Strategies (DDS) and associated co-design group work with the communities and stakeholders to create the 'foundation' for behaviour change;
- **Trial Period 2: October 2016 to March 2017** – continuing the foundational theme through TP2.0 (October to December) delivering interventions focused on 'cutting' consumption and seeking feedback through surveys and group sessions in preparation for the next, potentially more challenging round of interventions through TP2.5 in 2017. TP2.5 (January to March 2017) focused on 'shift' messaging ' using the branded intermediaries to refine messaging and creative materials in preparation for the final iteration of interventions in TP3;
- **Trial Period 3: October to December 2017** – looked at more intensive demand reduction tests through the Big Switch Off challenge and sought to converge the community, stakeholder and DNO change strategies in each area exploring opportunities for legacy commitments maximising the sustainability of positive behaviour change impacts.

**Figure 9: The Active Engagement Journey**



The broad course of the Active Engagement 'journey' is set out in Figure 9 above, moving through 2016 as the 'foundation' year and 2017 as the 'challenge' year.

For reference, Figure 11 in Section 3.2.1 summarises all of the CEC trial interventions within and between the formal Trial Periods.

### 3.1.2 Preparatory Community Mapping

In preparation for TP1, a key component of the coaches' initial work programme was to undertake 'desk top' profiling of the trial areas to build an understanding of the key local themes which could represent the communities' own local priorities. This process involved engagement with as many officials and commentators as possible short of direct engagement with local organisations and residents within the trial areas themselves. This 'proscription' was seen as important in avoiding the risk that baseline consumption data could be unduly influenced by any advance notification of the project. Subsequently, as the coaches moved into the formal 'active engagement' period in January 2016, this community mapping work was complemented by 'on the ground' local discussions regarding the potential focus for the DDS.

### 3.1.3 The Engagement Journey

Building upon the initial community mapping work, the journey began by seeking out as many community leaders, organisations, opinion formers and interest groups as the CEC Delivery Team could find to ensure as wide a range of interests within the community were represented as possible. In due course this enabled the team to bring together a core group of residents for co-design purposes. These groups looked at how the research process could work and at ways in which the coaching resource, available through the trial, could add value more widely to the community's own agenda.

By applying the principles of the embed/build/sustain coaching approach, the team sought first to help deliver recognised community aspirations and only then to integrate energy saving into an overall joint strategy. Throughout the early stages of engagement, this approach became seen as a matter of 'Earning the Right' to present the DNO's 'energy' agenda by initially empowering the community to articulate and deliver its own independent agenda through this trust building process. Accepting that no 'one size fits all', the team's initial approach in each community was to establish and support the local agenda for change and then, very transparently, to seek to accommodate demand reduction within the locally driven strategy.

---

Core groups of 8-10 residents began to consolidate more formally from April 2016 into a recognised Development Group in each area. These groups looked in detail at the options for widespread change within the community which the trial could help to deliver – the so-called DDS (Distinctive Dedicated Strategy). This initial engagement work, leading to agreement on the DDS and local branding, effectively constituted the first of the formal trial periods (TP1 - January to March 2016), although in both areas DDS options appraisal work tended to spill over into other foundation activities through Spring 2016. Details of the process leading to the development of the DDS are elaborated in Appendix 6.

The formalisation of the Co-design Groups, DDS and local brandings ('Connecting Kings Worthy' and 'Shirley Warren Working Together') in April to June 2016 provided a platform for developing both the community-led and the DNO-led strands of the behaviour change agenda.

The process allowed for the community-led and the DNO-led 'journeys' to be initially separate with a view to:

- taking opportunities throughout the trial to identify and explore 'touch points' through specific interventions as indicated in the Summary of Research Interventions table (Figure 11) and;
- gradual convergence between the DDS and energy agendas through the trial culminating in joint legacy planning with a view to demand reduction being embedded in sustained community-led activity beyond the end of the Active Engagement period.

2016 was effectively the 'foundation' year, ensuring trust relationships were established between the CEC Delivery Team, the community and with the newly branded co-design groups, effectively laying the ground for 2017 as the 'challenge' year.

### 3.1.4 Contrasting Reactions in initial engagement

The two trial communities can be effectively characterised respectively as:

- **Shirley Warren:** a 'below the radar' community with a dearth of community-based organisations and activities. Our primary engagement challenge was to bring people together in an effort to foster greater social cohesion;
- **Kings Worthy:** a 'resilient' community with an abundance of Community-based organisations and activities. Our primary engagement challenge was to bring organisations together in an effort to promote greater connectedness across the community.

The relative absence of community-based activity in Shirley Warren and the associated social cohesion challenge became clear through early engagement. This required significant effort by the whole Delivery Team to get 'underneath the radar' and bring together individuals who could make a difference. In Kings Worthy, the array of existing community organisations made initial engagement much easier. Reflecting upon why their community might have been selected for research, the typical response in Kings Worthy was 'well of course you would choose us' whereas in Shirley Warren it was more a case of 'we're just not used to being asked what we think'.

In terms of the initial separation of the DDS and energy agendas there was through the 2016 'baseline' year periodic questioning of the perceived lack of priority being placed on the energy agenda – that is 'when are we going to talk about energy?'. This questioning was generally more prevalent in Kings Worthy.

The local co-design process has generally worked well with formal group meetings being held on a regular 4-6 weekly basis with fairly consistent attendance throughout the trial. In Shirley Warren the fact of people being drawn together to represent the interests of their community was a new opportunity and from tentative beginnings has been embraced enthusiastically leading to the formal constitution of 'Shirley Warren Working Together'. By contrast in Kings Worthy, with the wealth of organisations already in operation, the challenge was to ensure that representatives with a range of other community commitments did not feel overburdened with involvement in the SAVE work.

### 3.1.5 The Distinctive Dedicated Strategies (DDS)

Following the coaching approach the crucial principle of working initially with each community on their own terms was key to establishing and supporting the local agenda for change. Only once this was in place did the team seek to accommodate demand reduction by agreement within the locally driven strategy despite this being the primary focus for the project.

In Kings Worthy, a number of workshops were held to discuss and agree the key issues that residents felt could be addressed through the support available from the project. This was a relatively straightforward process with the range of current community activity making it easy to identify residents to engage with. In Shirley Warren, however, a smaller number of residents attended a number of informal 'get togethers' following a greater level of active recruitment before undertaking the same process. The process of delivering the DDS is described in more detail in Appendix 6.

Each community naturally focused on the idea of an umbrella strategy making connections and drawing together different aspects of community life and groups and interests within it. This theme of 'connectedness' effectively set the tone for local engagement work and evolved considerably throughout the trial as a touchstone in tying together the community aspiration and energy aspiration strands of the trial.

Ultimately the DDS became enshrined in the umbrella brandings – Shirley Warren Working Together and Connecting Kings Worthy which over the further course of the trial were to become the local organisational focus underpinning the development and presentation of the behaviour change interventions – effectively the trusted intermediary.

The logo/brandings and key DDS aims for each trial area are set out in Figure 10 below.

**Figure 10: Local Branding Platforms**



### 3.1.6 Activity Levels

The levels of engagement activity have fluctuated within and between the trial communities over the 2 year Active Engagement period.

The levels of activity at the outset reflect the 'busy' nature of Kings Worthy compared to the 'less active' Shirley Warren but this changes over time as the DDS activity in SW begins to take off whilst the competition for volunteer time in Kings Worthy becomes more apparent. At times activity has also been linked to changes in coach personnel, with a slight drop in activity in Kings Worthy in late 2016/early 2017 reflecting a handover in coach and in Shirley Warren in the summer of 2016 when NEL staff provided necessary additional cover during a change of coaching staff.

Appendix 10 provides details of the 'on the ground' engagement activity taking place in both communities across the trial period. It is not an exhaustive list of engagement activity but demonstrates the difference in approach in the early months in particular. In addition to this a local website was created for both trial areas and social media, primarily Facebook, used to maintain a local presence and to widen the engagement net.

## Learning Checklist #1

Key learning points coming through the trial set up and initial community engagement activities:

- from the outset there was a high level of positive enthusiasm amongst stakeholders and potential partner agencies for joint working as part of the research and a strong identification with the aims of the project. This seems to reflect on one hand the relative absence of good practice references regarding collective behaviour change and, on the other, an aspiration to establish the viability of joint public, private and third sector working led by the DNO (as evidenced from Roadshow briefings and 1-2-1 interviews with Stakeholder Group members);
- there was a difference in the tone of the response to initial engagement from an urban 'below the radar' community where the challenge was to draw individuals together and a relatively 'resilient' community where the challenge was to draw organisations together (as evidenced through initial co-design work and later focus group and convergence feedback);
- the in-depth DDS engagement process clarifying and articulating each community's aspirations and priorities, naturally focused on 'umbrella' options connecting a range of individual change priorities. The idea of 'connectedness' became an underlying theme through the trial research (as evidenced through initial co-design work and later focus group and convergence activities);
- the principle of working initially with the communities unconditionally on their own terms was perceived positively as the DNO 'Earning the Right' to present its own energy agenda (as evidenced through initial co-design work and later focus group and convergence activities);
- the 'Shirley Warren Working Together' and 'Connecting Kings Worthy' brandings provided 'trusted local messenger' platforms for subsequent community engagement around energy. From the DNO viewpoint, as well as being potentially more effective in supporting behaviour change, these platforms offer the opportunity for greater cost efficiencies engaging customers in a 'one to many' rather than 'one to one' basis (as evidenced through later focus group and convergence activities).

## 3.2 Engagement around energy

### 3.2.1 Summary of Interventions

Figure 11 overleaf sets out the integrated programme of research interventions undertaken in delivering the core energy strand of the trial.

The local branding established as part of the early engagement through Trial Period 1 (January to March 2016), provided the platform for designing and consolidating the programme of research interventions to be conducted through the 2 remaining trial periods.

The shape of the programme evolved throughout the trial in response to co-design and focus group discussions in each community. Notwithstanding the different responses encountered there was no particular divergence of view between the trial areas in terms of the design of the interventions. As such, the same overall programme was delivered in both areas.

Consumption variability issues in relation to substation monitoring and the challenge of observing relatively small changes in consumption, served to limit the scope for running some potential interventions. These issues and how the Delivery Team has sought to mitigate them are covered in more detail in Section 3.4.

### 3.2.2 Intervention Dependencies

As part of the iterative process through the trial periods, the focus for particular interventions was influenced or dependent upon preceding interventions.

---

Initially in both areas local knowledge was used to determine the nature of the early 'cut' asks, including the language used and factsheet information that was put together in response to discussions relating to 'energy literacy'. As the trials developed and focus group work became more formalised the nature of the interventions and their organisation became a motivation for real co-design and delivery work. The changing nature of the intervention messages used, progressing from Save Money/ Save the Planet to Support Your Network/Care for Your Community, and the Big Switch Off events and sign up activities, illustrates how the resident feedback and focus group input influenced the direction and nature of the interventions as well as directly supporting their delivery.

In both communities co-design work took place through informal discussion with the SWWT and CKW Development Group members at their regular meetings to discuss their own local DDS activities, along with ad hoc feedback from conversations with residents in different community settings. As the trial progressed more formal feedback was gathered from participants in specific interventions through door knocking and formal feedback sessions. During the summer of 2017 recruitment took place to establish more formal focus groups with a view to refining and nuancing the messaging ahead of the final set of interventions. In Kings Worthy, recruitment took place along traditional invitation lines whereas in Shirley Warren, when this route failed to gain any traction, an alternative invitation of an informal 'cheese & wine evening to talk about energy' was set up. This proved much more successful and led to a group of some 16+ individuals becoming involved in the ongoing co-design process.



**Figure 11: Summary of TM4 research**

Community engagement		
<b>Branded Community Strategy</b>	Blanket community engagement building upon initial 'mapping and gapping' work to identify strategic change options tailored to each community's needs and, interactively, coming up with an agreed 'distinctive dedicated strategy' (DDS) for each area	TP1
<b>Local Resource Group</b>	Drawing together and supporting a local Co-design Group of local leaders/key players to help advise and oversee all strands of the project - both DDS-driven and energy-driven – and facilitating trust relationships between all parties	TP1
<b>Demonstration Projects</b>	Designing and delivering a range of projects reflecting agreed DDS priorities – where possible (but not necessarily) promoting alignment with the wider energy agenda	Post TP1
<b>Future Vision</b>	Ongoing development of the principles underlying the DDS to explore with local leaders/key players options for long-term place branding to reinforce positive change and wider buy-in beyond the end of the project	Post TP1
Awareness raising		
<b>Cross-over Events</b>	Embedding the energy agenda within routine community activities - building on existing community initiatives and/or through purpose-designed events	Post TP1
<b>Website</b>	Using the branded websites to support the local DDS strategies in the trial areas, building on opportunities for general awareness raising regarding energy efficiency and resident involvement – linking to other social media applications	TP2/3
<b>Lightbulb Challenge Programme</b>	Providing a 'catch all' awareness raising and engagement framework for the energy saving 'change agenda' within the trial communities building upon the wider DDS work – promoting formal sign-up to particular activities and feedback through 'shared outputs' and website/social media analytics	TP2.5
Impact Measurement		
<b>Baseline Response</b>	Identifying the relative participation response levels to an SSEN branded message - prior to widespread interactivity	TP2.0
<b>Direct Asks</b>	Using a 'trusted' local branding, selecting clusters of households at feeder level and asking them to take certain actions to initially 'cut' then 'shift' demand at certain times	TP2 0/2.5
<b>Big Switch Off: promotion</b>	A dedicated 'demand reduction challenge' urging a collective, community-wide response. Impact was recorded in terms of sign up and background monitoring at substations/feeders. The event was the culmination of the Lightbulb Challenge – Sunday 19 November 2017	TP3
<b>Big Switch Off: sign up</b>	Selecting a number of feeders for more intensive interaction to record relative BSO sign up levels, testing whether and to what extent active participation in the intervention can be detected in reduced consumption within set periods of demand restraint. Households were asked to cut and/or shift consumption for a particular hour over 3 alternate weeks culminating in the Big Switch Off	TP3
<b>Ambient Effect</b>	Background monitoring during the trial to assess whether there is any discernible evidence of widespread demand reduction (either 4-8pm or overall) across the trial communities as measured at substations/feeders – as compared to control areas	Post TP3
<b>Priority Services Register</b>	Exploring how the relative PSR sign up levels could be substantially increased in collaboration with the local community as a natural extension of the current DDS work	Post TP2
Focus Groups		
<b>Qualitative Feedback</b>	A combination of door step survey, focus group and online activity, aiming to add value to other household based trials to explain why particular outcomes are observed, exploring how residents may have reacted to set interventions and why specific actions were taken. This activity informed the formal 'Messaging' focus groups	TP2/3
<b>Messaging</b>	Establishing a number of differentiated Focus Groups within each trial area to test 'energy literacy' - leading to a clearer understanding of what constitutes a compelling narrative likely to underpin widespread behaviour change and, as evolved, the practical steps to encouraging sign up to the 'caring community' aspiration	Pre TP3
<b>Convergence</b>	Exploring new ways of working, looking at how the DDS generally and the Energy agenda specifically can converge as part of an integrated, locally branded initiative or legacy plan to sustain positive behaviour change activity in the trial areas	TP3/Post TP3



Figure 12 below shows in some detail how the sequence of feedback and focus group outputs served to shape the overall programme in this way.

**Figure 12: Focus group/feedback sequencing**

When	Who	Focus	Outcome
Feb-July 2016	KW and SW lead 'co-design' residents	Agree focus and branding for local DDS activities	<ul style="list-style-type: none"> <li>• SWWT and CKW agreed as focus for local DDS activities with core components identified</li> <li>• Local residents design and agree look and feel of local logos and branding</li> </ul>
Sept 2016	CKW Development Group & SWWT – using local knowledge and views of known group members	Consideration of TP2 intervention and design series of 3 energy 'cut' and 3 'shift' asks via letter to specific households on selected feeders	<ul style="list-style-type: none"> <li>• Local branding (CKW &amp; SWWT) to be used as lead creative platform in intervention communications rather than SSEN or other 'higher' level branding</li> <li>• Start with simple, known messages and asks which are easily achievable</li> <li>• Keep language simple and instructions clear</li> <li>• Suggestions for appropriate accompanying 'giveaways' of top tips leaflet, thermometer card and sticky notes for reminders</li> <li>• Can it wait 'til after 8 – as strapline for shift messages seen as positive</li> <li>• 'peak demand' and 'how do you get your electricity' factsheet put together in response to local lack of knowledge</li> <li>• 'Can it wait 'til after 8' Fridge magnet as gentle visual reminder</li> <li>• Cooking leaflet to address issue of need to cook at peak times but how can it be done more efficiently</li> </ul>
Jan 2017	Door step feedback from TP2 participants	Seek feedback on letter design, content, nature of asks and action taken	<ul style="list-style-type: none"> <li>• Confirmation of approach using local branding</li> <li>• Positive feedback on nature of reminders for known 'energy saving actions – prompt to action for many</li> <li>• Top tips card and in particular thermometer seen as helpful in support of taking action to reduce use. Fridge magnet proved conversation starter for children.</li> <li>• General willingness to engage in local research</li> </ul>
Feb 2017	Informal feedback session with invited TP2 participants	Confirm door step responses and to seek views on next steps	<ul style="list-style-type: none"> <li>• Shift message seen as new and 'novel'</li> <li>• Once role of DNO understood the reason for peak demand shift becomes clear</li> <li>• The 'how' still needs to be explained</li> <li>• Opportunities for recognition for individual and community action taken discussed with the idea of a package of activity under a 'Lightbulb Challenge' banner seen as interesting</li> </ul>

**Figure 12: Focus group/feedback sequencing (cont.)**

When	Who	Focus	Outcome
March 2017	CKW and SWWT Co-design Group feedback sessions	Review feedback from trial period 2/2.5 and consider next steps in engaging the wider community	<ul style="list-style-type: none"> <li>Lightbulb Challenge (LBC) agreed as creative platform for broadening engagement to the whole community</li> <li>LBC seen as a banner incorporating a wide range of energy activities</li> <li>LBC launched at events in KW (linked to launch of welcome map) and SW (money saving event)</li> <li>LBC award considered as too challenging to fit with KW busy calendar and too big a task for SW at present</li> </ul>
July-Sept 2017	Messaging Focus Groups, recruiting and incentivising 'new' local residents based on 2 meeting commitment In each area	Review messaging to date and seek views on further developing messages and support materials with a view to widening engagement across the community	<ul style="list-style-type: none"> <li>Drivers for behaviour change examined</li> <li>LBC seen as not quite hitting the mark although seen as useful branding for energy literacy/project type work with schools, groups</li> <li>Idea of 'caring community' has resonance in both areas – Lightbulb Community a possible refocus of current branding</li> <li>Further factsheets developed in response to need for simple, visual information – in particular the 'power draw' graph seen as a very clear and understandable call to action</li> <li>'Reduce your use' identified as potential new slogan to build upon existing social norms of recycling, reuse and food/water waste campaigns</li> <li>BSO events planned as all community call to action as well as final targeted intervention on specific feeders with sign up activity at local events and online.</li> </ul>
Oct 2017	CKW and SWWT Co-design Groups	Agree local activities and dissemination as part of BSO event	<ul style="list-style-type: none"> <li>Local activities designed taking in to account capacity of volunteer helpers and impact upon of competing local activities</li> <li>SW plans all community BSO event at the Action Centre</li> <li>KW plans limited feeder focussed event at the King Charles pub.</li> </ul>
Nov 2017	CKW and SWWT – Convergence Focus Groups Round 1 & 2	Agree learning and legacy from SAVE trial	<ul style="list-style-type: none"> <li>Key learning points identified informing potential BAU application</li> <li>Local legacy plans outlined</li> </ul>
Feb 2018		Confirm legacy plans	<ul style="list-style-type: none"> <li>Legacy activities from both DDS and energy activities agreed</li> </ul>

---

### 3.2.3 Generation of Creative Material

'Energy Literacy' became a key concept driving the generation of creative materials for the CEC trials. Whilst low levels of awareness of energy issues had been anticipated the team was taken aback by the consistently low levels of understanding across the differing communities - where energy comes from, how it gets to them, what the role of a DNO is and the challenges faced in keeping the lights on, understanding their bills, understanding how much energy the range of appliances they have used, the difference between draw (kW) and consumption (kWh) and what action they can take. The team uncovered an urgent need to talk differently about these things, to use clear language and to present information simply and visually.

Through the whole process of relationship building and collaborative working, it became apparent early on, that attitudes to energy usage were influenced mainly by negative associations. But, as the team explained more about the research, they were able to talk instead about (i) the positive role of Network Companies like SSEN (ii) the positive impact of 'shifting' peak demand (iii) the collective impact of communities and (iv) the Network Operator's social obligations.

The generation of creative material was also linked directly to the different campaigns and messaging formats linked to particular interventions, notably:

- Cut – Save Money/Save the Planet
- Shift – Support your Network/Support Your Community
- Reduce Your Use – as per Power Draw Chart
- Cooking - Save time too
- Lightbulb Community
- Caring Community
- Connected Community

The implication is that the learning about Energy Literacy is widely if not universally applicable providing an established base of research which does not need to be reinvented community by community.

Alison Dean, Stakeholder Engagement Manager for SSEN, commented: *'Building on the learning from the SAVE Project, SSEN is keen to use the Energy Literacy Toolkit that has been put together with the trial communities' support to enable local partners, as trusted intermediaries, to provide their own branded factsheets that can help them offer energy efficiency advice which is relevant and useful in the local communities they serve.'*

A full inventory of creative material including direct communications for demand restraint interventions is included at Appendix 7.

### 3.2.4 Key drivers for behaviour change

An essential part of the CEC trial co-design work was to understand the key drivers for behaviour change in order to inform the development of trial messaging and the design of energy interventions and ongoing interaction with the community.

It had been assumed at the outset that the behaviour change messaging for the trial would revolve around a combination of 'saving money' or 'saving the planet' in promoting widespread buy-in to demand reduction. Both of these drivers for change had some traction in each trial area but generally they tended individually to divide opinion and, when linked together, to offer a confused message. Digging deeper to identify alternative change platforms, the single most unifying driver was being part of a 'Caring Community'. This was true for both trial areas.

**Figure 13: potential behaviour change drivers**

Potential Driver	Learning Outcome
<b>Save the Planet</b> a wide range of environmental messages and issues including climate change/CO2 reduction	<ul style="list-style-type: none"> <li>Although this a fairly well known and understood global message the challenge of 'what can I do on my own' to make a difference to such a big and complex issue leaves many people disempowered and disengaged</li> <li>The need for a cultural, rather than individual, behaviour change shift is recognised</li> <li>The need for societal norms of EE to be adopted along the lines of recycling, reuse and waste is a potential opportunity - especially if combined in a multi utility message</li> <li>'Blue Planet' effect for example plastic straws and a clear, targeted campaign possible</li> </ul>
<b>Save Money</b> energy saving and related money saving message	<ul style="list-style-type: none"> <li>Again considered to be well known and generally well understood</li> <li>Those that need to save money were found to be using comparatively little electricity already</li> <li>Those who have money are often not bothered by £ savings unless motivated by wider environmental issues and in which case will have usually invested in 'green' energy saving appliances</li> <li>General energy literacy is an issue for the residents in both communities</li> <li>To use money as the sole driver would appear to be limiting or potentially divisive</li> </ul>
<b>Support Your Network</b> understanding the role of the DNO and using peak demand as the focus for change	<ul style="list-style-type: none"> <li>Energy literacy is a key issue here as the majority of residents know little or nothing about the existence or role of the DNO</li> <li>Once they do understand the role of the DNO the idea of peak demand is easily understood</li> <li>Older residents in particular can draw on past memories of unreliable energy supplies and are often readily willing to change behaviour</li> <li>If residents have no real experience of power cuts they do not as readily understand the need for action</li> <li>Potentially divisive as some believe that they pay their bills to ensure 24 hour constant on demand access to energy and it is therefore a network problem to resolve</li> </ul>
<b>Support Your Community</b> creating a sense of belonging, ethical behaviour and caring within the community	<ul style="list-style-type: none"> <li>Building on the impetus generated locally through the local CKW and SWWT brands and DDS activity local people are keen to further develop their sense of belonging to a community – especially one that cares about the people who live there, the local environment, about building local pride and a positive external view, about the future for their children and the legacy their activities will leave and so on.</li> <li>The opportunity to build 'caring' for the local network into this broader mix has found a real appeal in both communities</li> <li>Creating and building on the sense of 'connectedness' in the community and across existing activities</li> </ul>

Reflecting this, the Delivery Team has been able to explore in depth what it means to be a caring, better connected, community - with peak demand reduction being one of the key consensus factors. This has been looked at further in the development of the business case for a wider BAU programme.

Figure 13 above summarises the CEC trial insight on the relative value of the 4 key behaviour change drivers as identified through the research trial.

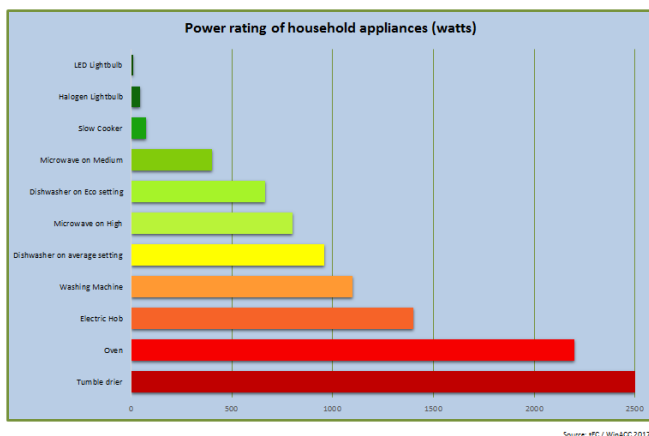
### 3.2.5 The 'Power' of the Power Draw Chart

Building upon the idea of Energy Literacy through the Messaging Focus Groups in Summer 2017, it became clear that once customers understood the role of the local network the idea of peak demand was seen as an obvious and interesting issue that needed to be dealt with - the key question then being 'so tell me how do I use less between 4-8pm?' The response within both Trial areas was expressed neatly as a 'lightbulb moment', opening the door through further co-design and focus group work to the development of a range of creative material including factsheets, fridge magnets and a power draw chart.

The power draw chart (Figure 14 below), by popular consensus, appeared to have the most significant potential impact in encouraging a change in peak usage behaviour as it showed very simply and visually where the bigger savings could be made – both in terms of peak demand and equivalent energy cost savings.

By visually demonstrating the simple fact that appliances that use a lot of 'heat' in order to work will by default use a lot of energy proved to be another 'lightbulb moment' for many people in both communities.

**Figure 14: Energy Literacy: the Power Draw Chart**



### 3.2.6 Alternative Cooking

In messaging terms, the Delivery Team was told early on, that seeking to change evening cooking routines in family households would be a step too far. This would be seen as a taboo subject especially for busy families where lifestyle change was not a realistic option.

Further focus group work revealed that if the value of change was presented in other terms, notably saving time, then things like use of slow cookers and batch cooking could be seen as attractive options offering some traction. Recipe sharing activity on the local Facebook pages, especially in Kings Worthy, was a confirmation of this idea. Also, for older, non-working households, shifting main meal times was reportedly relatively straightforward.

Through events and promotions, the Delivery Team was able also to build engagement routines around the theme of 'alternative cooking', demonstrating the value of low energy baking, slow cooking and batch cooking in terms of both saving time and saving energy.

## Learning Checklist #2

Key learning points coming through the initial community engagement around Energy:

- initial attitudes to energy usage were influenced mainly by negative associations. However, individuals and groups became more supportive as we were enabled to talk instead about (i) the positive role of network companies like SSEN (ii) the positive impact of shifting peak demand (iii) the collective impact of communities and (iv) the network company's in-built social obligations (as evidenced from initial baseline surveys, initial co-design work and later focus group and convergence activities);
- the concept of 'Energy Literacy' became the key driver in the generation of creative materials for TM4. While low levels of awareness of energy issues were anticipated, the Delivery Team was taken aback by the consistently low levels of understanding. This was evident across both communities, revealing an urgent need to use different language and to present information simply and visually (as evidenced from initial baseline surveys, initial co-design work and later focus group and convergence activities);
- it had been assumed at the outset that the behaviour change messaging would revolve around a combination of 'saving money' or 'saving the planet' in promoting widespread buy-in to demand reduction. In reality, the single most unifying driver was being part of and contributing to a 'Caring Community'. This was true for both trial areas (as evidenced from initial baseline surveys, initial co-design work and later focus group and convergence activities);
- it became clear that once customers understood the role of the local network operator the idea of peak demand (4-8pm) was seen as an obvious and interesting issue that needed to be dealt with. In terms of creative material, the power draw chart, by popular consensus, appeared to have the most significant potential impact in prompting and directing a change in peak usage (focus group and convergence activities);
- against a background of resistance to changing evening cooking routines, particularly in family households, presenting the value of change in alternative terms, notably saving time, was seen as acceptable and helpful. Things like use of slow cookers and batch cooking could accordingly be seen as attractive options, reducing peak demand by implication. By contrast older person households were more willing and able to consider a change to their cooking routine (focus group and convergence activities, social media analytics).

## 3.3 Convergence activities

### 3.3.1 Convergence Focus Groups

Applying the principles of the embed/build/sustain coaching approach, the whole community engagement 'journey' was geared towards gradual convergence between the community-led agenda and the energy-led agenda. This process culminated in joint legacy planning within each community with a view to the issue of energy usage and ongoing demand reduction being embedded in sustained community-led activity beyond the end of the Active Engagement period, rather than remaining a standalone issue.

As such, conscious effort to seek convergence within Trial Period 3 during the 2017 Challenge Year was built into the Intervention Programme (Figure 11 above) through the Convergence Focus Groups conducted in each area, building upon the process of co-design developed throughout the trial.

These groups were organised over 2 rounds in November 2017 and February 2018 with dates as part of the overall sequence of interdependent focus groups (para 3.2.2). In each community, attendees included Development Group members and some of those involved in the more formalised focus group activity with discussions centring on key outcomes in the form of Legacy Plan commitments as incorporated in Section 4.3. The convergence process was successful in as much as both communities readily engaged in legacy planning as part of the focus group work with a view to consciously embedding energy issues and peak reduction into wider community-based activities, retaining and building upon the established local brandings of Shirley Warren Working Together and Connecting Kings Worthy.

More detailed feedback on this convergence process is to be found in the SDRC3.2 Open Days report submitted to Ofgem in December 2017.

---

### 3.3.2 Final Co-design Dissemination Workshop

A final co-design Dissemination Workshop event was held on 15 March 2018, drawing together representatives from both Trial areas involved in the co-design process together with members of the Stakeholder Group. The purpose of the workshop was to get feedback and share lessons learned on the SAVE project from residents and other stakeholders involved in supporting and directing the trial research. The event was independently facilitated.

The workshop was enthusiastically supported with 26 attendees expressing their appreciation for the work, the positive impacts it has had upon the 2 communities and the insights provided into the process of long-term behaviour change with communities and service providers working together.

The key points emerging are set out in Figure 15 overleaf. Overall both communities attested to the positively transformational nature of the Coaching trial research. In Kings Worthy the impact was felt through a greater sense of 'connectedness' between the many and varied activities taking place but with the CKW brand providing a focus for a community wide discussion about energy and related environmental issues. Jackie Porter, CKW Development group member as well as a Hampshire County Councillor and Winchester City Councillor has said: *"Thanks to the SAVE project and the work of Connecting Kings Worthy, of the 33 areas I represent Kings Worthy is the only area where issues of energy are visible and people are happy to engage in conversations around energy efficiency, peak demand and associated wider environmental issues."* In Shirley Warren, due to the lack of existing community infrastructure, the impact of SAVE and the development of SWWT is seen to have been greater and been more passionately embraced, with Jenny Elliott, Pastor at the Shirley Warren Action Church, saying *'The SAVE project has totally transformed Shirley Warren – it has been the catalyst for action – bringing together local people to deliver positive change in their own community as well as achieve reductions in peak demand. A real win/win! We're so glad we got involved.'*

Other quotes from members of both communities and the Stakeholders involved can be found in Figure 28.

**Figure 15: Final co-design dissemination event, March 2018**

Area	Key Points Emerging
<b>Coaching Approach</b>	<ul style="list-style-type: none"> <li>• Endorsed by all as a very positive experience with residents in particular benefiting from the 'bottom up', joint nature of the project.</li> <li>• The fact that energy was not the initial focus of activity but rather understanding and supporting the community's own agenda was critical to the success of the project</li> <li>• The trust relationships that have been developed have been crucial to the development of local people as 'human messengers' who can deliver with much more power than a mail shot</li> <li>• The coaching approach has been successful in adapting its delivery to suit each community and building trusted relationships to deliver the energy agenda more persuasively</li> </ul>
<b>Energy Literacy</b>	<ul style="list-style-type: none"> <li>• The energy message turned out to be far more interesting and relevant than people thought it would be and people were far more open to talking about it once relationships were established.</li> <li>• Messages need to be simple, relatable and visual where possible</li> <li>• As a result of the co-design process local residents became active champions to share the messages and their new found insights into the energy agenda recognising that energy is not a 'standalone' issue</li> </ul>
<b>Engagement</b>	<ul style="list-style-type: none"> <li>• Seeing the community as part of the solution and not just the problem was key to resident engagement and empowerment</li> <li>• People enjoyed sharing the role of problem solver and advocate through the co-design focus group work and other regular interaction</li> <li>• A video format was seen as a very useful engagement tool – particularly if using local people to demonstrate the power of the community voice and experience</li> <li>• The fact that there was no 'hard sell' was key</li> </ul>
<b>Legacy</b>	<ul style="list-style-type: none"> <li>• Both communities feel a greater sense of 'connectedness' – between individuals and groups within the community and with the support available to them externally</li> <li>• Positive sustainable impacts to support the social fabric have been achieved in each community for example, the community cafe and clean ups in Shirley Warren and welcome map and walking bus in Kings Worthy</li> <li>• Greater awareness of energy issues, including the role of DNO and peak demand, with appreciation of wider environmental concerns and real willingness to keep on local agenda for action, for example, Jackie's monthly columns and Jenny's sermons</li> <li>• Having energy as a thread interwoven into local conversations, rather than as a standalone issue, has been a key factor in the project's success and paves the way for further integrated approaches between the 3 utilities and other stakeholders</li> <li>• The challenge of educating and engaging children and young people is seen as critical in achieving long term behaviour change and developing new social norms</li> </ul>
<b>Scaling</b>	<ul style="list-style-type: none"> <li>• The success of a tailored approach meeting the needs of different communities was seen as a key design factor and a challenge which needs to be built in to future work if the trial impacts are to be scaled up operationally</li> </ul>
<b>DNO Reputation</b>	<ul style="list-style-type: none"> <li>• Working as part of the community, rather than the more traditional top down, external approach, meant that the natural suspicion people had was dissipated to a large extent</li> <li>• As a result of the project people are far more aware of the role of the DNO and view the DNO in a more positive light</li> </ul>



### 3.3.3 Use of Video

For the purposes of this convergence work, NEL put together 2 videos for internal project use:

- **'Making the Emotional Connections'** – which was used during the Round 1 Convergence Focus Groups in each area to encourage reflection on customers' trial 'experience' and the potential for future action;
- **'Making The Emotional Connections – Part 2'** – highlighting the original video and additionally sharing the initial findings from the research ahead of the final report. This video was prepared for use at the Final Co-design Dissemination Workshop on March 15 2018.

Both of these videos received positive feedback from community members and stakeholders alike, proving an accessible and engaging format for presenting information requiring reflection and priming focus for discussion. Building upon this it was suggested that this Final Report on the Coaching Trial should be accompanied by 2 in-house 'shorts' (i) featuring 'live' feedback from participants on the lessons learned and the way forward in sustaining positive change and (ii) spelling out the key engagement lessons to support participant stakeholder representatives in making the case within their own agencies for working differently.

### Learning Checklist #3

- Key learning points coming through this Section looking at convergence activities - drawing together the community agenda and the energy agenda at the latter stages of the research:
- In both communities the coaching trial has been perceived as transformational with residents reporting that initial engagement to support the development of their own agenda was a refreshing approach and one which made them willing to listen and engage with the energy agenda where otherwise they would not have (as evidenced through focus group work and the final dissemination workshop);
- These additional social benefits to both the DNO and wider stakeholders evidence value beyond sole load management (as evidenced by PPRB/Stakeholder meetings and the final dissemination workshop);
- In both communities, there was a readiness at the latter stages of the research to engage in legacy planning discussions about embedding energy issues into wider community-based activities with a commitment to retain and build upon the established local brandings of Shirley Warren Working Together and Connecting Kings Worthy (as evidenced through focus group work and the final dissemination workshop);
- Through the work of the trial, energy usage is seen as an underlying community issue not something apart, with the community itself being part of the solution in addressing peak demand (as evidenced through focus group work and the final dissemination workshop).

## 3.4 Delivery issues and persistent risks

### 3.4.1 Persistent Risks

The progress of the CEC trial in terms of overall risk exposure has been relatively smooth with the following specific exceptions around (i) substation data monitoring (ii) stakeholders' complementary targets and (iii) quantification of social impacts.

### 3.4.2 Substation monitoring

The SAVE project bid looked to the deployment of substation monitoring on the CEC trial in order to draw conclusions with regards to measurable changes in demand of up to 15%. The research opportunities presented by this enhanced monitoring capability were key in obtaining the goodwill of stakeholders and community representatives in supporting the CEC trial. It was of particular interest that the capabilities may exist to allow data to be streamed live through local websites as a means of immediate demand reduction performance feedback.

NEL have worked with the wider project team to overcome a range of challenges which have impacted upon these aspirations namely:

- **The relatively small substation/trial area sample size (22 substations across the 2 trial and 2 control areas) and the associated capacity, with a limited sample, to draw more generic research conclusions applicable to other communities** - in reality the household based trials (TM 1-3) are best placed to correlate specific responses to energy efficiency messaging with specific demographic and community characteristics as part of the segmented input to the Customer/Network modelling process (para 1.1.6);

- **The observability of relatively small changes in consumption (given the background fluctuations associated with the number of independent consumption choices being made across multiple households and the inherent margins of error in data) and the associated confidence with which changes can be seen as attributable to specific interventions** - this was addressed through the installation of more granular feeder level monitoring which aimed to provide greater opportunity to observe changes in consumption. In addition, based on extensive appraisal work by NEL and a thorough examination of the issues by the wider SAVE Team ahead of Trial Period 3, a range of creative solutions in the design of final intervention iterations were identified; notably (i) correlating measured levels of sign up to the Big Switch Off event in November 2017 with levels of demand reduction on a limited number of selected feeders in each trial area and (ii) regression analysis comparing the demand impacts on selected feeders with all other feeders in trial and control areas over the winter period October 2016 to February 2018 to assess the statistical significance of any weather adjusted reductions in demand;
- **The difficulty in providing regular 'live' updates on consumption levels to use as a community wide engagement tool and to facilitate street level competitions** - the challenge was related to both the observability of relatively small changes in consumption and the required level of analytical resource. In terms of intervention design, this limited the scope for running particular interventions, in particular the idea of street level/feeder level competitions linked to a local awards programme. Ideally, the value of 'competition' as a key incentive to behaviour change would be tested as part of any future trial alongside the incentive of 'co-operation' as linked to the concept of caring community. By way of compensation for difficulties associated with specific quantitative measures, the Delivery Team enhanced the interventions programme during the 2017 'challenge' year to maximise the value of qualitative impacts. As such, a greater focus on social obligation concerns such as the Priority Services Register was introduced;

- **The challenges associated with substation monitoring and data analysis/streaming** - the ability to accurately estimate a baseline for consumption profiles is noted as challenging throughout previous academic and industry literature. The close management of these issues on SAVE and support provided by both the University of Southampton and wider project team has provided an initial blueprint for swifter performance feed-back to local residents in future projects. It is anticipated this timely quantification of load-reduction could serve an active tool for further motivating communities.

Building on this point with a view to any future rollout of a community-centric coaching programme, alternatives might include: (i) increasing budget of community based interventions to allow for bespoke analytical resource to provide timely feedback to local communities; (ii) more rudimentary monitoring solutions for example access to smart meter data or at substation level linked specifically to peak demand, simplifying interpretation to 'exception reporting' recording the number of 'breach' events rather than existing substation monitoring requiring detailed analysis based on measured consumption over time. In this way, the monitoring requirements associated with future scaling of the coaching approach could be more closely aligned with low cost substation monitoring techniques and devices already in operational use.

### 3.4.3 Stakeholders' Complementary targets

As part of the initial base-lining process, attempts were made to build key stakeholders' complementary targets into the overall framework of change alongside equivalent DNO and community aspirations.

A series of 1-2-1 sessions was conducted with Stakeholder Group members to establish their particular themes and issues in local service delivery. These sessions identified the list as set out in Figure 16 below<sup>4</sup>. A variety of established Sustainability/Sustainable Living frameworks were also explored to provide a context within which they could be evaluated

Given the relative absence of published baseline data at a sufficiently granular (Lower Level Super Output Area) statistical unit level and the associated very limited capacity for monitoring updates within the timeframe for the trial, it was not possible to move forward confidently with this aspect of target setting. Any original research against these targets was, in practical resource terms, beyond the scope of the project.

<sup>4</sup> For definition of acronyms, please refer to list on page 8

More positively, it has been possible to incorporate elements of these targets in the sample 'stackable' benefits potentially accruing from a multi-agency rollout of a 'Connected Communities' Coaching Programme (Appendix 13).

**Figure 16: Stakeholders Complementary Targets**

THEME / ISSUE	Data Sources	LLSOA	updates
<b>Supporting vulnerable groups</b>			
• fuel poverty / warm homes	DECC Sub-regional fuel poverty	✓	✗
• social care / maintaining services for the most vulnerable / PSR	DCLG LA Revenue	✗	✓
• Financial exclusion / debt levels	NOMIS Financial Exclusion	✓	✓
<b>Improving health and well being</b>			
• defining well being	DCLG National Wellbeing Survey	✓	✗
• wider public health issues	ONS Census Health data	✓	✗
• Promotion of walking (linked to both well-being and vehicle usage)	DoT Vehicle Licensing	✗	✓
• Local food – community gardens/orchards		✗	✗
• Healthy, green, sustainable lifestyle		✗	✗
<b>Use of natural resources</b>			
• Waste reduction / Recycling	Let's Recycle LA league table	✗	✓
• Water Consumption		✗	✗
<b>Community Safety</b>			
• Carbon monoxide awareness		✗	✗
• Levels of anti-social behaviour	Police UK ASB Crime dataset	✓	✓

### 3.4.4 Quantification of Social Impacts – Equivalent Unit Value

In terms of research compliance, to facilitate calculations of cost efficiency achieved through the trial (Figure 3: Checklist of Bid Commitments/para 1.2.1), the ideal would have been to quantify the impact of the contingent social impacts delivered through the Coaching trial, with an understanding of 'Equivalent Unit Value' (EUV) for each one.

In addition, looking forward to potential replication and scaling of positive trial impacts, the ability to examine in greater depth the EUV of potential benefits accruing to particular stakeholders participating in any multi-agency rollout programme, as part of an assessment of BAU cost-effectiveness would be helpful. In the DNO case, this could be linked directly to established social obligations.

However, in the absence of any established mechanism for evaluating positive social impacts, and the Delivery Team having undertaken an initial desktop review of various tools (including social accounting, Social Return on Investment, the balanced scorecard) and current research, it appears there are no established energy industry criteria against which the positive social impacts achieved through the trial can be formally evaluated.

In terms of current research, there is one project recently undertaken by the Water Research Council (WRC) with Collingwood Environmental Planning (CEP) looking at the adverse (rather than the positive) social impacts of Utility Company operations. This work has been undertaken on behalf of 4 northern utilities - Northern Powergrid, Northern Gas Networks, Northumbrian Water and Yorkshire Water. The 'Social Impacts of Network Activities - Summary Report' (February 2018) sets out the conclusions from first stage desktop work, making the case for further direct research to establish an operational quantification framework. Further work might offer the opportunity to explore future options for looking more comprehensively at both positive and adverse social impacts, developing an understanding of how a collaborative engagement approach might also serve to reduce the adverse social impacts of utility company operations.

More positively in relation to the immediate quantification challenge, for the purposes of the potential rollout Guide in Appendix 13, NEL have suggested that rather than seeking to generate an EUV for each individual targeted benefit, future work should proceed on the basis of 'Equivalent Total Value' (ETV) as derived by 'stacking' benefits together and relating collective impact to likely operational cost per site. This would then allow potential stakeholders to review whether the predicted ratio between cost and value overall is likely to be deemed cost effective from an individual and/or multi-agency perspective.

---

#### Learning Checklist #4

Key learning points coming through the review of the Delivery Issues and Persistent Risks as addressed through the project:

- Observing relatively small changes in consumption is difficult at substation level given the background fluctuations associated with the number of independent consumption choices being made across multiple households. This required the Delivery Team to look differently at the balance between quantitative and qualitative impacts in later intervention iterations (as evidenced through formal interventions and impact analysis);
- in future community-based research and/or scaling of the coaching approach, smart meters may provide an alternative technique for monitoring peak demand, this however would require such an intervention to be done at scale to avoid variability issues. If the key issue in an operational setting is the frequency with which a capacity threshold on a substation transformer is breached, it is suggested to explore options for low cost substation monitoring, installing equipment which could issue an alert whenever this occurs;
- it was not possible to include stakeholders' complementary targets alongside demand reduction targets as part of the formal research given the absence of regular published data at the local level (as evidenced through Stakeholder Group minutes and 1:1 sessions);
- in the absence of any established industry mechanism for evaluating positive social impacts, capacity to quantify the value of individual social impacts was limited. This required the Delivery Team to look at the combined value of selected impacts in calculating the overall cost effectiveness of replicable behaviour change activities (as evidenced through SECV team briefing papers and meeting notes).



# **ANALYSIS AND INTERPRETATION**

---

## 4.1 Analysis of demand reduction impacts

### 4.1.1 Data Related Interventions

Over the course of the CEC trial, various data related interventions have been undertaken with a view to being able to observe positive changes in electricity consumption as measured at substation/feeder level. Data related interventions were delivered in both Trial Periods 2 and 3, October 2016-March 2017 and October-December 2017, respectively:

- 'Direct Asks: cut'/TP 2.0 and 'Direct Asks: shift'/TP 2.5;
- 'Big Switch Off: promotion'/TP3 and 'Big Switch Off: sign up' /TP3.

In successive research iterations through 2016 and 2017, these interventions have been designed (i) within increasingly narrow restraint windows (ii) with increasingly nuanced messaging (iii) with increasingly intensive promotion. Copies of the respective communications are included under Appendix 7.

Through a gradual progression over the formal trial periods, the Delivery Team was accordingly able to assess the point at which a measurable reduction in demand could confidently be observed through feeder level consumption monitoring. This process culminated in the Big Switch Off (BSO) event in November 2017 delivered as part of Trial Period 3 activity. Figure 17 overleaf looks at the 4 interventions in detail:

The high levels of engagement in terms of sign up and numbers joining in events is seen as a direct result of the non-traditional engagement and co-design principle underpinning the coaching approach.

### 4.1.2 Observability of Demand Reduction

In earlier 'Direct Ask' interventions (Trial Period 2), groups of households were asked to participate in first reducing and then shifting consumption within a series of set periods of restraint. The hypothesis was that a notional 5% reduction in consumption would be observable through substation monitoring. In the event, the Direct Asks data analysis was inconclusive. This was because the set restraint periods were too broad to overcome the background fluctuations associated with the number of independent consumption choices being made across multiple households. Also, for these earlier interventions, actual levels of participation in the 'asks' were unknown.

Learning from this experience, the Big Switch Off was accordingly designed with a narrow restraint window for the event (1 hour) and for selected feeders in each area, with a declared participation rate (25%). As such, the hypothesis for the Big Switch Off was that a notional 10% reduction in consumption would be observable, particularly for the 'sign up' version of the intervention. The assumption was that the narrowness of the restraint window combined with the declared sign up rate would be sufficient to overcome the background consumption fluctuations.

### Figure 17: Data related interventions

**Direct Asks: cut/ TP 2.0** – selected groups of 185 households on 3 feeders in each area were invited on behalf of Connecting Kings Worthy and Shirley Warren Working Together to participate in 3 set periods of voluntary demand restraint throughout November and December 2016. The dates were (i) Saturday 12 November (ii) Saturday 26 to Monday 28 November (iii) Saturday 10 to Saturday 17 December.

Having set the scene in written branded communication with each household, all those who did not opt out of the research (some 97%) then received a reminder ahead of each event period with further support information and an enclosed 'giveaway'. The giveaways respectively were a Top Tips energy saving leaflet, a Thermometer Card and sticky 'reminder' notes for key appliances, all with local branding.

At this 'cut' stage (TP2.0) ahead of the 'shift' stage (TP2.5), the Direct Asks intervention was primarily about awareness raising. It served to set the scene for follow up doorstep surveys by the Team to assess levels of customer buy-in to the process and to capture feedback on what households had been able to do to cut consumption and the quality of support information provided.

As such, the survey feedback informed the next 'shift' test iteration.

**Direct Asks: shift/ TP 2.5** – building on the feedback from the initial 'cut' asks, the same groups of households in each area were then invited to participate in 3 additional, more concentrated voluntary restraint events aiming to shift demand away from the peak 4-8pm period, rather than cutting demand as such, throughout January, February and March 2017.

The set restraint periods were (i) Saturday 21 January between 4-8pm (ii) Saturday 11 to Monday 13 February between 6-7pm (iii) Saturday 4 to Saturday 11 March between 5-7pm.

As before, all households received a reminder ahead of each event period with further support information and an enclosed 'giveaway'. The giveaways respectively were a Peak Demand Factsheet, a 'Can it wait til after 8' fridge magnet and a low energy/time saving Recipe Leaflet.

The hypothesis for the 'shift' iteration of the Direct Asks intervention was that we might expect to be able to observe a 5% reduction in peak demand for the set restraint periods;

**Big Switch Off: promotion /TP3** – reducing the restraint window still further, the Big Switch Off event was set for Sunday 19 November (6-7 pm). The event was heavily promoted within the trial areas through banners/posters, website/social media, local press coverage and leaflet drops.

Local residents were encouraged to formally sign up to the challenge to 'reduce use' during the restraint hour through the Connecting Kings Worthy/Shirley Warren Working Together websites and/or at key locations within the community in order to download or order the Big Switch Off Information Pack.

The core 'nuanced' messaging underpinning the Big Switch Off intervention was about being part of "a community which cares ... about the environment, about each other, about how we use our energy resources, about avoiding waste ... and ultimately about the legacy we are leaving our children ... our first 'lightbulb idea' being to get as many people as we can throughout Autumn 2017 to sign up to using less electricity at peak times (4-8pm) - easing the pressure on the community network". The Big Switch Off was thus presented as an initial challenge to test the level of impact which the community could have by consciously working together.

**Figure 17: Data related interventions (cont.)**

Big Switch Off: sign up /TP3 – increasing the intensity of promotion further still, the ‘Sign Up’ version of the Big Switch Off added the additional ingredient of a target sign up level allowing calibration of data analysis on each feeder against declared commitment to participation, the hypothesis being that a 25% sign up commitment could yield a measurable demand reduction of 10%.

For the Sign Up tests c170 households were identified grouped around selected substation feeders in each trial area where the Delivery Team was most confident about which addresses were connected to which feeders. Each household was encouraged to participate in 2 separate ‘SAVE hour’ test events on Tuesday 7 and Thursday 16 November culminating in the ‘Big Switch Off’ event on Sunday 19 November. A range of ‘giveaways’ developed through Focus Groups was sent out with each request letter. The giveaways respectively were a thermometer card, power draw fridge magnet and slow cooker Christmas pudding recipe. In addition everyone who signed up was sent an Information Pack containing background information about the community’s aspirations and a series of factsheets developed to promote Energy Literacy.

To achieve the target of 25% sign up for the Big Switch Off itself on 19 November, the team visited every address until the required threshold was reached for each feeder. Participants were also invited to ‘diversionary’ community events coinciding with the 6-7pm restraint period as an opportunity for residents to come together socially, using less energy at home in the process. Across the two communities some 90 people in Shirley Warren and 30 people in Kings Worthy joined in the events.

#### **4.1.3 Feeders being monitored**

For the Big Switch Off event overall, 16 substation feeders were monitored in Kings Worthy (some 1000 households) and 20 in Shirley Warren (some 1200 households). In each case, reconciliation checks on these feeder addresses were undertaken by SSEN.

For the ‘sign up’ version of the intervention, 3 feeders on the Hookpit Farm substation in Kings Worthy and 2 feeders on the Bindon Road substation in Shirley Warren were selected, totalling some 170 households in each area. These feeders were identified as lowest risk in terms of data accuracy, with less erratic consumption profiles making observable changes in demand more accessible.

For the purposes of comparison with the ‘sign up’ feeders in Kings Worthy and Shirley Warren, 2 and 3 feeders with similar consumption profiles/customer demographics were selected within the respective control areas.

#### **4.1.4 The weather adjusted analysis process**

For the purposes of data analysis:

- for each of the feeders across the trial areas and the selected control feeders, calculations were made from substation monitoring data of the total household electricity consumption for the period 6-7 pm on the 16 other Sundays during the winter period October 2017 to February 2018 –that is, not including the day of the Big Switch Off, 19 November 2017;
- these individual consumption values were compared with the average temperature for each of the respective Sundays using the principle of ‘heating degree days’ (HDD). This assumes that (in the UK) heating will typically be switched on when the external temperature reaches 15.5 degrees Celsius. Days when the average temperature is less than 15.5 degrees are defined by the number of degrees below this ‘switch on’ level. Thus a day with an average temperature of 14.5 equals 1 HDD, 13.5 equals 2 HDD and so on;
- plotting the consumption values graphically against the respective number of HDDs, a ‘best fit’ straight line is calculated using statistical regression analysis techniques which can effectively predict the mean expected consumption value for any HDD value. For the day of the Big Switch Off, Sunday 19 November, the actual average temperature for the whole day was equivalent to 10 HDDs;
- the actual and predicted consumption values are accordingly compared for each feeder to identify any difference (increase or decrease) against expectation on any day;
- the regression analysis is also used to calculate the probability of any consumption value falling within a range either side of the predicted mean. In defining this range, the probability level selected was 95%, the implication being that there is only a 1 in 20 probability of any value falling outside of that range being a chance occurrence.



---

#### 4.1.5 Big Switch Off: Promotion/TP3

Across both trial communities, data analysis for the Big Switch Off restraint hour is relatively inconclusive for the 'promotion' version of the intervention (Figure 17, Section 4.1.1).

The results of the regression analysis for each substation and feeder are set out in Figures 18 and 19 overleaf for Kings Worthy and Shirley Warren respectively, with the actual consumption values for the day of the Big Switch Off shown as circled.

For the 13 Kings Worthy feeders not included in the 'sign up' version of the event, 6 feeders show an observed reduction in demand and 7 an increase in demand for the restraint hour. For one feeder in particular - Bull Farm/Feeder 2 – the observed reduction is close to the 95% confidence level, that is, a 1 in 20 chance that it would not occur naturally.

For the 18 Shirley Warren feeders not included in the 'sign up' version of the event, 14 show observed reductions/no change in demand and 5 an increase in demand for the restraint hour. For one feeder in particular – Birch Close/Feeder 3 - the observed reduction is close to the 95% confidence level, that is, a 1 in 20 chance that it would not occur naturally.

#### 4.1.6 Big Switch Off: sign up/TP3

For the 'sign up' version of the intervention (Figure 17), the data analysis as set out in Figures 21-24 is more conclusive. These show the weather adjusted analysis for all feeders on the Bindon and Hookpit substations in Shirley Warren and Kings Worthy respectively along with corresponding controls.

- **Kings Worthy:** for the 3 selected feeders in Kings Worthy with a declared household participation rate of 25% in the Big Switch Off (Feeders 1, 2 and 4), all showed a weather adjusted reduction in consumption for the restraint hour. Individually the reductions were 11% (Feeder 1 serving 61 households), 14% (Feeder 2 serving 26 households) and 21% (Feeder 4 serving 76 households). All 3 selected feeders are on the Hookpit Farm substation. These observed reductions each exceed the hypothesised target of 10%.

In terms of statistical validity, the 21% reduction on Feeder 4 is the most significant, there being a more than 95% probability that the observed reduction was due not to chance but to the research intervention itself. The 14% reduction on Feeder 2 is also close to the 95% probability level. Confidence levels that the observed reductions are attributable to the Big Switch Off impact are reinforced when looking at the 2 control area feeders (Figure 24) where the actual consumption is at or close to the predicted (intervention free) weather adjusted level.

- **Shirley Warren** - For the 2 selected feeders in Shirley Warren with a declared household participation rate of 25% in the Big Switch Off (Feeders 3 and 4), one (Feeder 3 serving 118 households) showed a weather adjusted reduction in consumption for the restraint hour of 19%. The other (Feeder 4 serving 61 households) showed an increase of 8%. Both selected feeders are on the Bindon Road substation. The observed reduction of 19% exceeds the hypothesised target of 10%.
- In terms of statistical validity, the 19% reduction on Feeder 3 is significant, there being a more than 95% probability that the observation would not have occurred by. This result provides evidence to support the hypothesis that observed consumption was due to the intervention. Looking at the 3 control area feeders (Figure 23) - where the actual consumption is at or close to the predicted (intervention free) weather adjusted level, the results are also consistent with the hypothesis, that is, that these feeders would remain unchanged.

Figure 18: Big switch off: promotion: measured consumption - kings worthy feeders

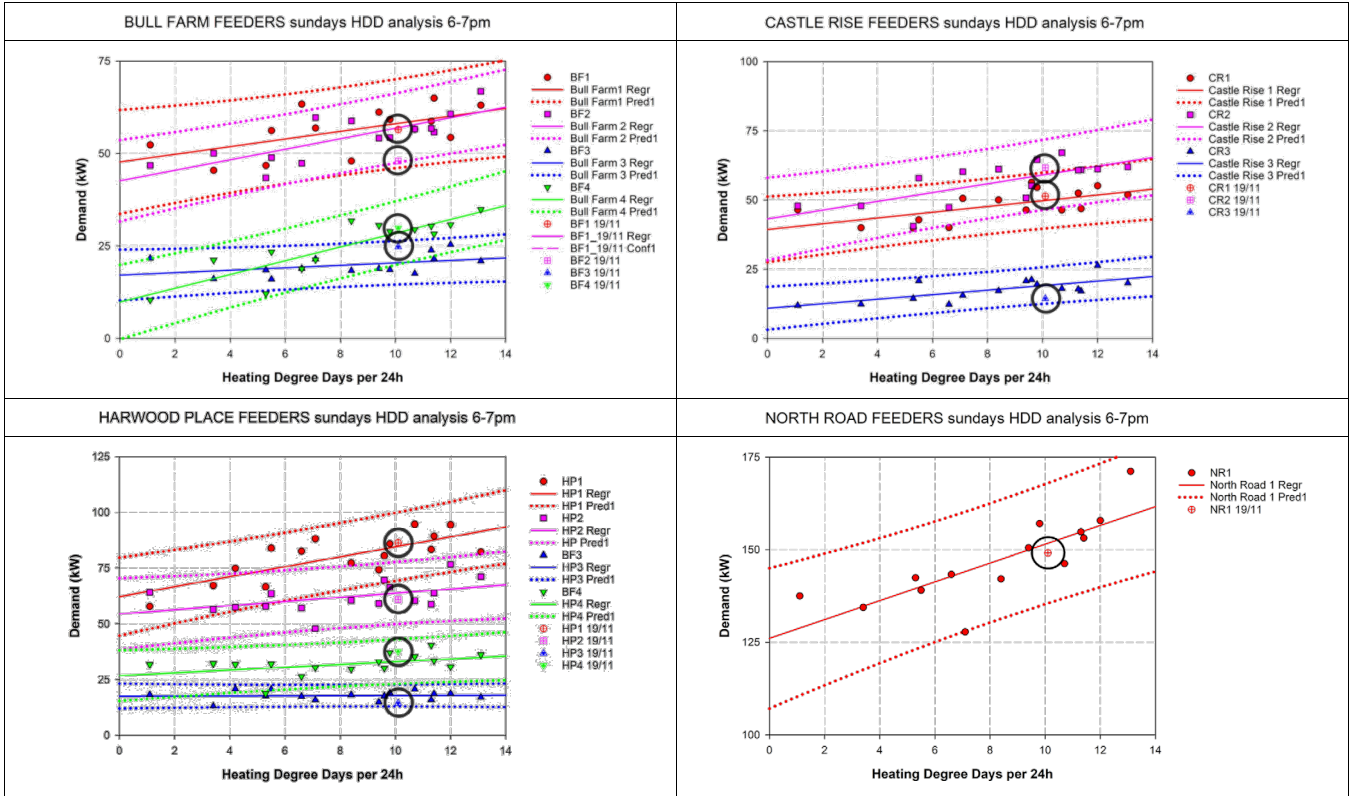
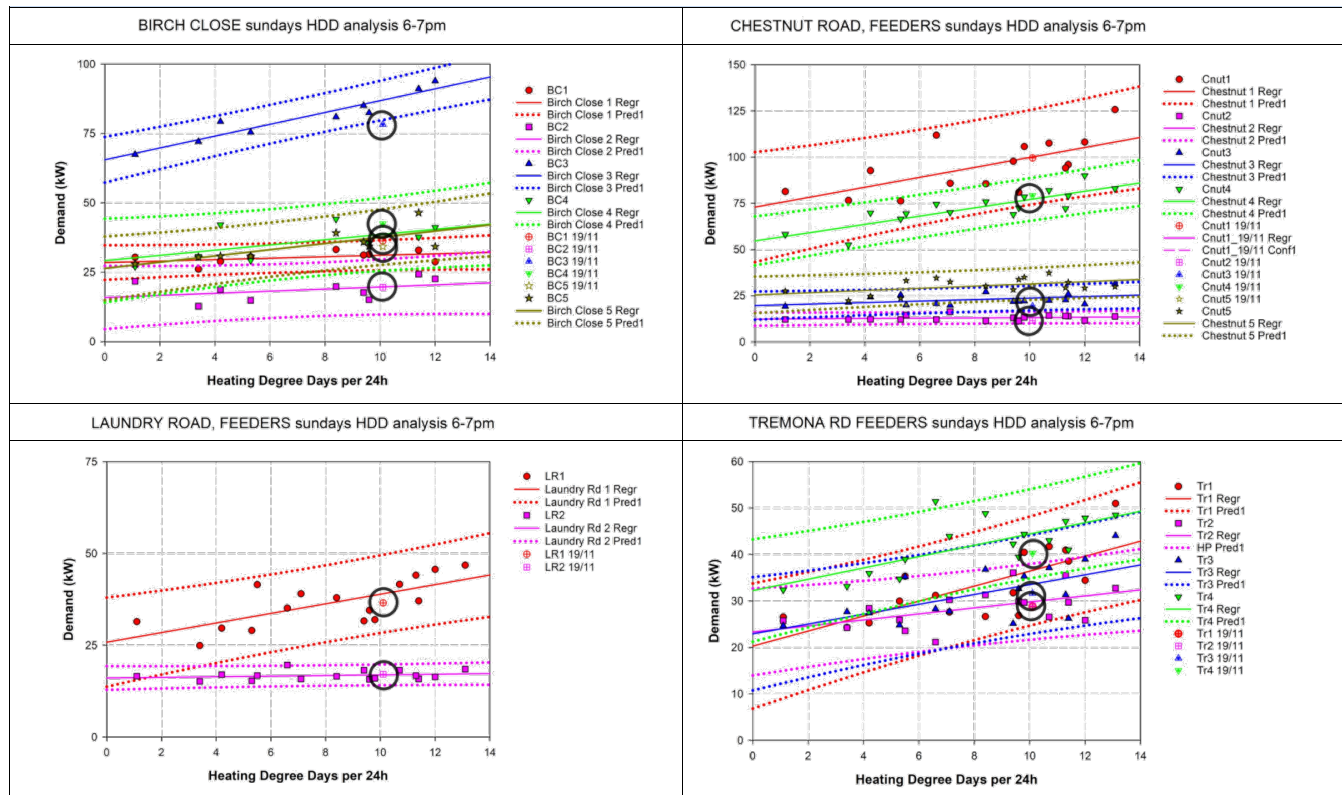


Figure 19: BSO Promotion – Measured Consumption – SW Feeders



This analysis is summarised in the table at Figure 20 setting out the results for the selected trial and control feeders. The graphs in Figures 21-24 show the regression analysis results for Hookpit and Bindon substation feeders and the respective control area feeders (Sheppards Down for Kings Worthy and Wakefield for Shirley Warren). The actual consumption values for the day of the Big Switch Off are shown as circled.

Figure 20: Measured demand reduction – big switch off: sign up

Feeder data monitoring, BIG SWITCH OFF, 6-7pm, Sunday 19 November 2017						
Feeders	No h/h	Measured Demand (kWh)	Predicted Demand (kWh)	Measured v Predicted (kWh)	Load Reduction (%)	Confidence Level (%)
<b>Shirley Warren Trial</b>						
Bindon 3	118	87.3	108.3	-21.0	-19	>95
Bindon 4	61	89.0	82.2	+6.8	8	-
<b>Shirley Warren Control</b>						
Wakefield 1	54	32.9	35.1	-2.2	-6	-
Wakefield 2	108	99.6	102.2	-2.6	-3	-
Wakefield 3	85	54.2	55.0	-0.8	-2	-
<b>Kings Worthy Trial</b>						
Hookpit Farm 1	61	83.2	93.9	-10.7	-11	<95
Hookpit Farm 2	26	43.3	50.4	-7.1	-14	<=95
Hookpit Farm 4	76	61.1	77.4	-16.3	-21	>95
<b>Kings Worthy Control</b>						
Sheppards Down 1	31	38.9	38.7	+0.2	0	-
Sheppards Down 2	29	48.6	44.8	+3.8	8	-

Figure 21: BSO - Sign Up: Shirley Warren

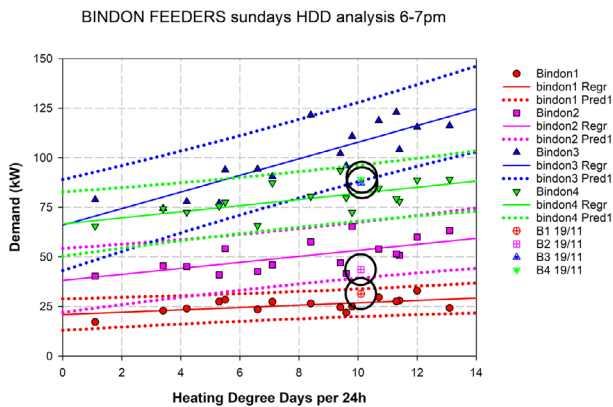
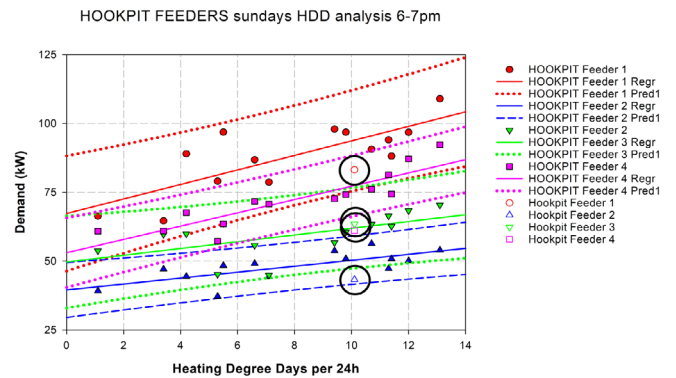
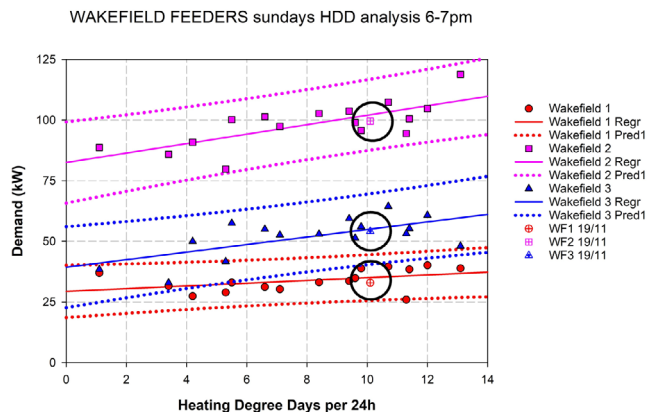


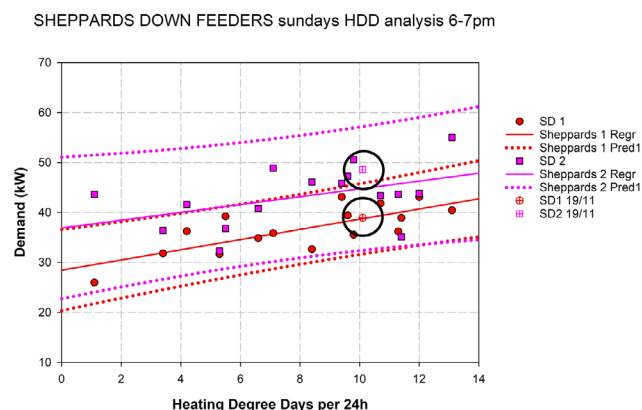
Figure 22: BSO – Sign Up: Kings Worthy



**Figure 23: BSO – Sign Up: Shirley Warren Control**



**Figure 24: BSO – Sign Up: Kings Worthy Control**



Overall across the 5 trial area feeders selected for the more intensive ‘sign up’ intervention, 4 show reductions in expected demand in excess of the hypothesised target of 10%. The anomaly is the Bindon 4 Feeder in Shirley Warren where measured demand increased by 8%. This could be due just to the relative randomness of household consumption choices on that feeder.<sup>5</sup>

#### 4.1.7 Calibration of Impacts

As well as assessing the likely attributability of measured demand reductions to the BSO event, 3 other particular points arise from the data analysis in terms of calibration of impacts:

- **Participation rates** - whereas the actual levels of reduction are important, perhaps of greater importance was the opportunity to ‘calibrate’ observed reduction against the level of household ‘sign up’ as a measure of the participation rate threshold required to achieve an observable reduction at feeder level. This was achieved, in as much as the analysis shows that a notional participation rate of 25% can be linked to measurable reductions of the order of 10 - 20%;
- **The effect of space heating** – as shown in the foregoing diagrams, applying the principle of ‘heating degree days’ (HDDs) to the consumption data reveals the existence of electrical space heating. The steeper the gradient of the line, the greater the use of this heating in response to colder weather (more HDDs) with consumption increasing as temperature falls. The analysis hints towards use of electrical space heating across both areas especially on those feeders selected for the Big Switch Off: sign up intervention.<sup>6</sup> The assumption is that in Shirley Warren the steeper gradient is associated predominantly with primary electric heating (for example on Bindon Feeder 3, Figure 21) and in Kings Worthy predominantly with secondary electric heating (for example on Hookpit Farm Feeder 4, Figure 22). Against this reduction, it is important that customers (in particular the most vulnerable) are not inadvertently encouraged to under-heat their homes;
- **Scope for reduction** – building upon this point, the greater the incidence of electrical heating, the greater the potential impact of any voluntary demand restraint. As an indication, looking at Hookpit Farm Feeder 4 and Bindon Feeder 3, consumption on both feeders is relatively sensitive to temperature as shown in Figures 21 and 22. The load reduction on these feeders as indicated in Figure 20 (Measured v Predicted Demand) equates to an average reduction in consumption per household for the restraint hour of 0.21 kW and 0.18 kW respectively.

#### 4.1.8 Network Capacity released/Scalability

Building upon the CEC research in a business as usual situation, it is crucial for a DNO to understand both the tangible benefits and scalability of specific network interventions aimed at demand reduction.

<sup>5</sup> The intervention effects for all 4 Bindon feeders are shown in Appendix 9. Although measured consumption on feeders 1 and 4 was higher than the HDD model predicted, the consumption was well within the 95% confidence interval of predicted values. These feeders also appear to be less affected by temperature (Figure 21 showing a relatively shallow gradient) with accordingly less scope for demand reduction.

<sup>6</sup> This links potentially to the Government’s Carbon Plan targeting zero emissions from houses by 2050 with an implication accordingly for more electric heating and therefore potentially greater opportunity for demand reduction. See also Para 4.3.5 of this report.

---

The intervention affects across all substations on the day of the BSO event (not just the targeted 'sign up' feeders) are summarised in Appendix 9. As such, it is possible to estimate the reduction per customer as a result of the CEC trials, averaging this out across all feeders to depict an estimated mean reduction per customer. This can then be scaled geographically based on customer numbers. Pending continuing development of the Community Model to fit the final network investment tool timetable (due June 2019), initial analysis hints that the Shirley Warren community has interacted comparatively better with whole community based interaction, whilst the Kings Worthy community has interacted better with the more targeted 'sign up' intervention. The community model will look to further quantify and detail these results.<sup>7</sup>

#### Learning Checklist #5

Key learning points coming through the analysis of demand reduction impacts:

- Progressive interventions throughout TP2 promoting set periods of voluntary demand restraint for households on selected feeders, yielded no consistent, observable demand reduction. The assumption is that actions taken by individual households were not visible against the background fluctuations associated with the number of independent consumption choices being made across multiple households (as evidenced through analysis of substation monitoring data, October 2016 to March 2017);
- Through the 'Big Switch Off' intervention during TP3 (November 2017) with the restraint window reduced to 1 hour (6-7pm) and a declared sign up rate of 25%, we observed a reduction of between 11% and 21% on 4 of the 5 selected feeders. The hypothesised target was 10%. In 3 of the 4 cases showing a measurable reduction, the statistical probability that the results could not have occurred by chance was close to or in excess to 95% confidence intervals (as evidenced through analysis of substation monitoring data, October 2017 to February 2018);
- Weather adjustment of consumption values for the equivalent Big Switch Off hour for the period October 2017 to February 2018 revealed evidence of relatively greater usage of electrical space heating on the 5 selected feeders in both areas as compared to other feeders monitored (as evidenced through analysis of substation monitoring data, October 2017 to February 2018);

---

<sup>7</sup> There is a question as to whether voluntary peak period demand restraint can predictably result in correspondingly increased demand in prior or subsequent periods. This is being explored in detail as part of the SAVE household based trials.

## 4.2 Analysis of other impacts

### 4.2.1 Other Quantitative Impacts

Figure 25 below sets out the relative levels of response to (i) an initial DNO branded communication and (ii) a subsequent locally branded communication as part of the 'Baseline Response' and 'Direct Asks' interventions conducted in Trial Period 2.

As a rough test of the 'messenger effect', 20% of households in Kings Worthy and 6% in Shirley Warren responded positively to a direct invitation from the DNO to get involved in the project by returning a tear off 'commitment slip'. This compares to over 50% in both areas responding positively when invited to take energy saving actions through Connecting Kings Worthy or Shirley Warren Working Together – as reported in a subsequent door step feedback survey. As can be seen, there was a much higher response rate for the locally branded approach, particularly in Shirley Warren. Given the different response mechanisms, some caution needs to be exercised in interpreting these results.<sup>8</sup> The difference in response rates though is interesting, especially in Shirley Warren where initially there was potentially a greater sense of disconnect from key service agencies. Copies of the respective communications are included under Appendix 7.

**Figure 25: Other quantitative outputs (non-substation data)**

Shirley Warren				Kings Worthy			
BASELINE RESPONSE - TP2: DNO branded approach							
no of h/h per intervention		positive response per intervention		no of h/h per intervention		positive response per intervention	
100		6%		92		20%	

Shirley Warren				Kings Worthy			
'DIRECT ASKS: CUT' – TP2: Door Step Feedback - Locally branded approach							
h/h per intervention	Follow up door step interviews	Interviewees responded to 'asks'	Reporting actions related to:	h/h per intervention	Follow up door step interviews	Interviewees responded to 'asks'	Reporting actions related to:
170	21%	58%	Heat (22%) Wash (19%) Lights (31%)	170	30%	51%	Heat (12%) Wash (16%) Lights (12%)

<sup>8</sup> With a need potentially for more specific research.



Figure 11 (para 3.2.1) shows these tests in the context of the overall summary of interventions conducted through the trial.

In the door step survey following up the 'cut' version of the Direct Asks intervention, householders generally offered positive feedback on the nature and content of the information received as context for the specific asks. They acknowledged the specific intervention requests but in many cases willingness to respond positively to the various asks was reportedly not always borne out in practice, with many 'forgetting' to take action or being otherwise distracted on the event days. This serves to emphasise the importance in TP3 intervention design of correlating demand impact with declared sign up rates to address this notional 'value/action gap'.

#### 4.2.2 The Priority Services Register

In relation to the Priority Services Register (PSR), the impact measurement was approached in 3 stages: (i) first conducting DNO branded surveys to establish awareness levels (ii) then undertaking locally branded promotion through third party health-related agencies (iii) then tapping into local friendship networks within the trial areas. At set intervals following the two initial stages, attempts were made to interrogate the SSEN Stakeholder Engagement and Vulnerable Customer (SECV) Team's PSR database to compare attributable changes. In the process, the structure of the database was usefully updated to improve its functionality in response to the operational challenges presented through the trial. While this in itself was a positive step forward, associated day to day database cleansing tended, by default, to neutralise intended efforts to correlate increased registration numbers with trial area postcodes.

**Figure 26: PSR Impacts.**

Shirley Warren				Kings Worthy			
PRIORITY SERVICES REGISTER – POST TP2: DNO branded survey then locally branded approaches							
Awareness level as per survey	Committed to sign up as per survey	Increase in database post survey	Subsequent sign up: local friendship networks	Awareness level as per survey	Committed to sign up as per survey	Increase in database post survey	Subsequent sign up: local friendship networks
5% of 80 interviewees	45	N/A	10	8% of 85 interviewees	47	N/A	10

Looking at the staged intervention in more detail, the initial stage consisted of street surveys, carried out at school gates and local shops, to establish some baseline information. As can be seen in Figure 26 above general awareness of the PSR in both communities was very low at only 5 – 8% of those interviewed. However, many residents showed an interest in the service taking information for their families, friends and neighbours saying that they would consider signing up or knew someone who would benefit, including those who lived outside of the trial area.

The second stage involved locally branded promotion of the PSR as a service felt to be of benefit to local residents, asking health professionals to share the information with targeted PSR Category 1 & 2 residents within the trial areas<sup>9</sup>. This was met with some willingness from GP's, clinics and other 'surgeries' where information could be displayed in waiting rooms. There was however, a reluctance and at times an inability, for health workers to take this information on at an individual or targeted level due to management policies which required high level permissions for staff to engage.

By contrast, at the third stage, nominal sign up targets through local groups and friendship networks were readily achieved with local groups and residents in both areas being willing to share information and to identify individuals who they felt might benefit. This was particularly the case in Kings Worthy where the local infrastructure is more developed and where there was a local pharmacy which was willing to send out information along with prescriptions, a day centre who actively promoted the PSR throughout the winter months and a church which was willing to share with those receiving pastoral care. In Shirley Warren the SWWT group and the Shirley Warren Action Church were the main promoters of the PSR using their local activities and personal networks to identify potential beneficiaries.

This more networked 'local' approach to promoting the PSR was specifically linked to the development of 'caring community' as the key driver for collective behaviour change offering opportunities to address support needs for vulnerable and 'fuel poor' customers.

<sup>9</sup> PSR Categories: Priority 1 - customers needing support within the hour in the event of a sustained power cut; Priority 2 – customers needing support within 2-4 hours.



---

Simon O'Loughlin, SSEN Stakeholder Engagement Manager, commented: *'the work done with Neighbourhood Economics required different, more local, Priority Services Register reporting to usual business requirements. Working with Neighbourhood Economics we revisited our reporting tools and made significant adjustments which enabled us track changes to our PSR customer numbers on a more local level and with greater frequency in defined postcode areas to gain better insight into signups and what motivates people to register for these additional free services.'*

He went to say that *'One hypothesis we wanted to test whilst working with Neighbourhood Economics was that it was most effective and efficient to promote the free of charge Priority Services Register to customers using our own community based advisers. The work used the SSEN Customer Mapping Tool to examine social indicators and involved our local teams promoting the PSR, promotion by Neighbourhood Economics teams as third party intermediaries and partners from within the community itself.'*

*The results clearly pointed to partners from within the community getting better results, followed by trusted third party intermediaries such as Neighbourhood Economics. This has allowed us to change our strategy and we've launched a new initiative to work closer with partners in communities and provide them with more of the information they need to help people sign up to the PSR.'*

#### 4.2.3 Qualitative Impacts

In the process of exploring peak demand reduction, the CEC trial has served to create substantial added value in terms of positive social impacts in both communities. These contingent impacts have been categorised into 3 main types – those attributable to the coaching methodology, those attributable to the community-led co-design work and those attributable to the energy interventions themselves, as set out in Figure 27 below. Attributable social impacts range from:

- community based outcomes such as Shirley Warren Working Together becoming a constituted group, the community litter clean ups and community café in Shirley Warren, the reinstatement of the school 'walking bus' and the production of the local short cut orientation and welcome map in Kings Worthy;
- from the DNO perspective, there are increases in 'energy literacy', greater awareness and sign up to the PSR, support for fuel poor and vulnerable customers;

- for other stakeholders there are increases in healthy lifestyles through increased walking, improved mental health through the growth of new care support activities, physical street scene improvements due to clean ups and improved signage, increased social capital and community cohesion, greater awareness of water efficiency and the risks of carbon monoxide.

Reflecting these wide ranging impacts, the coaching process has created substantial added value in delivering 'stackable benefits' which could accrue to the DNO and other stakeholders collectively through a follow on BAU Programme. Benefit stacking could offer opportunities for cost effective collaboration taking account of the declared priorities of all stakeholders involved. The idea of 'stackable benefits' is one that appears to resonate and have traction for all key stakeholder agencies involved.

Ben Earl, Water Efficiency Manager with Southern Water says that *'The novel approach of the Coaching trial to working with stakeholders has shown the benefits of breaking down the barriers between agencies and the positive benefits of collaborative working to approach the shared challenges we face. I have been so impressed by the success of this approach that I am working with partners from within the gas and energy utilities to look at ways of continuing to work together by pooling our resources to collectively benefit communities.'*

Of particular interest to DNOs is the opportunity to take learning from the CEC trial and explore new collaborative approaches through Constraint Managed Zones CMZ's<sup>10</sup> with a view to making them more accessible to smaller/local companies that may be more likely to bring social value as well as pure load reduction. As CMZ techniques do not seek to increase capacity but reduce or manage demand to avoid capacity constraints there would appear to be a natural 'fit'.

---

<sup>10</sup> A CMZ is a geographic region served by an existing network where security of supply is met through the use of flexibility services, such as Demand Side Response, Energy Storage and stand-by generation. DNOs have traditionally met security of supply standards by increasing network capacity (installing new electricity cables and substations).

**Figure 27: Array of attributable social impacts**

Attributable to coaching methodology			Current Status
SW	New constituted community organisation	<ul style="list-style-type: none"> <li>Increased volunteering/activism</li> <li>An empowering voice for the community</li> <li>Point of contact for service agencies</li> <li>Transformational confidence boost</li> </ul>	One year Annual General Meeting in March 2018
KW	Bringing organisations together	<ul style="list-style-type: none"> <li>Closer (more connected) joint working</li> <li>Adding value not burden</li> </ul>	Ongoing
SWKW	Locally branded change initiatives	<ul style="list-style-type: none"> <li>Focus on 'bigger picture' change opportunities</li> <li>Trusted intermediary status</li> <li>Platform for creating distinctive identity</li> </ul>	Ongoing
SWKW	Collaborative Community Improvement Strategies	<ul style="list-style-type: none"> <li>Consensus on shared priorities</li> <li>Direct support to deliver activities/programmes</li> <li>Established Co-design/Development Groups</li> </ul>	Ongoing
Attributable to DDS co-design work			
KW	Walking (and cycling) Campaign including Mark 1 Route Map	<ul style="list-style-type: none"> <li>Reduced car usage on school run through increased knowledge of 'shortcuts'</li> <li>Increased levels of health through walking/cycling</li> <li>Increased community interaction through events</li> </ul>	'walking bus' Reinstated 200 children play in park before school
KW	Mark 2 Welcome Map	<ul style="list-style-type: none"> <li>Reinforcing caring image</li> <li>Reinforcing sense of community</li> </ul>	Ongoing
KW	Support for Festival	<ul style="list-style-type: none"> <li>Enhanced DNO reputation</li> <li>Peak issue/BSO awareness raising</li> <li>Validation of community action</li> <li>Reinforcement of mutually beneficial support through specific coach role on Festival Committee</li> </ul>	one off
KW	Involvement of school/uniformed groups	<ul style="list-style-type: none"> <li>Development and testing of walking routes/map, reinstatement of school walking bus and ongoing interest in wider energy agenda.</li> </ul>	Ongoing
SW	Community Café	<ul style="list-style-type: none"> <li>Widening community networks</li> <li>Support for vulnerable people (regular daily attendance of 30+ parents/children)</li> <li>Building personal and community confidence</li> <li>Restoration of Councillor contact</li> </ul>	Ongoing

Figure 27: Array of attributable social impacts (cont.)

Attributable to DDS co-design work			
SW	Identification as 'Action Centre' as a catalyst for community-led change	<ul style="list-style-type: none"> <li>• Introduction of elected member surgeries</li> <li>• Increasing participation in lunch club, art group, kids club, family lunches etc.</li> <li>• New Parent and Toddler group set up in Sept 2017 building on SWWT baby-sitting circle and informal child care/support networks</li> </ul>	ongoing
SW	Purpose built Community Café/Action Centre	<ul style="list-style-type: none"> <li>• New pipeline Community Hub venue</li> <li>• Formal planning and consultation work</li> <li>• Funding bids/Resource generation</li> </ul>	planning continuing
SW	Community Clean ups	<ul style="list-style-type: none"> <li>• Increased volunteering</li> <li>• Public areas cleaner/safer/less fly tipping</li> <li>• Increased community pride</li> <li>• Tangible evidence of change</li> <li>• Widening community networks</li> </ul>	Ongoing
SW	Financial Inclusion/Money Saving Events	<ul style="list-style-type: none"> <li>• Individuals receiving direct advice</li> <li>• Awareness raising on energy issues</li> <li>• Links made with key support agencies</li> </ul>	Ongoing
SW	Health/advice sessions	<ul style="list-style-type: none"> <li>• Increased health awareness</li> <li>• Reduced health inequalities</li> <li>• Carbon Monoxide awareness</li> </ul>	Ongoing
SW	Community Fund raising events	<ul style="list-style-type: none"> <li>• Increased community funding</li> <li>• Increased social capital</li> </ul>	Ongoing
Attributable to interventions programme			
SW KW	Online/ social media	<ul style="list-style-type: none"> <li>• Dedicated website</li> <li>• Facebook network</li> </ul>	Ongoing
SW KW	Energy Awareness/Literacy	<ul style="list-style-type: none"> <li>• Creative Platform/branded materials</li> <li>• Energy Literacy toolkit</li> <li>• Increased participation in energy saving activities (Focus Groups/BSO/Events/School activities)</li> <li>• Materials delivered to every household as part of locally branded community action</li> </ul>	ongoing use of branded material
SW KW	Formal Community Planning	<ul style="list-style-type: none"> <li>• Resilience Plan</li> <li>• Sustainability Plan</li> <li>• Community Plan/Parish Plan</li> </ul>	ongoing as part of legacy plans
SW KW	Commitment to Caring Community	<ul style="list-style-type: none"> <li>• PSR sign ups/focus on vulnerable people</li> <li>• Commitment to ethical/environmental action</li> <li>• Commitment to demand reduction as part of community-led change initiative</li> </ul>	ongoing as part of legacy plans

**Figure 27: Array of attributable social impacts (cont.)**

Attributable to interventions programme			
SW	Key Legacy commitments	• 10 point 'Connected Community' plan	ongoing as part of legacy plans
KW			
SW		• Slow Cooker Club/Focus on food/timesaving as a vehicle for changing energy behaviour	ongoing as part of legacy plans
KW		• Mutual reinforcement of energy and environmental messages across community groups & with 'eco' church development	ongoing as part of legacy plans
KW		• Demonstration energy efficient building	Ongoing as part of legacy plans
SW		• Regular Demand Reduction/BSO Event days	ongoing as part of legacy plans
SW		• Regular clean ups	ongoing as part of legacy plans

#### 4.2.4 Project Cost Breakdown/cost efficiency of individual measures

Trial costs have been allocated against the various elements of activity undertaken since project inception. The breakdown (Appendix 11) offers a rough guide on the proportion of costs incurred on 3 broad types of activity:

- **Project Management** - costs directly attributable to setting up and managing TM4 as a research project - these costs are seen as constituting a one-off, non-recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme;
- **Generated Learning** - costs directly attributable to generating tailored learning outcomes designed to inform BAU activities - these costs are seen as constituting a one-off, non-recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme;
- **BAU Starter** - elements of research cost which might be expected to be incurred at some level in delivering a subsequent BAU engagement programme building upon learning generated through the research trial - this constitutes the baseline as further refined in Appendix 13 looking at guidelines for future rollout in more depth. As a rough guide, the estimated 34% of trial costs being allocated to these research elements equates to a benchmark cost per trial community of the order of £100,000 to secure recorded social and energy related impacts.

#### 4.2.5 The value of direct DNO/customer interaction

One of the key bid commitments in the original LCNF bid for SAVE (Figure 3) was to determine the merits of DNOs interacting with customers on energy efficiency measures as opposed to suppliers or other parties.

Given the DNO's relationship with customers within any given community, where all who live or work there will receive their electricity via the same local network, regardless of supplier or other parties, they are in a unique position to take the lead on community based customer interaction. Based on the experience of the CEC trial, there are 3 ways in which the interaction between the DNO and customers has been particularly beneficial:

- **Energy Literacy** – in facilitating measures aimed at improving Energy Literacy specifically appreciation of the distinctive role of the DNO;
- **Trusted Local Intermediaries** – in co-creation of local organisations acting on behalf of the DNO in facilitating change in peak demand behaviour - allowing the DNO and other stakeholders to engage residents on a 'one to many' rather than 'one to one' basis;
- **Collaborative BAU engagement programme** – in the specification of formal guidelines for potential rollout of a replicable BAU engagement programme harnessing the value of stakeholder collaboration and the 'stackability' of multi-agency benefits.

A key outcome of the CEC trial has been to show the complementary merits of building longer term partnership based interaction through a trusted intermediary to deliver both the DNO's own energy agenda and wider social outcomes.

#### 4.2.6 Key feedback quotes

Throughout the course of the CEC trial, the project has captured a range of specific quotes from those involved. These are summarised in Figure 28 below

**Figure 28: What participants have said about the cec trial**

Who	Quote
<b>Cllr Jackie Porter</b> Hampshire County Council/Winchester City Council/School Governor/Connecting Kings Worthy	<ul style="list-style-type: none"> <li>• 'Thanks to the SAVE Project and the work of Connecting Kings Worthy, of the 33 areas I represent, Kings Worthy is the only area where issues of energy are visible and people are happy to engage in conversations around energy efficiency, peak demand and associated wider environmental issues.'</li> <li>• 'One of the positive impacts of SAVE has been the reinstatement of the walking bus, which now operates 5 days/week, and the fact that there are now up to 200 children playing on the school fields before school each day.'</li> </ul>
<b>Stella Bowling</b> Connecting Kings Worthy	<ul style="list-style-type: none"> <li>• 'Although I was fairly energy conscious before attending the SAVE Project, I learned some useful tips and enjoyed meeting other members of the local community to share ideas. I now think more about saving energy and am using my slow cooker more often, even using it to cook 'roast' beef which is very tender!'</li> </ul>
<b>Malcolm Prince</b> Winchester City Council/Connecting Kings Worthy	<ul style="list-style-type: none"> <li>• 'The SAVE Project was very successful at harnessing the support of existing groups and organisations in Kings Worthy, encouraging and enabling them to take on board the energy agenda through their own routine activities. Rather than trying to reinvent the wheel, it has used to advantage the mature network that already exists to deliver its messages – for example, during Lent the churches suggested a different eco activity each day and the Worthy's Parish Magazine now has a full page of energy tips each month. This less direct approach has provided the catalyst for action and has helped to increase the sense of 'connectedness' between local groups.'</li> </ul>
<b>Tom Brenan</b> Chief Executive WinACC	<ul style="list-style-type: none"> <li>• 'The SAVE project has played a key role in WinACC's community engagement work over the past two years. We are using the learning from this to help shape future plans and projects.'</li> </ul>
<b>Alison Skillen</b> Coach – Kings Worthy	<ul style="list-style-type: none"> <li>• 'Throughout the SAVE research, the feedback from the community has been that they don't have the time, or necessarily the interest, to spend trying to make sense of energy, kWh or wider environmental issues. So rather than broach the energy agenda up front we realised that food was a great way to encourage people to start a conversation where we could begin to address these issues but from their starting point and not ours. Once residents understood peak demand they just wanted to know what simple and easy changes they could undertake that would make a difference. As an environmental charity, messaging at the right level is key to our success, so we have taken these lessons learned from SAVE, and in particular the need to present information more simply and visually, to adapt how we work with organisations, communities and individuals.'</li> </ul>
<b>Jenny Elliott</b> Minister – Shirley Warren Action Church & Chair of Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'The SAVE Project has totally transformed Shirley Warren – it has been the catalyst for action – bringing together local people to deliver positive change in their own community as well as achieve reductions in peak demand. A real win/win. We're so glad we got involved.'</li> </ul>
<b>Heather Read</b> Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'I have made friends for life as a result of the SAVE Project –where I was previously isolated I now have a great support mechanism in place both for me and my family which has made an immense difference to how we feel about each other and the community we live in.'</li> </ul>

Who	Quote
<b>Alison Joyce</b> Shirley Warren Action Church	<ul style="list-style-type: none"> <li>• 'The coaching approach has been spot on – it has worked from the bottom up to ensure the community has had a voice and has been empowered to act – both upon our own agenda but also in support of the energy agenda. Unlike other 'top down' initiatives we have not felt done to but valued and included. In recognising that those within the community are best placed to come up with workable strategies for that particular place/set of circumstances and the value of 'change agents' (in this case SAVE) in providing the motivation, ideas and prompt to action has had the added benefit of allowing us to be the experts on what works for our community which has brought about greater success. It has been a genuine collaboration!'</li> </ul>
<b>Angie Baker</b> Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'Energy is now a thread interwoven into our daily conversations – and that is because the coaching approach took the time to encourage us to understand and own the issue, allowing us to find our own ways of talking about energy and encouraging us to share our solutions with each other.'</li> </ul>
<b>Emma Bailey</b> Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'We feel like we have been treated like part of the solution rather than part of the problem and it is so refreshing not to feel patronised and done to.'</li> </ul>
<b>Michele McHugh</b> Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'This Project has raised my awareness of how to use energy better. The approach enabled me to understand and ask questions without feeling like an idiot! The SAVE team were willing to engage and work with us. As a result our community feels like a friendlier place to be.'</li> </ul>
<b>Christine Whitcher</b> Shirley Warren Working Together	<ul style="list-style-type: none"> <li>• 'The hands on approach of this Project have helped us to create a friendly community where I can be myself. I no longer need to try to be different. I am accepted for who I am. I feel more loved and valued. Our community café has given me a new lease of life.'</li> </ul>
<b>Adam Goulden</b> Chief Executive tEC	<ul style="list-style-type: none"> <li>• 'The Environment Centre is delighted to have been involved in the SAVE Project. It has also allowed us to work with a range of new and interesting partners including community engagement experts, local authority stakeholders, utility companies, academics and third sector organisations.'</li> <li>• 'We have learned a great deal through the SAVE Project and are actively incorporating new approaches into our everyday activities.'</li> <li>• 'The SAVE Project has allowed us to work closely with some amazing people, helping them to form a constituted community group and, with them, deliver a variety of events and activities which have achieved real outcomes for local residents. We hope to continue to work with those groups as part of the legacy of this Project.'</li> </ul>
<b>Zaki Mafoud</b> Coach – Shirley Warren	<ul style="list-style-type: none"> <li>• 'Working with the community to support residents to develop and deliver their own agenda has been an interesting new way of working. The relationship we have built with the community has been mutually beneficial, facilitating the delivery of the energy saving message, achieving real improvements in the community, while furthering our understanding of the residents we support. I am keen to maintain the good relationships we have made within the community and to broaden the range of issues we work with residents to address. This is an approach that I will continue to use, both in Shirley Warren and with other communities in Southampton.'</li> </ul>



Who	Quote
<b>Jason Light</b> Strategy Lead (Environment) – Eastleigh Borough Council	<ul style="list-style-type: none"> <li>• 'The SAVE Coaching approach has successfully demonstrated how you can support people to understand an issue and empower them to seek their own solutions which can be different for each person and can change over time. This makes coaching much more resilient than a traditional marketing approach as it provides people with the flexibility to respond to changing situations.'</li> <li>• 'The Coaching approach has shown that people talking to people is a powerful tool for change. Given the current mistrust in 'experts' people would rather talk to a friend, so the coaching trial has been well timed in demonstrating the powerful impact of peer to peer information sharing through trusted local contacts.'</li> <li>• 'Here at Eastleigh Borough Council our management team has been undergoing coaching training so it has been really interesting to see how the principles of coaching have been applied to a community setting. Having a new appreciation of what could be achieved, I have watched the communities engage with the approach and been impressed by the emotional connections they have made with the energy agenda and the way in which they have taken ownership of the issues and developed their own solutions.'</li> <li>• 'A community coaching approach is more resource intensive at the outset but I believe that the flexible and resilient nature of the response achieved makes it a much more cost effective approach in the longer term.'</li> </ul>
<b>Steve Hayes-Arter</b> Southampton City Council	<ul style="list-style-type: none"> <li>• 'Southampton City Council is really pleased to have been involved with the SAVE Project. It has succeeded in engaging the residents of a previously 'hard to reach' community through the coaching approach. Alongside the peak demand reductions and energy literacy work that has been carried out, real differences have been made to the resilience of the community though the support given to residents to set up their own community café, undertake local litter 'clean ups and establish local support networks through the creation of Shirley Warren Working Together. The work of the SAVE Project has provided us with a local reference point for ongoing local communications where previously we had none.'</li> </ul>
<b>Steve Lincoln</b> Community Planning Manager – Winchester City Council	<ul style="list-style-type: none"> <li>• 'Working on the CEC trial has allowed us to develop productive and positive working relationships with the utilities. We have been able to identify common goals around more sustainable communities and better understand the benefits of working together within a defined community. This different way of working has resulted in other areas of joint working beyond the trial communities involved.'</li> <li>• The work of the 'Connecting Kings Worthy' group in encouraging more walking in the community, particularly through the school, directly contributed to the Winchester City Council corporate 'Feet First' campaign in 2016/17.'</li> </ul>
<b>Paul Ciniglio</b> BM3e – Boulter Mossman/ formally of First Wessex Housing Association	<ul style="list-style-type: none"> <li>• 'Although initially sceptical about what the coaching approach could achieve I have been impressed with the outcomes of the trial - the way in which the Project successfully engaged with the communities; the messaging used; giving the communities a tool kit to make peak demand/energy efficiency and what to do about it understandable. In particular I feel that this approach and 'toolkit' would be of use to help other communities - to empower them to change for the better.'</li> </ul>
<b>Ben Earl</b> Water Efficiency Manager – Southern Water	<ul style="list-style-type: none"> <li>• 'The Coaching trial has demonstrated how to harness the energy and enthusiasm of two very different communities. The impact has been really impressive, empowering positive changes within both communities and in the individuals involved, creating a template for multi-utility engagement with communities in the future.'</li> <li>• 'The novel approach of the Coaching trial to working with stakeholders has shown the benefits of breaking down the barriers between agencies and the positive benefits of collaborative working to approach the shared challenges we face. I have been so impressed by the success of this approach that I am working with partners from within the gas and energy utilities to look at ways of continuing to work together by pooling our resources to collectively benefit communities.'</li> </ul>

Who	Quote
<b>Susan Day</b> Stakeholder Engagement Manager – SGN	<ul style="list-style-type: none"> <li>• 'The SAVE Coaching trial has provided a unique opportunity for SGN to work alongside other local utility companies and to share in the learning generated. We have been particularly impressed with the nature of the community engagement that has taken place and the co-design approach to developing community based responses to the issue of peak demand. At SGN we are keen to continue developing this collaborative approach in our work with partners from the other utilities.'</li> </ul>
<b>Charlie Edwards</b> SAVE Project Manager	<ul style="list-style-type: none"> <li>• 'The stakeholder work carried out by Neighbourhood Economics has facilitated cross-industry understanding of how utilities and local authorities might share agendas, fieldwork and customer relationship management. Next steps should look to understand how the spatial focus of a DNO could interact with these third parties to share costs and benefits of a given initiative. From a consumer perspective as well communities have noted how this joined up messaging relays more succinctly than multiple overlapping streams of messaging. Future discussions must look at how this process could be fairly commercialised and implemented at scale.'</li> </ul>
<b>Simon O'Loughlin</b> Stakeholder Engagement Manager SSEN	<ul style="list-style-type: none"> <li>• 'The work done with Neighbourhood Economics required different, more local, Priority Services Register reporting to usual business requirements. Working with Neighbourhood Economics we revisited our reporting tools and made significant adjustments which enabled us track changes to our PSR customer number on a more local level and with greater frequency in defined postcode areas to gain better insight into signups and what motivates people to register for these additional free services.'</li> <li>• 'One hypothesis we wanted to test whilst working with Neighbourhood Economics was that it was most effective and efficient to promote the free of charge Priority Services Register to customers using our own community based advisers. The work used the SSEN Customer Mapping Tool to examine social indicators and involved our local teams promoting the PSR, promotion by Neighbourhood Economics teams as third party intermediaries and partners from within the community itself.'</li> <li>• The results clearly pointed to partners from within the community getting better results, followed by trusted third party intermediaries such as Neighbourhood Economics. This has allowed us to change our strategy and we've launched a new initiative to work closer with partners in communities and provide them with more of the information they need to help people sign up to the PSR.'</li> </ul>
<b>Alison Dean</b> Stakeholder Engagement Manager SSEN	<ul style="list-style-type: none"> <li>• 'Building on the learning from the SAVE Project, SSEN is keen to use the Energy Literacy Toolkit that has been put together with the trial communities' support to enable local partners, as trusted intermediaries, to provide their own branded factsheets that can help them offer energy efficiency advice which is relevant and useful in the local communities they serve.'</li> </ul>



## Learning Checklist #6

Key learning points coming through the analysis of other impacts aside from demand reduction:

As an initial benchmark, response levels to a request to 'be part of forthcoming energy research' were significantly higher in Kings Worthy (20%) as compared with Shirley Warren (6%) (as evidenced through the Baseline Response intervention analysis);

As a rough test of the 'messenger effect', 20% of households in Kings Worthy and 6% in Shirley Warren responded positively to a direct invitation from the DNO to get involved in the project, compared to over 50% in both areas reporting a positive response when invited to take energy saving actions through Connecting Kings Worthy or Shirley Warren Working (as evidenced through Baseline Response and Direct Asks/doorstep feedback interventions);

PSR awareness levels were below 10% in both communities - 8% in Kings Worthy and 5% in Shirley Warren (as evidenced through dedicated interview questionnaires);

As a further indication of the 'messenger effect', working through the locally branded platforms and local friendship networks, the team was readily able to identify customers with particular needs in relation to eligibility for PSR registration (as evidenced through co-design and convergence activities);

A wide array of positive social impacts has been generated throughout the active engagement period of the trial arising from the coaching approach, the DDS co-design work and the energy interventions themselves. As well as adding value to the social fabric in each area, these impacts provide a benchmark for the scale and range of 'stacked' benefits which the DNO and other stakeholders could anticipate in any subsequent, scaled BAU engagement programme (as evidenced through co-design, focus group, convergence activities and Final Co-design Dissemination event);

## 4.3 Sustainability of behaviour change impacts

### 4.3.1 The Assumption

There is an assumption in the hypothesis for the Coaching trial (Para 1.2.3) that "... positive behaviour change is more likely to be reinforced and sustained in the long-term by the momentum of pooled stakeholder effort". As such, four specific means for sustaining positive change emerged through the Coaching trial. These are outlined below.

### 4.3.2 Energy Literacy Toolkit

Through initial engagement and baseline work it was established that both communities were characterised by relatively low levels of awareness of energy issues. Gradually through the co-design process this has come to be recognised as a matter of 'energy literacy' (para 3.2.3).

Echoing the need to address Energy Literacy levels, few in the community were aware of the significance of peak demand or why it might be an issue for the DNO. Once explained, there was a clear understanding across all groups of why this should be and a general willingness to 'shift' usage of certain items out of this peak time in order to do their bit to help.

= A substantial creative platform (see Appendix 7 for a full inventory of creative materials) has been generated as part of trial which, with minor adaptation, could be ready for conversion into either a generic toolkit and /or branded material for other communities to use.

### 4.3.3 Making the Emotional Connections

As it has evolved over the trial's 2 year active engagement period, the essence of the coaching approach has become characterised as - 'making emotional connections' - among and between organisations and individuals and with particular environmental and ethical issues. This builds upon the idea of 'connectedness' as coming through the original DDS work (para 3.1.5).

Building upon trust relationships developed through the trial, the concept of 'Connected Community' has served to facilitate and empower positive change, both 'top down' and 'bottom up', building upon the idea of emotional connection. An indication of some of the potential benefits is set out in Appendix 12.

---

The DNO has an opportunity in seeking to engage more effectively and sustainably with communities to develop the idea of 'connectivity', aligning the idea of physical connections to the energy network with emotional connections to and within communities. Demand reduction is accordingly not so much about 'making connections with the network' but rather about 'facilitating emotional connection' within the community. This idea underpins the Stepped Guide to rolling out a 'Connected Communities' Coaching Programme (Appendix 13) with a view to sustaining both demand reduction and social impacts.

#### 4.3.4 Trial Area Legacy Plans

In both communities, work continued during the challenge year (2017) to bring together the community focused work of the DDS and integrate it with the energy agenda. Culminating in the Convergence Focus Groups conducted in Trial Period 3, the 'making the emotional connections' internal video was used to remind people of the journey they had been on and to see what had been achieved on both fronts during the course of the project. Ensuing discussions enabled the groups to reflect upon what they had achieved of their own aspirations and how much 'energy' had become a natural part of their conversation in the process.

Building upon this, the communities identified a range of actions which they each felt could be continued past the end of the trials in December 2017. Revisiting the groups for a 'legacy' session in February 2018 provided an opportunity for them to re-evaluate the impact of SAVE and to reaffirm their position with regard to a range of legacy commitments.

It would appear, based upon the qualitative feedback at these meetings and again at the Final Dissemination Event held in March 2018, that there is a clear sense that 'energy is now a thread running through local conversations' and that a commitment to maintain an interest in demand reduction and build some continued reference/action linked to it into the community's longer term improvement plans will happen.

Given the original hypothesis for the CEC trials (para 1.2.3), it would appear that the coaching approach has demonstrated that the impact is likely to be deeper and longer lasting than might otherwise have been expected. A further opportunity to test this hypothesis will come in November 2018 when there will be an opportunity to revisit both areas to discover what has happened to the energy agenda since the end of the project in December 2017.

The formal commitments made by each community as of February 2018 are set out in Figures 29 and 30 overleaf.

#### 4.3.5 Contribution to the Government's current strategy for reducing greenhouse gas emissions as set out in the 'The Carbon Plan'

The Carbon Plan sets out how the UK will achieve decarbonisation within the framework of current UK energy policy. Current policies put the UK on track to reduce emissions of CO<sub>2</sub> by a third on 1990 levels by 2020. During this decade, the Government is developing and deploying the technologies that will be needed to halve emissions in the 2020s. This will put the UK on a path towards an 80% reduction by 2050.

To achieve these targets the electricity sector will have to review current policies and practices and adopt new technologies that will enable it to deliver the electricity needed but with a significant reduction in emissions. This challenge is significantly increased by the new buildings emissions target of close to 0 by 2050 which is likely to see an increase in electric heating demand and an associated greater peak. In managing this increase there will need to be an increase in the supply of renewables and resultantly (given inflexibility of supply) greater attention paid to demand side response programmes such as that demonstrated by the CEC trials. Estimated CO<sub>2</sub> reductions for the CEC Trials are included in Appendix 9 (Figure A2) which looks at Network Scalability based upon load reductions achieved during the BSO event.

The CEC Trial and any potential developing BAU programme could contribute to the knowledge base required to meet these ambitious targets by working with communities to increase their awareness and knowledge in Energy Literacy, energy efficiency and associated environmental issues and by encouraging and facilitating action by domestic customers to adopt energy efficient behaviours and undertake home improvements and adaptations which support targets for Lower Carbon Buildings, Low Carbon Electricity, Low Carbon Waste/Reuse, and Low Carbon Transport in particular.

The research learning inherent within the Energy Literacy Toolkit developed through the CEC Trial, could usefully feed into the Department for Business, Energy and Industrial Strategy (BEIS)<sup>11</sup> current work on building a market for energy efficiency.

---

11 BEIS Call for Evidence on Building a Market for Energy Efficiency (Published 12 October 2017).

---

#### 4.3.6 Stakeholders' Good Practice

For key service agencies (such as utility companies, local authorities, housing associations, health bodies) to interact successfully with communities to change behaviour, those agencies need to review their own behavioural norms. This is a clear message coming through the CEC trial on a number of fronts, notably, around consistency of interaction, awareness of community issues and priorities, provision of catalytic, in kind support, overcoming silo mentality and seeking co-designed solutions to shared problems.

Feedback from key stakeholders who have been involved throughout in shaping and overseeing the trial (utilities, local authorities, housing agencies, environmental groups) validates the co-design approach. It is seen as more likely to lead to sustained behaviour change on the basis that continued collective investment in a coaching style engagement can be shown to be a cost-effective option in delivering predictable benefits to stakeholders in future.

Stakeholders involved in the trial have already taken steps to continue the pattern of collaborative work established through the trial. The three utilities involved in SAVE (SSEN, Southern Water and SGN) are actively looking for new ways to work together in order to build upon the potential for 'stackable benefits' that a joint approach provides. Similarly the relationships that have evolved through the Stakeholder group has seen new linkages made with, for example, a representative from SSEN now sitting on the tEC Board and an Eastleigh Borough Council officer upon the WinACC Board. In addition, the two host organisations tEC and WinACC have both expressed their desire to continue to provide support to both trial communities in a more 'light touch' way given ongoing resources, but to extend the principles of the coaching approach where possible and appropriate to their work in other communities.

Given the very positive feedback from residents and stakeholders alike to the coaching approach, there is an opportunity as a clear step forward for the DNO and other stakeholders to jointly adopt a new protocol for community engagement as an expression of conscious change in collective behaviour. This would demonstrate a real willingness to embrace the lessons from TM4 and provide a public commitment to working differently and collectively with other stakeholders and communities in the future. This is elaborated further as part of the Learning Outcomes section of this report. In addition there are opportunities for stakeholders to build upon the relationships established with both trial communities to support the delivery of the local legacy plans for example the DNO with the development of local community resilience plans.

---

Figure 29: legacy plan - shirley warren working together



Looking a year ahead, the SWWT Development Group want to see SWWT actively continuing to promote energy saving messages, including those started through SAVE, alongside activities to promote wider social benefit. In particular:

- They want to see if they can undertake a BSO in November 2018 to build on 2017's successful event;
- They want to continue to promote the 'can it wait 'til after 8' message and other energy saving messages to encourage people to use less at peak times but through regular 'touch point' activities rather than set piece events;
- They would like to see a slow cooking club where people could learn how to use slow cookers and benefit from both the time, cost and energy savings to be made but would need some additional resource/staff/volunteer time to enable it to happen. If there was an opportunity to tie in with a 'healthy eating' type project to access additional help/support that would make it more achievable;
- They intend to continue to undertake regular clean ups to reach further into the community helping to restore pride in SW and the way it looks;
- They would like to see the new Community Café built at the front of the Action Centre and in operation – with an 'eco' focus (or similar) to actively embrace energy issues by using energy efficient appliances, looking at environmentally friendly use of disposable (compostable) cups and plates rather than using the dishwasher, possibly having solar panels to generate its own electricity, energy saving messages and information being available to users and so on;
- They would like continued access to the materials designed for the project, for example, the fridge magnets, information sheets and so on;
- They would like to invite Alan Whitehead (MP for Southampton) to talk to them about wider energy policy issues that they are interested in exploring as a result of the project, raising mutual awareness of the impact of energy and environmental policies upon local residents. They will look for a suitable opportunity to do this;
- They would like to try and integrate energy into other community activities and make it something that they do across the board as a matter of course – embedding the learning locally.
- Making the most of the links they now have with tEC, they would like to access energy efficiency support/ tie in with other available projects and with other organisations for broader support as needed;
- They are happy to engage with SSEN Customer Relations team staff to look at community resilience planning.

---

Figure 30: Legacy plan - connecting Kings Worthy



Looking a year ahead, the CKW Development Group want to build on the neutrality of the CKW brand and see it used to underpin the ‘specialness’ of Kings Worthy as an active and ‘connected’ community. Specifically they want to:

- Actively use the CKW brand to continue to promote both energy saving and wider environmental messages, including those started through SAVE;
- See the Group continue to meet on a quarterly basis to provide a focus and drive to ensure the brand continues to be used/developed;
- Use the CKW brand at upcoming Church and School fairs to promote specific community wide energy/environmental messages linked to the development of the ‘eco’ Church and school curriculum in the first instance;
- Build on St Mary’s Church’s aim to become an ‘eco’ church and make the wider community aware of the background and potential impact along with opportunities for reinforcing energy and environmental messages/action;
- Maintain use of the CKW website and FB page to promote associated local activity;
- Building on a local visioning exercise, to create exemplar community buildings where the community can see for themselves the difference energy efficiency measures can make through for example. Solar PV and a public display unit;
- Continue to look at the opportunity to develop a ‘Sustainable KW’ strategy which all groups could independently adopt as part of their BAU practice;
- Work with the SSEN Customer Relations Team to update the parish resilience plan;
- See the development of a SAVE app as a legacy of the project which would have a simple slide calculator to show impact in money saved of energy efficient actions undertaken for example slow cookers, shorter showers etc. This would require ongoing, external support;
- Continue to receive support from WinACC for on the ground help to enable the group to deliver on these aspirations.

## Learning Checklist #7

Key learning points coming through the review of the sustainability of behaviour change impacts at the latter stages of the trial:

- In relation to 'Energy Literacy', a substantial creative platform has been generated as part of the trial which, with minor adaptation, could readily be converted into either a generic toolkit and /or branded material for other communities to use (as evidenced through focus group work, final dissemination event);
- As evolved over the course of the trial, the essence of the coaching approach has become characterised as - 'making emotional connections' - among and between organisations and individuals and with particular environmental and ethical issues. Building upon this joint 'ownership' of energy issues, the DNO has an opportunity in seeking to engage more effectively and sustainably with communities to develop the idea of 'connectivity', aligning the idea of physical connections to the energy network with emotional connections to and within communities (as evidenced through final dissemination event and feedback/quotes from stakeholders);
- There is a clear sense within both communities that 'energy is now a thread running through local conversations' and that a commitment to maintain an interest in demand reduction and build some continued reference/action linked to it into the community's longer term improvement plans will outlive the project. This commitment reinforces the ongoing opportunity for 'one to many' rather than 'one to one' engagement with DNO customers through the local trusted intermediary organisation. It is embodied in the formal legacy plans for each community (as evidenced through final dissemination event and convergence activities);
- Key stakeholders involved in the trial have already taken steps to continue the pattern of collaborative work established through the project. Given the very positive feedback from residents and stakeholders alike to the coaching approach, there is an opportunity as a clear step forward for the DNO and other stakeholders to jointly adopt a new protocol for community engagement as an expression of conscious change in collective behaviour (as evidenced through final dissemination event and feedback/quotes from stakeholders).

## 4.4 Learning outcomes

### 4.4.1 5 Key Themes/5 Key Audiences

Reflecting the SAVE Project bid commitments and the specific trial hypothesis, the key conclusions drawn from the TM4 Community Energy Coaching trial are centred around 5 themes:

- Delivering Peak Reduction
- Joined Up Stakeholder Working
- Improving Community Engagement
- Adding Social Value
- Sustaining Positive Impacts

Taking each theme in sequence, a series of specific Learning Outcomes have been identified drawing together key learning points as check-listed periodically throughout this report.

The Delivery Team appreciates that the results of the CEC trial research will be of interest to a range of different audiences with different focuses (Figure 31). The Learning Outcomes have been colour coded to show which audiences are likely to be most interested in any particular outcome

Figure 31: 5 key audiences

Figure 31: 5 KEY AUDIENCES	
Audience	Focus
DNO Network Planners	focused on optimising network investment and potentially open to alternatives to straightforward reinforcement of network capacity
DNO Customer Engagement Teams	looking for innovative tools and techniques for engaging communities (especially 'hard to reach' groups) to address vulnerability issues and increase resilience
DNO Stakeholder Engagement / Other Utilities and Strategic Partners	developing strategic alliances to support organisational performance, deliver on key social obligations and maximise collaborative social impacts and cost efficiencies
Third Sector infrastructure bodies and community-based organisations	seeking to promote energy efficiency and related ethical behaviours
Industry bodies, Government	promoting research based innovation and best practice and identifying means of achieving wider policy level targets
Agencies and academic institutions	

The Learning Outcomes represent the significant and essential knowledge, insights and understanding gained as part of the CEC trial. They are presented with a view to:

- offering guidance to SSEN and their key stakeholders regarding ongoing 'business as usual' (BAU) operations;
- alerting other DNOs to relevant learning around peak demand, community engagement and delivery of social obligations;
- underpinning future resource generation for potential follow on replication work;
- facilitating legacy planning and operational relationships between project participants;
- adding value to the other SAVE trials which remain active until the end of 2018.

#### 4.4.2 Learning Outcomes

<b>LO1</b> <b>Energy Literacy</b>	<b>Delivering Peak Reduction ...</b>
<b>... in order to be able to engage meaningfully within the trial communities on the DNO's energy agenda, the team first had to address the issue of 'Energy Literacy' ...</b>	
<p>Through initial engagement and baseline work the team established that both communities were characterised by typically low levels of awareness of energy issues. Further, through the whole process of relationship building and collaborative working, it became clear early on, that attitudes to energy usage were influenced mainly by negative associations. But, as the team explained more about our research, they were able to talk positively about the role of Network Operators like SSEN, the positive impact of 'shifting' peak demand, the collective impact of communities and the DNO's in-built social obligations.</p> <p>Gradually through the co-design process the idea of 'energy literacy' became the key concept driving the generation of creative materials for the trial reflecting the need to talk differently about the basics of energy distribution and consumption, using different language and presenting information simply and visually.</p> <p>It became clear once customers understood the role of the local network that the idea of peak demand was seen as an obvious issue that needed to be dealt with - the key question then being 'so tell me how do I use less between 4-8pm?' The response within both Trial areas was expressed neatly as a 'light bulb moment', opening the door through further co-design and focus group work to the development of a range of readily interpretable creative material including factsheets, fridge magnets and a power draw chart. The latter, by popular consensus, appeared to have the most significant potential impact in encouraging a change in peak usage behaviour as it showed very simply and visually where the bigger savings could be made – both in terms of peak demand and equivalent energy cost savings. Reportedly, rather than being seen as something separate and of little relevance, 'the energy thread has now become interwoven within the fabric of community life' in both trial areas.</p>	
<b>LESSON / ACTION:</b> the substantial creative material resource generated as part of the trial is ready to be converted into a generic Energy Literacy toolkit and/or branded material for use with other communities.	Section Ref:  3.2 Appendix 7

<b>LO2</b> <b>Drivers for Change</b>	<b>Delivering Peak Reduction ...</b>
<b>... for both communities the key, unifying driver for behaviour change in the consumption of electricity was the idea of being part of a collective aspiration for change ...</b>	
<p>Throughout the trial the team explored 4 particular drivers for change and their relative traction in influencing peak demand behaviour. Focusing on either 'Saving Money' or 'Saving the Planet' has tended to divide while combining the two has tended to confuse. Of the other potential drivers, 'Support your Network' and 'Support your Community', the idea of collective community effort has been the most obviously compelling in motivating people to engage in reducing peak demand as part of successive trial campaigns. The 'Can it wait 'til after 8', 'Light bulb Community' and 'Reduce your Use' campaigns culminated in the 'Big Switch Off' intervention with our final voluntary demand restraint test using nuanced messaging themed around being connected with a 'community which cares ... about the environment, about each other, about how we use our energy resources, about avoiding waste ... and ultimately about the legacy we are leaving our children'</p>	
<b>LESSON / ACTION:</b> this is a crucial lesson suggesting that future energy efficiency and related environmental campaigns at the community level should focus on collective aspiration rather than individual / personal aspiration.	Section Ref:  3.2



### LO3 Cooking Routines

#### Delivering Peak Reduction ...

- - - -

... across the 2 trial communities, the team addressed widespread resistance to changing evening cooking routines in family households ...

On the subject of cooking routines, the team was told early on that seeking to change cooking routines in family households would be a step too far. While non-working households might in theory be more responsive, this would be seen as a taboo subject especially for busy families where lifestyle change was not regarded as a practical option. However, further focus group work revealed that by presenting the value of change in alternative terms, notably saving time, was seen as acceptable and helpful. Things like use of slow cookers and batch cooking could accordingly be seen as attractive options offering some traction in reducing peak demand by implication. Recipe sharing activity on the local Facebook pages, especially in Kings Worthy, was a validation of this idea. Through events and promotions, the team was able also to build engagement routines around the theme of 'alternative cooking', demonstrating the value of low energy baking, slow cooking and batch cooking in terms of both saving time and saving energy. Social events with a food / cooking component were also helpful in creating opportunities for behaviour change messaging. In Energy Literacy terms, the Power Draw chart was helpful here in emphasising the relative significance of cooking in contributing to peak demand

**LESSON / ACTION:** rather than being a taboo subject, a focus upon cooking and food can be a valuable catalyst in shaping energy efficiency campaigns aimed at peak reduction.

Section Ref:

3.2

### LO4 Substation Monitoring

#### Delivering Peak Reduction ...

- - - -

... the scope of the research interventions was constrained by the technical challenges related to analysing changes in collective consumption behaviour at substation level ...

The team confronted a number of challenges related to monitoring and observability of relatively small changes in consumption and the associated confidence with which changes can be seen as attributable to specific interventions. These challenges have necessitated options appraisal work to identify creative solutions in final trial period design.

In the event of any further rollout of a community-centric coaching programme, alternative monitoring solutions might usefully be considered linked specifically to measurement of peak demand rather than measured consumption. If the key issue in an operational setting is the frequency with which a capacity ceiling on a substation transformer is breached, it might be useful to explore options for installing equipment which could issue an alert whenever this occurs. Achievement in reducing peak demand might then be a matter more simply of recording the number of 'breach' events rather than more elaborate third party monitoring requiring analysis based on measured consumption over time.

In this way, the monitoring requirements associated with future community-based research and/or scaling of the coaching approach could be more closely aligned with low cost substation monitoring techniques and devices already in operational use.

**LESSON / ACTION:** to address the challenges faced in measuring peak demand reduction, alternative low cost substation/feeder monitoring solutions should be reviewed in anticipation of any next stage programme rollout.

Section Ref:

3.4  
Appendix 13



LO5 Percentage Reductions	Delivering Peak Reduction ...				
	... through a combination of narrowing constraint periods, highly nuanced messaging and a known level of declared participation in specific tests, the team was able to observe a measurable demand reduction in excess of 10% on selected substation feeders ...				
<p>In successive iterations over the course of the trial, data related interventions have been designed within increasingly narrow restraint windows, increasingly nuanced messaging and increasingly intensive promotion - with a view to being able to assess the point at which a measurable reduction in demand could confidently be observed through feeder level consumption monitoring.</p> <p>This process culminated in the 'Big Switch Off' (BSO) event in November 2017 which was delivered as part of Trial Period 3 activity. For the BSO, the restraint window was reduced to 1 hour (6-7pm), messaging was themed around 'Caring Community' and there was a declared sign up rate of 25%. Under these circumstances, the team observed a reduction of between 11% and 21% on 4 of the 5 selected feeders across the 2 communities. This compared with the hypothesised target of 10%. In 3 of the 4 cases showing a measurable reduction, there was a more than 95% probability that the observed reduction was due not to chance but to the research intervention itself.</p> <p>As an indication, a 15% reduction in consumption if replicated across each 1000 household trial community between 4-8pm would amount to a notional drop in consumption of the order of 4000 kW.</p>					
LESSON / ACTION: these demonstrable levels of demand reduction provide the benchmark for the DNO in what could be achieved through focused community engagement.					Section Ref:  3.4 /4.1 Appendix 9

LO6 Emotional Connection	Delivering Peak Reduction ...	-					-
	... in both areas, the essence of the coaching approach came to be characterised as ‘making emotional connections’ ...						
<p>From very early on in both areas, the idea of ‘connectedness’ was a consistent, underpinning theme for our research emerging naturally from the DDS engagement process.</p> <p>As it has evolved over the 2 year active engagement period, the essence of the coaching approach become characterised as - ‘<i>making emotional connections</i>’ - among and between organisations and individuals and with particular environmental and ethical issues. The associated trust relationships have served to facilitate positive change through successive trial manifestations of integrated working - ‘Lightbulb Community’, ‘Caring Community’ and latterly ‘Connected Community’.</p>							
LESSON / ACTION: building upon the joint ‘ownership’ of energy issues, the DNO has an opportunity in seeking to engage more effectively and sustainably with communities and stakeholders together to develop the idea of ‘connectivity’, aligning the idea of physical connection to the energy network with emotional connection to and within communities.						Section Ref:  4.3 Appendix 12	

**LO7  
DNO as  
catalyst**

**Joined Up Stakeholder Working ...**

**... initial stakeholder and partner enthusiasm for the project was spurred in particular by an aspiration to establish the viability of joint public, private and third sector working, with DNO-led engagement as the catalyst ...**

From the outset there was a high level of positive enthusiasm amongst stakeholders and potential partner agencies for joint working as part of the research. There was a strong identification with the aims of the project and the prospect of shareable consumption data and transferable learning regarding behaviour change.

In terms of 'market readiness', the Stakeholder Group's willingness to engage in the research was also underpinned by a genuine interest in testing the viability of joint public, private and third sector working. The opportunity for the DNO to collaborate and crucially to be a catalyst for multi-agency community engagement was of particular interest to local authority and third sector partners whose resources, and therefore capacity to take the initiative, are increasingly stretched.

*'Working on the CEC trial has allowed us to develop productive and positive working relationships with the utilities. We have been able to identify common goals around more sustainable communities and better understand the benefits of working together within a defined community. This different way of working has resulted in other areas of joint working beyond the trial communities involved.'* (Steve Lincoln, Community Planning Manager, Winchester City Council)

**LESSON / ACTION:** based on the Coaching trial experience, there is a naturally catalytic role for the DNO in facilitating non-traditional, multi-agency community engagement.

Section Ref:

2.2  
Appendix 13

**LO8  
Stakeholder  
Collaboration**

**Joined Up Stakeholder Working ...**

**... key stakeholders involved in the trial have already taken steps to continue the pattern of collaborative work established through the project ...**

As part of the initial base-lining process (in accordance with the Outcomes Chain change model) the plan was to build stakeholders' complementary targets into the overall framework of formal research alongside equivalent DNO and community aspirations. This proved impossible given the relative absence of published baseline data at LSOA (Lower Super Output Area) level. Elements of the identified targets have subsequently been incorporated in the sample 'stackable' benefits potentially accruing from a multi-agency rollout of a 'Connected Communities' Coaching Programme.

Generally, feedback from key stakeholders who have been involved throughout in shaping and overseeing the trial (utilities, local authorities, housing agencies, environmental groups) validates the co-design approach. It is seen as more likely to lead to sustained behaviour change on the basis that continued collective investment in a coaching style engagement can be shown to be a cost-effective option in delivering predictable benefits to stakeholders in future. Key stakeholders have already taken steps to continue the pattern of collaborative work established through the trial.

*'The novel approach of the Coaching trial to working with stakeholders has shown the benefits of breaking down the barriers between agencies and the positive benefits of collaborative working to approach the shared challenges we face. I have been so impressed by the success of this approach that I am working with partners from within the gas and energy utilities to look at ways of continuing to work together by pooling our resources to collectively benefit communities.'* (Ben Earl, Water Efficiency Manager, Southern Water)

**LESSON / ACTION:** the level of commitment to joined up working as evidenced through the trial indicates an opportunity for further exploration of the cost-effectiveness of multi-agency collaboration targeting specific stakeholder benefits.

Section Ref:

4.2  
4.3

**LO9  
Engagement  
Protocol**

**Joined Up Stakeholder Working ...**

**... given the very positive feedback from residents and stakeholders alike to the coaching approach, there is an opportunity for the DNO and other stakeholders to establish a set of good practice principles for future community engagement ...**

As part of the trial preparation the team put together in 2014 a review of good practice in community engagement focusing upon behaviour change in the energy sector ('Background Review of Good Practice in Community Engagement' August 2014). While this has been a useful checklist for the team in shaping the trial, the document was not designed to lend itself to ready interpretation in an operational setting. Building upon this original review, the team has been able through the trial to develop additional, more specific learning about achieving deeper and more sustainable change through community engagement. Reviewing the wealth of community feedback through the trial, the team has distilled the key learning down to 5 headline principles:

- Understand the local agenda before seeking to introduce your own – 'top down' information or community campaigns typically start with the agency led issue that needs to be addressed with relatively little account taken of the complementary needs or interests of the recipient community, the context in which communication will be received and corresponding willingness or ability of residents to engage or act. By starting from the 'bottom up' and understanding the needs and aspirations of the target community, 'top down' campaign messages can be tailored to suit, with willing community partners sharing ownership of the issue. 'Earning the right' is key;
- See the community as part of the solution not part of the problem – often the people with the better ideas for addressing a problem will be those closest to it. Using a co-design approach can harness the expertise of 'in house' industry experts along with the wider knowledge and experience of local stakeholders and residents. Blending different perspectives into locally tailored solutions will provide more traction and greater local buy in than something perceived as 'imposed' or 'parachuted in'. Generally, customers will respond badly or not at all, if they feel 'done to';
- The need for change does not lie only within communities – service organisations and public agencies can subject communities to an ongoing cycle of change requests: 'eat more of this', 'less of that', 'use less of this' and 'save more of that'. The expectation is that the need for change lies within each individual, household, community but rarely within the organisations and agencies themselves. If we really want to create new social norms we need to interact positively with those we seek to change and be prepared to change ourselves and our traditional ways of working in the process, taking time to appreciate local circumstances and build mutual understanding;
- No one size fits all - communities are multi-faceted and complex. From a local perspective a single issue, 'silo' tick box approach to service delivery and problem solving is likely to be perceived as a frustrating waste of time. For an effective appreciation of the core needs within a community, engagement needs to be sustained and relatively non-prescriptive with an opportunity to involve a range of service providers who, acting together, can make a real difference against a commonly agreed agenda;
- Ensure that the importance of consistent relationship building is not always superseded by urgent operational demands – a bottom up, co-design approach takes time and commitment to deliver results and consistent success is based upon the quality of the relationships that can be developed and maintained. Trust in service agencies is slow to be established at the community level but quick to evaporate when commitments made routinely give way to other urgent operational demands.

These good practice principles will typically apply in all operational situations involving groups of customers and are likely to be of particular relevance to DNOs seeking to deliver core social obligations in a more meaningful and sustainable way. The CEC trial has demonstrated that in adopting a more collaborative, multi-agency style, the positive outcomes of community and customer engagement can be both more effective and more durable.

**LESSON / ACTION:** there is an opportunity for current stakeholders to jointly adopt a new community engagement protocol as an expression of conscious change in collective behaviour. This would demonstrate a willingness to learn from the lessons established through the research trial and express a public commitment to working differently in future.

Section Ref:

3.1  
3.2

LO10 Community Readiness	Improving Community Engagement ...	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
	... in terms of their ‘readiness to engage’ the 2 trial communities were particularly well polarised ...	
	<p>The aim of the selection process was crucially to identify 2 differentiated trial areas each of 1000 households, one relatively affluent and one relatively disadvantaged. In practice it became clear through initial ‘mapping and gapping’ and engagement work that the communities were particularly polarised in terms of the relative levels of social capital. Shirley Warren was very much ‘below the radar’ with a dearth of community-based organisations and activities - the challenge being to draw individuals together. Kings Worthy was a distinctly ‘resilient’ community with an abundance of community-based organisations and activities - the challenge being to draw organisations together.</p> <p>Shirley Warren presented a particularly difficult social cohesion challenge in terms of the focused efforts necessary initially to get ‘underneath the radar’ and bring together individuals who could make a difference.</p> <p>As reported at the March 2018 Dissemination event, the ‘depth’ of impact in social terms was perceptively the greater in Shirley Warren - reflecting the community’s generally lower levels of resilience. In Kings Worthy the ‘breadth’ of impact was perceptively the greater - with a real sense of added value in reinforcing and integrating community activity across the community.</p>	
LESSON / ACTION: different communities’ relative readiness to engage and the associated resource implications will be a key factor in decisions about target communities in any next stage programme rollout.		Section Ref:  3.1 / 3.3 Appendix 5 Appendix 13

LO11 Earning the Right	Improving Community Engagement ...	-					-
	... the principle of working initially with the communities unconditionally on their own terms was perceived positively as the DNO ‘Earning the Right’ to present its own energy agenda ...						
<p>The idea of ‘Earning the Right’ to talk to communities about energy issues is at the heart of trial’s non-traditional approach to local engagement. Piloting the approach to engagement within 2 very different communities, the team has been able through the Coaching Trial to demonstrate a level of positive change in both peak demand reduction and related social impacts.</p> <p>Feedback from the trial communities confirms that their relative responsiveness on the energy agenda in particular reflects our collaborative co-design approach. The team sought first to help deliver recognised community aspirations and only then to integrate energy saving into an overall joint strategy. Although relatively resource intensive, ‘earning the right’ to present the DNO agenda through this initial trust building process was seen by the communities as crucial. This feedback validates the Outcomes Chain model regarding the creation of a local ‘trust’ platform.</p> <p>While underpinning a potential composite ‘Engagement Protocol’ (LO9), this point has standalone significance.</p>							
LESSON / ACTION: the cost effectiveness of this unconditional approach should be reviewed as part of any next stage programme rollout.						Section Ref:  3.1 3.3	

<b>LO12</b> <b>Trusted</b> <b>Local</b> <b>Messenger</b>	<b>Improving Community Engagement ...</b>
<p><b>... the co-produced community brandings have provided ‘trusted local messenger’ platforms creating a positive ‘messenger effect’ in promoting behaviour change ...</b></p> <p>Increasingly, as the idea of energy efficiency has become more firmly embedded within the locally branded strategies, the communities themselves have been seen as ‘owning’ the initiative. So, from the DNO perspective, ‘Shirley Warren Working Together’ and ‘Connecting Kings Worthy’ have become de facto intermediaries in promoting peak reduction on behalf of the DNO. These intermediary organisations have assumed the mantle of ‘trusted messenger’. While the messages that DNO and the local organisations present might not be different as such, the fact that local organisations are much more likely to be listened to within the community has been borne out through both formal interventions and focus group feedback. Given that in reality it is difficult to incentivise peak reduction directly on the basis of either reduced cost or reduced environmental impact, this community context has been all the more important in conveying change behaviour change messages.</p> <p>With and through these intermediary organisations, the team has undertaken a range of formal intervention iterations aimed at testing the response to different messages and campaigns working through the local intermediaries on a ‘one to many’ (rather than the typical ‘one to one’ basis). As rough tests of the ‘messenger effect’:</p> <ul style="list-style-type: none"> <li>• 20% of households in Kings Worthy and 6% in Shirley Warren responded positively to a direct invitation from the DNO to get involved in the project, compared to over 50% in both areas reporting a positive response when invited to take energy saving actions through Connecting Kings Worthy or Shirley Warren Working Together;</li> <li>• against a background of Priority Service Register awareness levels of 8% in Kings Worthy and 5% in Shirley Warren, working through the locally branded platforms and local friendship networks, the team were readily able to identify customers with particular needs in relation to eligibility for PSR registration.</li> </ul>	
<b>LESSON / ACTION:</b> from the DNO viewpoint, as well as being potentially more effective in supporting behaviour change, a locally branded platform offers the opportunity for improved cost efficiencies by engaging customers on a ‘one to many’ rather than a ‘one to one’ basis.	Section Ref:  3.3 4.2

<b>LO13</b> <b>Social</b> <b>Impacts</b>	<b>Adding Social Value ...</b>
<p><b>... a wide range of positive social impacts has been generated throughout the active engagement period of the trial as a natural part of the coaching process ...</b></p> <p>In the process of exploring peak demand reduction, the CEC trial has served to create substantial added value in terms of positive social impacts in both communities. These contingent impacts have categorised into 3 main types – those attributable to the coaching methodology, those attributable to the DDS co-design work and those attributable to the interventions themselves.</p> <p>Reflecting the wide range of impacts across these categories, the coaching process has created substantial added value in notably, volunteering levels, reduced vehicle usage, community leadership, environmental clean-ups, care support and PSR awareness</p> <p>This success provides a basis for delivering ‘stackable benefits’ which could accrue to the DNO and other stakeholders collectively through a follow on BAU Programme. Benefit stacking could offer opportunities for cost effective collaboration taking account of the declared priorities of all stakeholders involved.</p>	
<b>LESSON / ACTION:</b> as well as adding value to the social fabric in each area, these impacts provide a benchmark for the scale and range of ‘stackable’ benefits which the DNO and other stakeholders could anticipate in any subsequent, scaled BAU engagement programme.	Section Ref:  4.2 Appendix 13

LO14 Quantified Value	Adding Social Value ...	-	-		-	
	... in the absence of any established DNO-led mechanism for evaluating positive social impacts, capacity to quantify the value of individual social impacts as part of the project itself has been limited ...					
<p>To evaluate the cost-efficiency of these impacts, the team ideally needed to be able to quantify the value of each one in some way to get an understanding of ‘Equivalent Unit Value’ (EUV), that is, the cost which a potential beneficiary organisation can interpret as value for money in considering any future replication of the engagement process as piloted through the CEC trial. Also, looking forward to the potential scaling of positive trial impacts, it was seen as important to be able to examine in greater depth the EUV of potential benefits accruing to particular stakeholders participating in any multi-agency rollout programme, as part of an overall assessment of BAU cost-effectiveness. In the DNO case, this would be linked directly to established social obligations.</p> <p>In the absence of any established mechanism for evaluating positive social impacts and having reviewed current tools and recent research, it appears there are no established industry criteria against which the positive social impacts achieved through the trial can be formally evaluated. As an alternative the team accordingly looked at the combined value of selected impacts in calculating the overall cost effectiveness of replicable behaviour change activities coming up with the idea of ‘Equivalent Total Value’ (ETV). So rather than seeking to generate an EUV for each individual targeted benefit, the stepped Guide for the potential rollout of a Connected Communities Coaching Programme aims to proceed on the basis of ETV as derived by ‘stacking’ benefits together and relating collective impact to likely operational cost. This accordingly allows potential stakeholders to review whether the predicted ratio between cost and value overall is likely to be deemed value for money from an individual and/or multi-agency perspective.</p>						
LESSON / ACTION: with industry partners and key stakeholders, SSEN should initiate further work to identify a clear framework for quantifying positive social impacts accruing from community-centric work, with a view to more definitive evaluation of multi-agency interventions.						Section Ref:  3.4 Appendix 13

LO15 Merits of direct DNO Interaction	Sustaining Positive Impacts ...					
	... direct DNO/customer interaction has been beneficial in 3 particular ways ...					
<p>One of the key bid commitments in the original LCNF bid for SAVE was to determine the merits of DNOs interacting with customers on energy efficiency measures as opposed to suppliers or other parties. Based on the experience of the CEC trial, there are 3 ways in which direct interaction between the DNO and customers has been particularly beneficial:</p> <ul style="list-style-type: none"><li>• <u>Energy Literacy</u> – in facilitating measures aimed at improving Energy Literacy specifically appreciation of the distinctive role of the DNO;</li><li>• <u>Trusted Local Intermediaries</u> – in co-creation of local organisations acting on behalf of the DNO in facilitating change in peak demand behaviour - allowing the DNO and other stakeholders to engage residents on a ‘one to many’ rather than ‘one to one’ basis;</li><li>• <u>Collaborative BAU engagement programme</u> – in the specification of formal guidelines for potential rollout of a replicable BAU engagement programme harnessing the value of stakeholder collaboration and the ‘stackability’ of multi-agency benefits.</li></ul> <p>This experience is nuanced in the sense that, through direct DNO action, the complementary merits of longer-term interaction through a trusted intermediary are seen as more compelling.</p>						
LESSON / ACTION: these positives offer both the incentive and the means for development of a scaled BAU engagement programme.						Section Ref:  1.2 4.2

**LO16**  
Legacy  
Planning

Sustaining Positive Impacts ...

... in both communities there was a readiness to engage in legacy planning ...

In both communities, there was a readiness at the latter stages of the research to engage in legacy planning discussions about embedding energy issues into wider community-based activities with a commitment to retain and build upon the established local brandings of Shirley Warren Working Together and Connecting Kings Worthy. The idea of sustainability was a key component of the trial hypothesis and this readiness represents validation of the Outcomes Chain assumptions.

This readiness was consistent across the 2 communities with local commitment embodied in formal Legacy Plans. Energy usage is now reportedly seen as an underlying community issue not something apart, with the community itself being part of the solution in addressing peak demand.

*'Thanks to the SAVE project and the work of Connecting Kings Worthy, of the 33 areas I represent Kings Worthy is the only area where issues of energy are visible and people are happy to engage in conversations around energy efficiency, peak demand and associated wider environmental issues.'* (Jackie Porter, Local District and County Councillor).

The longer term sustainability of recorded social and energy related impacts is unknown at this stage.

**LESSON / ACTION:** Plans for the Delivery Team to revisit the communities in November 2018 will offer an opportunity to discover what has happened to the energy agenda since the end of the active engagement period in December 2017. Understanding regarding the longer term sustainability of positive impacts will necessarily rely upon future rollout planning.

Section Ref:

4.3  
Appendix 13

**LO17**  
Unit Cost per  
site

Sustaining Positive Impacts ...

... as a rough guide, the estimated cost per trial site (for the elements of research cost which might be expected to be incurred at some level in delivering a subsequent BAU engagement programme) was of the order of £100,000 ...

Overall research costs for the CEC trial break down fairly naturally into costs of:

- Project Management - costs directly attributable to setting up and managing TM4 as a research project - these costs are seen as constituting a one-off, non-recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme;
- Generated Learning - costs directly attributable to generating tailored learning outcomes designed to inform BAU activities - these costs are seen as constituting a one-off, non-recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme;
- BAU Starter - elements of research cost which might be expected to be incurred at some level in delivering a subsequent BAU engagement programme building upon learning generated through the research trial.

As a rough guide, the estimated percentage of trial costs being allocated to the 'BAU Starter' research elements equates to a benchmark cost per trial site over 2 years of the order of £100,000 to secure recorded social and energy related impacts.

**LESSON / ACTION:** this provides a benchmark for any follow-on proof of concept / scaling work with an aspiration to reduce significantly to allow value for money assessment for any future BAU programme.

Section Ref:

4.2  
Appendix 11



<b>LO18</b> <b>Changed</b> <b>Community</b>	<b>Sustaining Positive Impacts ...</b>	-				
	<b>... in both communities the impact of the CEC trial has been perceived as transformational ...</b>					
<p>Over the course of the trial, greater energy literacy has become increasingly embedded within the trial communities. Reportedly, ‘the energy thread has now become interwoven within the fabric of community life’ in both trial areas. Embedded within tailored Legacy Plans now in place, the energy issue is less likely to fall off the agenda post research project and is by this means set to become a ‘normal’ part of a community’s longer term improvement activities. This commitment reinforces the ongoing opportunity for ‘one to many’ rather than ‘one to one’ engagement with DNO customers through the local trusted intermediary organisation.</p> <p><i>‘The SAVE project has totally transformed Shirley Warren – it has been the catalyst for action – bringing together local people o deliver positive change in their own community as well as achieve reductions in peak demand. A real win/win. We’re so glad we got involved.’</i> (Jenny Elliott, Pastor of Shirley Warren Action Church and Chair of Shirley Warren Working Together).</p> <p><i>‘The SAVE Coaching approach has successfully demonstrated how you can support people to understand an issue and empower them to seek their own solutions which can be different for each person and can change over time. This makes coaching much more resilient than a traditional marketing approach as it provides people with the flexibility to respond to changing situations.’</i> (Jason Light, Strategy Lead (Environment), Eastleigh Borough Council)</p>						
<b>LESSON / ACTION:</b> these positives offer both the incentive and the means for development of a scaled BAU engagement programme.		Section Ref:  4.2 / 4.3 Appendix 13				

#### 4.4.3 The 'Connected Communities' Prototype and potential Rollout

With a view to scaling up the CEC trial research to a viable BAU programme, these Learning Outcomes offer a lot to build on, notably:

- The value of the 'Connected Community' concept as a compelling driver for collective behaviour embracing both physical and emotional connections;
- Clear buy-in at the community level to peak demand reduction based on increased levels of energy literacy and the associated 'earning the right' principle of co-design;
- Demonstrable reductions in peak electricity demand as an incentive for a DNO to take the lead in focused community engagement – with an associated need to review lower cost peak monitoring options;
- The generation of 'stackable' social impacts to underpin more cost-effective multi-agency collaboration – with an associated need for clearer quantification of benefits;
- The potential for sustained transformation of communities with demand reduction (and other positive impacts) embedded in locally branded change strategies;

- An engagement protocol which can underpin the co-creation of trusted local intermediary organisations able to support and embed change.

The CEC trial has effectively served to create a prototype for non-traditional, DNO led engagement blending the change agendas of the DNO, other stakeholder agencies and the community itself. Building on the prototypes created, there is an opportunity for further proof of concept work to develop a replicable, multi-agency 'Connected Communities' Coaching Programme – effectively the CEC trial 'in a box'. This would build more widely on the learning established through the research trial and the positive knowledge, insights and understanding regarding peak demand reduction and added social value as achieved through the collaborative process.

As a next step, a Beta rollout could be considered by DNO's to test whether a scaled programme can be delivered within a strict enough budget to ensure a cost-effective return on investment for all stakeholders. A Stepped Guide setting out how the DNO might go about this along with stakeholder partners is included under Appendix 13.



# APPENDICES

## 1 PROJECT MANAGEMENT

### 1.1 Governance

The SAVE Project was tightly managed with (i) all partners meeting monthly as part of the Project Planning and Review Board (PPRB), overseeing the work of the overall project under the leadership of the SSEN Project Manager, (ii) weekly conference calls to monitor Action Plan progress, (iii) identification and recording of risks through regular monitoring and updating of the SAVE Risk Register and (iv) regular updates to the TM4 learning logs to record key lessons learned at all stages.

### 1.2 SAVE Customer Engagement Plan

In accordance with Ofgem protocols, the overall SAVE Customer Engagement Plan, including Data Protection protocols, was formally submitted and agreed at the outset of the project in early 2014.

### 1.3 The TM4 Delivery Team

The TM4 delivery Team was composed (Figure A1 below) of Neighbourhood Economics (NEL) as the lead organisation for the trial, The Environment Centre (tEC), the host organisation providing the coach for Shirley Warren, and Winchester Action on Climate Change (WinACC), the host organisation providing the coach for Kings Worthy. The key changes to the team over the course of the trial were in coach deployment, with both areas seeing a change in staff during the live trial period. The transition of coach in each area went well with NEL staff providing additional support as needed on the ground to ensure a smooth process with no impairment in community contact.

Figure A1: THE TM4 DELIVERY TEAM			
Dates	tEC	WinACC	Neighbourhood Economics
January 2015 to August 2015	Adam Goulden	Chris Holloway	Judi Sellwood John Every
September 2015 to June 2016	Adam Goulden Christabel Watts (coach)	Richard Blackman Susie Phillips (coach)	
July 2016 to December 2016	Adam Goulden Zaki Mahfoud (coach)	Richard Blackman Susie Phillips (coach)	
January 2017 to March 2018	Adam Goulden Zaki Mahfoud (coach)	Richard Blackman/Tom Brennan Alison Skillen (coach)	

The TM4 Delivery Team in combination had extensive knowledge and experience across energy, community development and coaching fields.

The coaches were afforded the opportunity to experience independent personal coaching early on in their involvement with the CEC trial to enable them to better understand the coaching approach and transferable principles which they could apply in a community setting.

---

## 1.4 Types of Learning

A range of different types of learning have been accumulated throughout the TM4 research trial reflecting the SAVE bid commitments (Main Report, para 1.2.1). A learning log has been maintained and updated quarterly as part of NEL's Quarterly Progress Reports to SSEN and this process has been invaluable in tracking the development of the project and the team's thinking over the course of the research trial.

Addressing key delivery constraints (Main Report, Section 3.4) has challenged the team to identify creative solutions in delivering on bid commitments.

The team proceeded on a consensual basis by tying in local residents and stakeholder agencies through the iterative co-design purpose, ensuring as far as possible, that all concerned were able to share the 'ownership' of accumulated learning and agreed solutions.

**Main Report Reference:**

**SECTION 1.1**

---

## 2 PARALLELS AND CONTRASTS BETWEEN TM4 AND OTHER TRIALS

The headline comparisons between the CEC trial and the other household trials are notably:

- Sampling Framework – the sample sizes are similar but the levels of potential statistical rigour are vastly different (Main Report, para 1.1.4);
- Governance – alongside the project partners, the CEC trial was overseen and directed by a dedicated Stakeholder Group including representation from Local Authorities, utility companies, housing agencies, third sector groups (including the ‘host’ organisations employing the local coaches). This was a distinctive and crucial part of the co-design process, tying other agencies in to the long-term ownership of the change process;
- Geographic Community – the CEC Trial households constitute identifiable geographic communities as compared to the household trials’ groups of randomised households across the Solent region;
- Data recording – by contrast with the other 3 trial methods, there has been no recording of data linked to individual customers at the household level. Instead substation / feeder level monitoring has been put in place within the selected trial and control areas;
- Baseline monitoring – with the 2 year engagement phase for TM4 beginning in January 2016 the Delivery team already had a full year of baseline substation data with monitoring equipment having been installed within the selected trial and control areas in December 2014. For trials 1-3 this was not the case given equipment related implementation delays;
- Creative platform – during the initial planning phase generic materials and ideas were shared across the 4 trial methods but, with the de-synchronisation of the trials, this both required and allowed the TM4 team to press ahead with the development of dedicated creative material building upon the hitherto generic platform across all trials. As the CEC co-design process kicked in, more trial-specific, community focused materials were developed;
- Quantitative and Qualitative Impacts – this has been a consistent theme throughout the development and delivery of the CEC trial. It is not just about delivering quantitative demand reduction impacts but also about the relationship between demand reduction and other contingent social impacts which are more qualitative in nature and how, crucially, delivery of both sets of impacts can be mutually reinforcing;
- Formal Trial Periods – for the household trials, customer contact is limited predominantly to the set Trial Periods within the 2 year Active Engagement period, whereas for TM4, interaction with the community and key stakeholders continues right through the complete period;
- Legacy and Sustainability – building upon the last point, the alignment of demand reduction and other social impacts (of appeal to stakeholder agencies and the local community) has helped to create the conditions for lasting change. From the DNO perspective this relates to both demand management and social obligations aspects of their business;
- De-synchronisation – all 4 trials commenced and proceeded together until June 2015 when, due to re-installation of household metering equipment for TM 1-3, the trials were effectively de-synchronised. The 2 year active engagement phase for the CEC trial started in January 2016 and was completed in December 2017. The active engagement phase for other trials runs throughout 2017 and 2018. They will accordingly report in June 2019.

### 3 LEARNING VISITS – THE KEY LESSONS

The team looked widely at 4 previous DNO-related demand reduction and community engagement projects. The key lessons from these projects are detailed in Figure A2 below.

Figure A2: LEARNING VISITS – THE KEY LESSONS		
Visit / and Dates	Key Points	TM4 Design Implications
<b>Less is More</b> WPD / LCNF September 2014 & November 2015	<ul style="list-style-type: none"> <li>Focus upon addresses connected to an individual s/s rather than across a community</li> <li>Lack of control or baseline for comparison</li> <li>Challenges of s/s monitoring and background 'white noise' masking a response</li> <li>Use of live data as an engagement tool and to create a sense of competition</li> <li>Development of a hand held device to monitor usage/ encourage participation in 'events'</li> <li>Financial incentive not a clear motivator when no shared sense of community interest to participants</li> <li>Interest in looking at different approaches to cooking</li> <li>Freebies as a 'hook'</li> <li>Delivery through trusted local organisations</li> <li>11 months active research</li> </ul>	<ul style="list-style-type: none"> <li>Ability to target defined set of households as compared to the opportunity to engage on a locally meaningful community level</li> <li>Comparable control areas identified and 12 months of baseline monitoring</li> <li>Feeder monitoring installed to complement s/s data and realistic targets set for defined interventions</li> <li>Lack of dedicated data analysis support meant live data streaming as an engagement tool not possible</li> <li>Use of standalone electricity monitors considered - co-design interest in an 'energy literacy' app expressed towards end of trials</li> <li>Budget for Incentives limited so alternatives created around the DDS activities and by creating a sense of community 'that cares'</li> <li>Looking at time and cost savings for cooking rather than energy saving</li> <li>Giveaways developed with co-design groups</li> <li>Confirmed Coaching approach of working with local 3<sup>rd</sup> Sector organisations</li> <li>Confirmed SAVE approach of 2 year active trial period</li> </ul>
<b>Power Saver Challenge</b> ENW March 2016	<ul style="list-style-type: none"> <li>2 distinct demographic communities chosen – recruitment easier in more affluent area</li> <li>Street based with a street 'team' competition approach to interventions</li> <li>All signed up households given an individual energy assessment and free energy saving devices prior to challenges</li> <li>Incentives of 'white goods' offered to each household for reaching collective targets – created some suspicion</li> <li>Monitoring at feeder level – relatively low levels of reduction observed and challenge of statistical validity</li> </ul>	<ul style="list-style-type: none"> <li>2 demographically distinct trial and comparative control areas chosen – coaching approach proved successful in engaging 'harder to reach' community</li> <li>All community approach but targeted interventions on identified feeders to maximise recruitment and response</li> <li>No budget to allow for such blanket offering although expertise of 'host' and partner organisations utilised to support individual h/h where needed/possible</li> <li>No budget for incentives and as offer of white goods seen to be a disincentive to many and not applicable in BAU alternative community based solutions identified.</li> <li>Challenges of feeder monitoring acknowledged but higher levels of reduction with 95% confidence achieved</li> </ul>
<b>Energywise</b> UKPN / LCNF April 2015	<ul style="list-style-type: none"> <li>Focus on vulnerable customers/fuel poor</li> <li>Individual h/h targeted with energy efficiency advice/devices and ToU tariffs</li> <li>550 h/h actively targeted with 1:1 support</li> </ul>	<ul style="list-style-type: none"> <li>One trial area less advantaged and will include fuel poor customers</li> <li>Energywise approach not replicable as no budget for targeted h/h support or ability to affect tariffs so alternative community/DDS focus in place</li> <li>Trial areas of approx. 2000 h/h with 1000h/h monitored</li> </ul>
<b>SoLa Bristol</b> WPD / LCNF September 2015	<ul style="list-style-type: none"> <li>Behaviour change opportunity identified during periods of h/h change</li> <li>Use of real time data to encourage participation/stimulate change</li> <li>'Soft' introduction to role of DNO led to greater awareness and understanding</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to introduce manufactured change situation to prompt behaviour change as part of DDS process</li> <li>Use of real time data an aspiration that was not able to be met</li> <li>Similar 'soft' introduction to role of DNO as part of wider energy literacy work has led to increased understanding/enhanced reputation</li> </ul>

Main Report Reference:

PARA 2.2.1

---

## **4 AREA SELECTION PROCESS**

### **4.1 Key questions**

In conjunction with interested stakeholders, the following series of key questions was addressed:

- How could the SAVE research programme add value to existing sustainability related work within defined Solent communities?
- How could the SAVE research programme add value to current collaborative stakeholder agendas regarding economic / social / environmental sustainability across parts of the Solent?
- Are there communities or parts of the Solent where conspicuously little sustainability related work has been undertaken to date?
- Could the SAVE research programme serve to bring together stakeholders in new partnerships to address shared sustainability agendas?
- Which community based / locally managed organisations are particularly well-placed to benefit from additional resources in supporting neighbourhood based sustainability work?
- Which community based / locally managed organisations are particularly well-placed to take a lead in facilitating and managing community development activity within neighbourhoods?
- Are there particular lessons arising from previous / current sustainability work across the Solent area which should inform the SAVE research programme?

### **4.2 Competitive Process**

The initial plan had been to randomly select two trial communities for inclusion in the trial from those local authority areas interested in being involved. However, the idea of a more competitive selection process arose naturally in the course of our engagement with local stakeholders as a means of formalising organisations' willingness and readiness to engage and substantiating their commitment to the project.

This more competitive approach to selection also served to reinforce partnership working within each local authority area as public, private and third sector organisations came together to formulate a joint bid. The approach offered an opportunity for groups of stakeholders within each local authority area to submit specific information to inform the selection of the trial communities – effectively providing a level playing field for selection purposes. Reflecting the enthusiasm of potential partners to have a direct role in the research project, 4 bids for potential trial / control area combinations were put forward for consideration by partner groups representing Southampton, Eastleigh, Isle of Wight and Winchester.

### **4.3 Profiling**

Statistical profiling of the suggested areas was subsequently undertaken to assess both relative differentiation between potential trial areas and relative similarity between potential trial and respective control areas. Network engineers also reviewed the long list areas to assess the match with current substation / network infrastructure and identify potential technical issues with substation monitoring. In October 2014, based on analysis of the bids received, the community pairings selected for the Coaching trial were Shirley Warren / Townhill Park in Southampton and King's Worthy / New Alresford in Winchester.

### **4.4 The Host organisations**

Based on the 'bidding' process, the Host Partner organisations appointed to support the operational delivery of the SAVE project within the trial areas were Winchester Action on Climate Change (WinACC) and The Environment Centre, Southampton (tEC).



The full timetable for the Area Selection process is set out in Figure A3 below.

<b>Figure A3: HOST / AREA SELECTION PROCESS</b>		
<b>Stage / Dates</b>	<b>Process</b>	<b>Activities / Options</b>
<b>Feb - March 2014</b>	Identify criteria for trial area selection	Review SAVE research aims & objectives and discuss trial area options with PPRB, project managers and key stakeholders
<b>April – June 2014</b>	Meet representatives of target local authority areas within the Solent region of Hampshire to gauge interest	1-2-1 Roadshow sessions with key LA and 3 <sup>rd</sup> sector stakeholders within larger LA areas – Southampton, Portsmouth, Eastleigh, Winchester, Isle of White – to ascertain interest in SAVE, fit with existing local priorities and appetite/ability to engage with the research
	Deliver workshop session with all Solent Local Authorities (LAs)	Roadshow session for representatives of smaller Hampshire LA areas – Havant, Test Valley, Gosport, Fareham, East Hampshire hosted by Eastleigh BC, to assess interest, fit and interest as above
	Agree selection process to identify trial areas and host organisations	Through co-design process with key stakeholders agree ‘expression of interest’ format with interested LAs asked to submit an application identifying two contrasting research and control communities and a local third sector organisation with ability to act as ‘host’ within their boundaries
<b>July – Sept 2014</b>	Selection process initiated	Expression of Interest submissions process initiated with deadline extended to allow LA with smaller officer resource opportunity to submit. Completed submissions received and shortlisted.
	Short list of areas identified for network assessment	All areas assessed by SSEN network engineers for suitability for substation monitoring. Network maps with substation locations made available for all shortlisted areas.
	Area profiles prepared for shortlisted areas to inform selection process of long list areas	Detailed demographic area profiles for each area produced. Based on Index of Multiple Deprivation and other similar data sets relating to housing type, energy usage and so on these were compiled to produce a comparison table to aid selection based on those communities offering the most distinctive research opportunity, with a comparative control. Local variables, based on stakeholder discussions and on the ground visits to each area were also taken into account at this stage.
	Review short list of possible areas providing best research and monitoring potential	Short listed areas reviewed and selection criteria applied to assess distinctive nature of proposed trial community and availability of matching control areas, suitability of proposed host organisation, fit with project management capacity and resource, along with suitability for substation monitoring to allow best fit to maximise the research opportunity offered.
<b>December 2014</b>	Trial and control areas pairings agreed and host organisations identified	The trial and control communities pairings were selected across the neighbouring local authority boundaries of Winchester and Southampton, deliberately maximising the dissimilarity between the 2 pairings. Both submitting Local Authorities were happy that project resources were to be shared between two host organisations and two part time coaches (rather than one full time coach) in order to deliver this split authority solution.
	Substation monitoring installed	Substation monitoring put in place in 5/6 sub stations in each of the 4 areas to allow for one year (2015) of baseline monitoring.

**Main Report Reference:**

**SECTION 2.4**

---

## 5 DESCRIPTION OF THE TRIAL AREAS

### 5.1 Below the Radar and Resilient Communities

Having selected the Trial communities of Shirley Warren ('relatively disadvantaged and increasingly susceptible to adverse effects in the local economy') and Kings Worthy ('relatively affluent and aspirational') it became clear through the Team's initial community mapping and engagement work that the communities were particularly polarised in terms of the relative levels of social capital. Shirley Warren was very much 'below the radar' with a dearth of community-based organisations and activities whereas Kings Worthy is a distinctly 'resilient' community with an abundance of community-based organisations and activities.

Shirley Warren presented a particularly difficult social cohesion challenge in terms of the focused efforts necessary initially to get 'underneath the radar' and bring together individuals who could make a difference.

### 5.2 Parallels and contrasts between Trial Areas

The comparison between the trial areas notably covers the following important points:

- Whole communities – both areas were seen as identifiable communities to those living in and serving them. This was an important factor in the selection process, building upon key learning from the 'Less is More' project;
- Similarity Indexing – for the purposes of trial area selection, the characteristics of all shortlisted sites were analysed against a set of demographic, physical and lifestyle factors, including census and energy consumption data, to identify trial communities which were deliberately very dissimilar. Likewise candidate trial areas were analysed against potential control areas in order to select those which were most similar to respective trial areas;
- Research cordon - given the relative dissimilarity between the communities, work in each area was consciously undertaken in mutual isolation for the major part of the trial engagement phase. Only towards the end of the project were crossover events involving both communities organised, comparing first hand their experience of the research process.

### 5.3 Demographic Analysis and Consumption Profiles

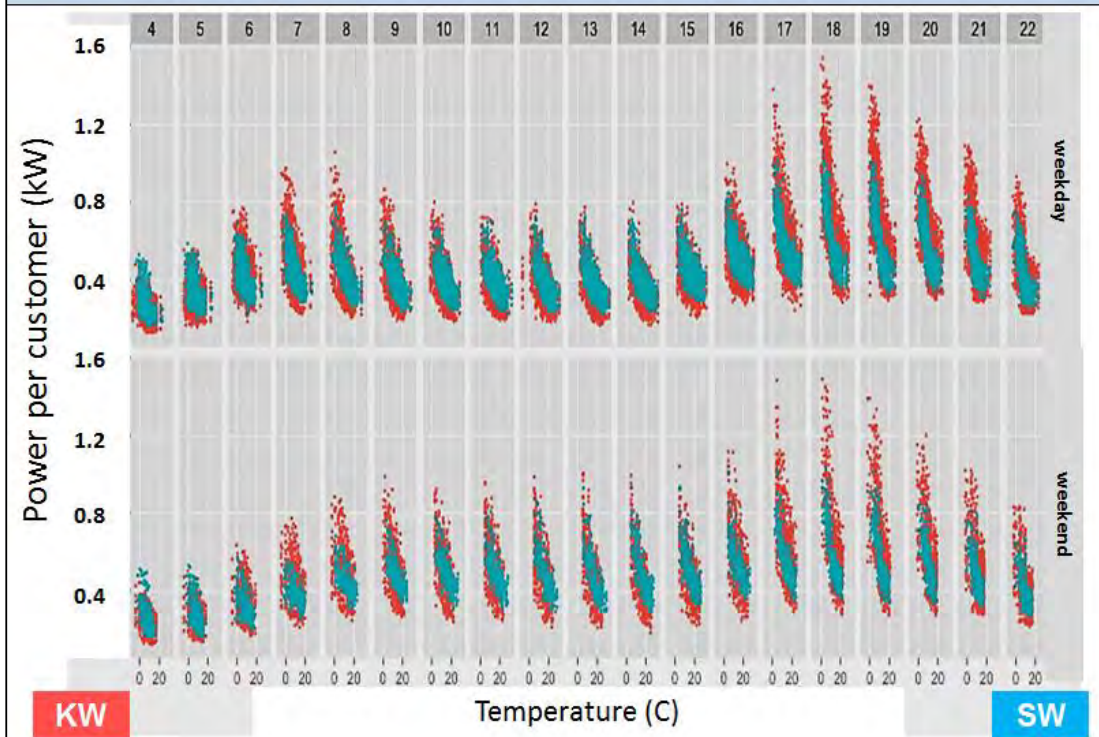
The trial areas are differentiated against key factors in similarity indexing as illustrated in Figure A4 below. This highlights the higher population density in Shirley Warren, the higher home ownership level in Kings Worthy, the relatively high deprivation level in Shirley Warren as against the national Index of Multiple Deprivation (IMD) and the higher level of educational attainment in Kings Worthy.

In initial profiling work the 2015 baseline substation consumption data undertaken through tEC and University of Southampton served to identify the key behavioural characteristics which describe and differentiate the two trial communities.

Figure A4: TM4 TRIAL AREAS – DEMOGRAPHIC PROFILE

Trial Area	LSOA		Total Pop	Pop Density	Home Owned %	Well-being Life satisfaction 1 - low 10 - high	IMD Rank (out of 32,400)	16 Plus no formal quals %	No of Standard meters / average kw/h pa	No of Economy 7 meters / average kw/h pa	Substation Monitoring	
			2011 Census	2011 Census	2011 Census	National Wellbeing Survey 2012	IMD 2010	2011 Census	Domestic Electricity Consumption 2012 / DECC		Sub-stations	House-holds
Kings Worthy	Winchester 002C	E01023238	1543	2.2	85	7.69	31,283	8.8	588 / 4,135	28 / 7,632	4/17	852
Kings Worthy	Winchester 002B	E01023237	1249	29.1	46	7.28	20,034	22.5	573 / 3,203	22 / 5,485	1/2	174
Kings Worthy	Winchester 002D	E01023239	1643	10.5	45	7.69	31,332	9.8	630 / 4,233	67 / 6,314	-	-
		<b>TOTAL</b>							-	-		<b>1026</b>
Shirley Warren	Southampton 010A	E01017246	1,923	74.3	46	7.57	10,438	18.2	645 / 3,228	313 / 5,667	-	-
Shirley Warren	Southampton 010C	E01017251	1,563	41.8	32	7.2	8,484	26.8	614 / 3,246	108 / 6,221	1/4	257
Shirley Warren	Southampton 010D	E01017253	1,711	56.2	54	7.26	7,076	29.7	614 / 3,652	78 / 6,143	4/6	961
Shirley Warren	Southampton 011E	E01017254	1,656	76.1	57	7.37	12,555	16.2	631 / 3,289	68 / 7,147	-	-
		<b>TOTAL</b>										<b>1218</b>

Figure A5: BASELINE CONSUMPTION PROFILING - 2015



---

This revealed the core differentiation between the areas as a whole with Shirley Warren displaying a characteristically high base / low peak consumption profile and Kings Worthy a lower base / higher peak profile – as illustrated in Figure A5 above. This shows the aggregated demand/ consumption in each area - Kings Worthy (KW) in red and Shirley Warren (SW) in blue - on weekdays and weekends against daily temperature and hourly time slots from 4am until 10pm. This differentiation between the trial areas reflects the higher proportion of residents in Shirley Warren at home through the day and the higher proportion of Kings Worthy residents returning home in the evening.

The Team went on to analyse the individual substation data in more depth looking at relative levels of daily consumption falling within the peak period (4-8 pm). This work was undertaken with a view to maximising the observability of impacts attributable to demand reduction interventions and, subsequently, informed the Team’s decisions regarding optimal locations for additional feeder level monitoring and more granular interventions.

**Main Report Reference:**

**SECTION 2.2**

## 6 THE DISTINCTIVE DEDICATED STRATEGIES (DDS)

### 6.1 The DDS Options – Kings Worthy

A range of one to one and targeted group meetings were held between January and March 2016 with various community leaders to introduce the project and, as part of the ‘mapping and gapping’ process to begin to identify issues that were of interest/concern within the community and to gauge interest in being part of the SAVE project.

In April and May 2016 organised ‘workshop’ sessions were held to which these community leaders were invited, with 10 attendees to the sessions in April and 12 in May. At each meeting an overview of the SAVE project was given along with feedback on perceptions gathered to date on potential topics of community interest. Attendees were invited to discuss the support available through SAVE for the community and asked to consider how this could best be delivered.

The range of options which these initial co-design workshops considered were based around single or multiple issues which had been identified through the initial mapping and gapping phase. The issues and related options are set out in Figure A6.

Figure A6: KINGS WORTHY – DDS OPTIONS	
A	Sustainable Kings Worthy Community hub – providing an overarching project to join up all of the activity taking place, providing better communication/promotion, volunteering and sharing of resources.
B	Safer Kings Worthy – creating a network of neighbourhood watches to encourage people to look out for each other, socialise and build community resilience
C	Healthy Kings Worthy – promoting active lifestyles, particularly walking and cycling by improving access, maintenance and signage
D	Work to create an all-weather pitch on the lower school field
E	Support the community buildings to be energy efficient and to install solar panels
F	Promote walking in and around the village
G	Create a cycle path to link two separate parts of the village
H	Develop the path along the river to Winchester to make it more accessible
I	Improve the green spaces in the centre of Kings Worthy and provide better/off road car parking
J	Create a safe crossing on Springvale Road

At a combined workshop in May 2016 the group of 20 residents considered all of the options and agreed that they preferred the idea of an over-arching umbrella to the issues they wanted to address. The recurring theme of connectivity – both in terms of Kings Worthy’s physical geography and the need to connect people more easily to places within the village as well as the wider community outside - as well as connecting with each other and the wide range of groups and activities that take place was seen as the key issue to address.

Following discussion it was agreed that to add value to the current ‘offer’ in Kings Worthy the idea of working to create a greater sense of connectedness was the best way forward to ensure an inclusive approach to working together. Connecting Kings Worthy (CKW) was thus chosen as the umbrella theme and those present agreed to continue to work to support its’ development within the community.

## 6.2 The DDS Options – Shirley Warren

During January – March 2016 meetings were held with a wide range of professional/organisation based staff who were connected with Shirley Warren to introduce the project, but the lack of local groups and activity meant that few people in the community were involved during this time. Shirley Warren was considered by most agencies to be 'hard to reach'.

In order to 'dig deeper' into the community project staff talked to people in their front gardens and outside the local post office and pub to try and get a feel for local issues, concerns and to discover who the key local contacts were. In May 2016, based on feedback received an informal evening 'drop in' meeting was arranged in a local pub with pizza and a drink for those attending. Also a 'join us for a cuppa' session was arranged in a local church hall asking people to come along to give their views on a possible community project. A number of people attended both sessions (4 and 8 respectively) and following on from this, two informal meetings in June 2016 were arranged to follow up in more depth on the conversations started, bringing 6 key individuals together in order to share details of the project and to discuss potential areas for support.

Based on the range of conversations that had been held to date there were a wide range of issues that local residents wanted to address. These ranged from single to multiple issues which were reflected in the options outlined in Figure A7.

Figure A7: <b>SHIRLEY WARREN – DDS OPTIONS</b>	
A	Support/activities for mother & toddlers, children and young people
B	Address litter and dog fouling on pavements and green spaces
C	Improve communication within the community to encourage participation
D	Support for volunteers and with funding for community projects
E	Support the campaign to save St Jude's Hall as a community venue
F	Set up events/fun days for local residents to encourage involvement
G	Create a community café so people have somewhere to go/meet up
H	Active Shirley Warren – provide a focus for people to get involved in doing things within the community
I	Shirley Warren Community Plan – develop a local action plan around key issues that have been identified and then seek to work with partners to deliver change
J	One Voice for Shirley Warren - create a local forum for people to express their views, listen to others and influence the services they receive
K	Shirley Warren Acting Together - create a local coordinating group to encourage joint working, sharing of resources and support for each other's issues
L	Shirley Warren Community Association – bringing together the One Voice and Acting Together strands but within an overarching organisation that can apply for funds to deliver projects of community benefit.

At a combined meeting in June 2016 the group of 10 residents discussed the various options in detail and decided to opt for an umbrella approach to combine the two key strands that members most wanted to see addressed – the need for a community voice (both within Shirley Warren and with those agencies providing services/support from the outside) and the need to actively do things to make the community a better place and restore lost pride in the community.

---

Despite some reservations about the ability of residents to create change due to feelings of disempowerment as a result of the withdrawal of local services and the feeling of being 'done to', it was agreed that by working together, and with the support on offer from SAVE, they had a better chance of success. They thus chose the umbrella theme of 'Shirley Warren Working Together' (SWWT) as a reflection of this shared desire to work to achieve positive change.

### **6.3 Specific v Generic Options**

The same approach to identifying the local DDS options was used in both communities but the different starting points in each led to some local changes being made to ensure the involvement of local residents in the design, and therefore the ownership, of the DDS.

In Kings Worthy, the wide range of existing groups and activities meant that there were plenty of opportunities to talk to local residents and a ready willingness on their behalf to talk about SAVE and the potential benefits to the community. Attending formal meetings and workshops was an accepted approach and relatively little was required to encourage people to attend. There was a ready acceptance of our desire to talk with them and involve them with the SAVE research.

In Shirley Warren, on the other hand, there was a limited number of local groups or activities and a real sense of suspicion as to why we would want to talk to them or involve them in the project. Stemming from the residents' experience of being 'done to' or ignored by previous local initiatives it took some time to build a relationship of trust. A longer and less formal approach to engagement was required during these early months.

However, despite their different starting points both communities identified some very specific potential projects and activities alongside some more generically aspirational ideas. Some of these ideas were discarded on the basis that they were too big to deal with within the timeframe of the project (for example the all-weather pitch in Kings Worthy) or that other people were already working on them (for example the longer footpaths/cycle routes) or that they were considered too formal or challenging (for example the Shirley Warren Community Association or Community Plan).

Once the mapping and gapping process had been completed and the residents had the opportunity to discuss the issues identified they both readily came to the same conclusions about the need for an umbrella approach to tie together a number of individual ideas under a common banner. In both areas there was a clear consensus about the choice of 'Connecting Kings Worthy' and 'Shirley Warren Working Together'.

### **6.4 Shirley Warren Working Together**

Figure A8 below summarises the key components of the DDS for Shirley Warren as agreed at the outset of the Active Engagement period, along with examples of activities undertaken over the course of the trial.

### **6.5 Connecting Kings Worthy**

Figure A9 below summarises the key components of the DDS for Kings Worthy as agreed at the outset of the Active Engagement period, along with examples of activities undertaken over the course of the trial.



## Figure A8: SHIRLEY WARREN WORKING TOGETHER – KEY DDS COMPONENTS

The overarching framework of Shirley Warren Working Together (SWWT) was chosen to accommodate the following priority areas:

- To give our community a voice
- To make our community a better place
- To use less energy and save money

A local artist designed the logo for the group.



In order to make the community a 'better place' regular litter clean ups have taken place at 6 weekly intervals. Run by volunteers, supported by Southampton City Council (SCC) who provide the safety equipment/ advice and collect the rubbish at the end, groups have been tidying up the local 'greenway' and starting to impact upon the streets and alleyways with the hire of skips to enable larger items of refuse to be tipped. Lunches provided at the local pub have ensured a social element to encourage new friendships to be created.



In order to make the community a better place a volunteer led community café was started following a pilot project in Sept 2016. The pilot project took place in a marquee at the entrance to the Shirley Warren Action Church grounds and was timed to open for parents going to and from school in the mornings and afternoons. Now an ongoing fixture within the church premises funding is being sought to create a more permanent café presence with a definite 'energy' saving focus.



In terms of a having a voice, local residents were unaware of who their local councillors were or how to discuss the services they received (or were being withdrawn). Two of the local councillors attended a number of sessions with the residents and an ongoing line of communication has been established. In addition, local service providers, such as Citizens Advice Bureau, Southampton Council for Voluntary Service have delivered local sessions, with the SWWT group receiving training in committee roles, dementia awareness and other 'hot' topics.



A range of local events have been held to raise awareness of energy issues alongside opportunities to save money, reuse and recycle as well as fundraise to continue to develop the work of the group. With their leading involvement in SWWT and a rebranding of the church to Shirley Warren Action Church and the church building to the Shirley Warren Action Centre has seen an increase of up to 50% in the numbers attending church based events, youth art group and lunch club activities with 70 attending the Christmas and 86 the Easter lunches.



SWWT became a constituted group in 2017 and held its' first Annual General Meeting in March 2018. Successful in applying for a grant from Southampton City Council to expand their ongoing clean ups and undertake some consultation work around the idea of a purpose built venue for the café, the group is going from strength to strength and aims to continue to develop the range of activities started as well as continue to build upon the network of support created with the provision of more activities as time goes on.



**Figure A9: CONNECTING KINGS WORTHY – KEY DDS COMPONENTS**

Connecting Kings Worthy (CKW) was chosen as an overarching brand to enable the delivery of a range of activities focussed upon:

- Connecting People
- Connecting Places
- Connecting Power

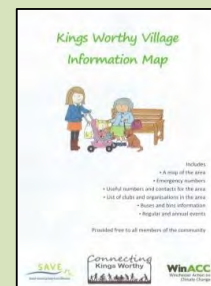
The logo was designed by a local artist for the group.



Due to the road design in Kings Worthy a large proportion of children were driven to school. Volunteers undertook an audit of 'sneaky shortcuts' and 'cheeky cut-throughs' to create a map that children, through a half term photography competition, were then encouraged to explore to find different routes that they could use to get to school, the shops and local community venues. As a result the school reinstated a 'walking bus' to encourage more children to walk to school with many more children now arriving on foot and playing in the school fields before school as a result.



Building on this work the community decided to create a 'welcome map' for new and existing residents to 'connect' them to the local community facilities and the many groups that exist in Kings Worthy. With the help of some grant funding the map was created and delivered to all households within the area. Feedback from across the community has been very positive and the intention, with the ongoing support of the Parish Council, is to keep this map updated and in print.



Working with the Parish Council, school and local cycling groups to continue the connecting people and places theme, support has been given to improve cycling awareness and safety which is a key issue for residents given the lack of good cycle paths between Kings Worthy and Winchester in particular. The placement of 'environmentally friendly' cycle racks outside local venues has been explored along with support for the improvement of longer walking routes in and around the Worthy's.



Given the wealth of community activity in Kings Worthy and the challenge of finding new volunteers to help, it was decided that support should be given to existing events to promote the group's varied energy related activities, rather than to set up new and competing ones. For the Worthy's Festival in particular extra support was given to the committee to help with the back 'office' functions of festival treasurer. Taking such an active role in support of existing groups has improved the 'connectedness' between the different groups and the energy agenda.



Taking on board the desire of many groups in the community to become more sustainable and for community buildings to be more energy efficient, support has been provided for the local church to achieve 'eco church' status, for the Parish Council who are considering investing in solar panels and to other groups to help them to think and act more sustainably – reflecting the desire to be seen as a community that cares about each other, the environment and their children's future.

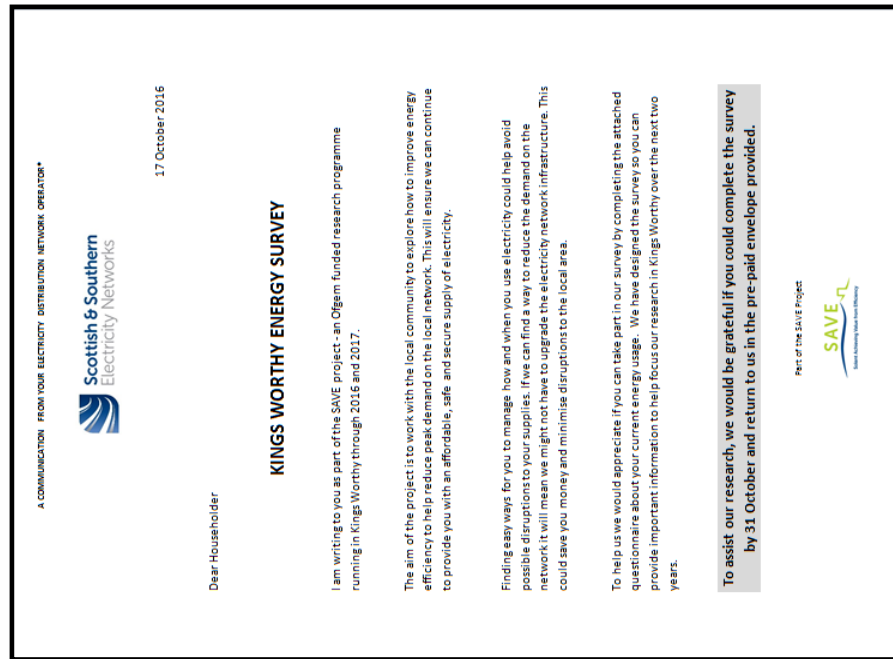


**Main Report Reference:**


**SECTION 3.1**

## 7 FULL CREATIVE MATERIAL INVENTORY

### 7.1 Baseline Response Letter (TP2)



## 7.2 Direct Asks 'Cut' Letter (TP2.0)



7 November 2016

Dear fellow resident,

**'LET'S SAVE ENERGY ON SATURDAY 12 NOVEMBER'**

Following our letter to introduce ourselves to you two weeks ago we are very pleased that you and so many of your neighbours are participating in our energy research exercise - so a BIG thank you from us all!

**For your initial challenge, on SATURDAY 12 NOVEMBER we would like you/your family to:**

- turn off all lights in rooms not actually being used;
- turn off all electrical items at the plug (including those on standby) when you are not using them;
- only fill your kettle with as much water as you need before boiling it.

**LET'S SEE IF TOGETHER WE CAN MAKE A DIFFERENCE!**

Over a year, these simple actions could help to reduce your costs by as much as £50. They can also add up to a significant reduction in overall energy demand on the community's local electricity network. Our plan is to write to you twice more before Christmas and again in January and February asking you to take particular energy saving steps at certain times. We are really keen to know how you get on with the different 'asks' so please let me know what you found easy or difficult to do.

We will let you know how well you've all done in meeting the challenges as soon as this part of the research is finished in April next year.

We have enclosed a 'top tips' energy saving leaflet which gives other great ideas of things that you can do to save both energy and money on your bills. We're always looking for new ideas so do let us know if you have any great energy/money saving tips of your own that we can share with everyone.


If you would like to know more about 'Connecting Kings Worthy' and our work in the community then please look at our website - [www.connectingkingsworthy.org.uk](http://www.connectingkingsworthy.org.uk) - and use the contact page to get in touch or call/email me as below.


Thank you for your support and participation.

**Susie Phillips**  
Community Coach, Connecting Kings Worthy  
Tel: 01962 827083 Email: [susie.phillips@winacc.org.uk](mailto:susie.phillips@winacc.org.uk)

This initiative is supported by:  
Stewart Newell - Chairman, Kings Worthy Parish Council  
Julie Mullane - Head Teacher, Kings Worthy Primary School

Part of the SAVE Project





21 November 2016

Dear fellow resident,

**'LET'S SAVE ENERGY TOGETHER THIS NOVEMBER'**

**For your next challenge, from SATURDAY 26 to MONDAY 28 NOVEMBER we would like you/your family to:**

- Turn the thermostat down on your heater by 1 or 2 degrees
- Try to use a microwave or slow cooker instead of your oven or hob
- Switch off the TV and other appliances when you are not using them

**Let's see if together we can make a difference!**

Did you know that turning your heating down by just 1 degree can save you as much as 10% on your bill? Over a year these simple actions could help to reduce your costs by as much as £110. They can also add up to a significant reduction in overall energy demand on the community's local electricity network.

We have enclosed a thermometer card so that you can make sure you will still be warm enough if you turn down your heating. If you are at all concerned that turning down your heating will leave you too cold or if you need some help to understand your bills then please call me. We can help.

There is just one more challenge to go before Christmas. In January and February we will be asking you to take particular energy saving steps at certain times. We are really keen to know how you get on with the different challenges. Let us know what you found easy or difficult to do or send us any energy/money saving tips of your own that we can share with everyone.

Find out more about 'Connecting Kings Worthy' and our work in the community or share your experiences by:


- Going to the website - [www.connectingkingsworthy.org.uk](http://www.connectingkingsworthy.org.uk) - and use the contact page
- Emailing [susie.phillips@winacc.org.uk](mailto:susie.phillips@winacc.org.uk)
- Calling 01962 827083

Thank you for your support and participation.

**Susie Phillips**  
Community Coach, Connecting Kings Worthy  
Tel: 01962 827083 Email: [susie.phillips@winacc.org.uk](mailto:susie.phillips@winacc.org.uk)

This initiative is supported by:  
Stewart Newell - Chairman, Kings Worthy Parish Council  
Julie Mullane - Head Teacher, Kings Worthy Primary School

Part of the SAVE Project





5 December 2016

Dear fellow resident,

### 'LET'S SAVE ENERGY TOGETHER THIS DECEMBER'

For your next challenge, from SATURDAY 10 to SATURDAY 17 DECEMBER we would like you/your family to:

- Make sure your washing machine is full before you use it
- Wash clothes at 30°C (it is both kinder to your clothes and saves money!)
- Try having a shower instead of a bath or take less time in the shower

Let's see if together we can make a difference!

Heating water is one of our biggest energy costs. Over a year these simple actions could help to reduce your bills by as much as £50 per year as well as reduce your water use. They can also make a significant reduction in overall energy demand on the community's local electricity network.

Use the enclosed sticky notes to put a note on the washing machine to remind you to fill it up before use, or to wash at 30°C, or, if you have a dishwasher, to make sure it is full before it gets switched on. You could put notes on switches to remind you to turn things off when not in use or to fill the kettle with less water. All these small actions will help to keep your costs down and reduce your bills.

We'll be back in touch in January but meantime we are keen to know how you've got on and what was easy or difficult to do, so please get in touch to tell us. Also, if you need some help to understand your bills or would like any other energy saving advice then please call me or contact me through our website. We can help you to get a handle on this.

We are always looking for new ideas for saving money/energy so send us any great tips of your own that we can share with everyone. You can contact us by:

- Going to the website - [www.connectingkingsworthy.org.uk](http://www.connectingkingsworthy.org.uk) - and use the contact page
- Emailing [susie.phillips@winact.org.uk](mailto:susie.phillips@winact.org.uk)
- Calling 01962 827083

With best wishes and Seasons Greetings from the Connecting Kings Worthy Team.

Susie Phillips  
Community Coach, Connecting Kings Worthy


This initiative is supported by:

Stewart Newell - Chairman, Kings Worthy Parish Council  
Julie Mullane - Head Teacher, Kings Worthy Primary School





### 7.3 Direct Asks 'Shift' Letter (TP2.5)



16 January 2017

## CAN IT WAIT 'TIL AFTER 8?

**Dear Fellow Resident**

We all know that if we use less energy it will cost us less. But we don't always appreciate that a portion of our electricity bill (about a quarter) goes to our local distribution network operator\*. These are the good people responsible for ensuring a reliable electricity supply day and night, come rain or shine. They maintain the cables and substations to keep the electricity flowing to our doors.

We tend to use more electricity between the hours of 4 – 8pm, especially in winter when it's cold and dark. So, if we can shift some of the demand for electricity outside of these hours it will reduce the pressure on the network, help reduce unplanned maintenance and keep the cost of our bills down.

**For your next challenge, on SATURDAY 21 JANUARY 2017 between the hours of 4–8 pm we would like you/your family to use less electricity where possible by:**

- avoiding using immersion heaters, showers, and charging other devices during these hours;
- turning TVs, games consoles and other appliances off when nobody is using them;
- preparing meals in advance or using a slow cooker or microwave instead of the oven;
- delaying putting on the washing machine, tumble dryer or dishwasher 'til after 8pm;
- ~~thinking~~ of new / different activities that use little or no electricity.

**Let's see if together we can make a difference!**

So for our remaining challenges until March, we would like to see if we can use less electricity at these peak demand times of 4–8pm. The attached factsheet explains more about why and how you can help by shifting your electricity consumption in this way. As before, we will be able to monitor electricity usage through our local substations to test the impact of us all working together.


If you need some help to understand your bills or would like any other energy saving advice then contact the 'Shirley Warren Working Together' team. Also we are always looking for new ideas for saving money and energy so send us any great tips of your own that we can share with everyone. You can contact us via:

- the website - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk) - and use the contact page
- by email: [zaki.mahfoud@enviromentcentre.com](mailto:zaki.mahfoud@enviromentcentre.com)
- or call 023 8033 6172

With best wishes from the 'Shirley Warren Working Together' Team.

**Zaki Mahfoud**, Community Coach, Shirley Warren Working Together

20



6 February 2017

## CAN IT WAIT 'TIL AFTER 8?

**Dear Fellow Resident**

We all know that if we use less energy it will cost us less. But we don't always appreciate that a portion of our electricity bill (about a quarter) goes to our local distribution network operator\*. These are the good people responsible for ensuring a reliable electricity supply day and night, come rain or shine. They maintain the cables and substations to keep the electricity flowing to our doors.

We tend to use more electricity between the hours of 4 – 8pm, especially in winter when it's cold and dark. So, if we can shift some of the demand for electricity outside of these hours it will reduce the pressure on the network, help reduce unplanned maintenance and keep the cost of our bills down.

**For your next challenge, on SATURDAY 11 to MONDAY 13 FEBRUARY 2017 inclusive, between 6 and 7 pm we would like you/your family to use as little electricity as you can where possible by:**

- avoiding using immersion heaters, showers, laptops and other devices during these hours;
- turning TVs, games consoles and other appliances off when nobody is using them;
- preparing meals in advance or using a slow cooker or microwave instead of the oven;
- delay putting on the washing machine, tumble dryer or dishwasher 'til after 8pm;
- ~~thinking~~ of new / different activities that use little or no electricity.

**Let's see if together we can make a difference!**

We are enclosing a 'Can it wait 'til after 8' fridge magnet as a helpful reminder.


For this challenge, we are concentrating on just 1 hour during the peak period to maximise our potential collective impact. As before, we will be able to monitor electricity usage through local substations to test the impact of us all working together.

If you need some help to understand your bills or would like any other energy advice then contact the 'Shirley Warren Working Together' team. Also we are always looking for new ideas for saving money and energy so send us any great tips of your own that we can share with everyone. You can contact us via:

- the website - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk) - and use the contact page
- by email: [zaki.mahfoud@enviromentcentre.com](mailto:zaki.mahfoud@enviromentcentre.com)
- or call 023 8033 6172

With best wishes from the 'Shirley Warren Working Together' Team.

**Zaki Mahfoud**, Community Coach, Shirley Warren Working Together



27 February 2017

Dear Fellow Resident

CAN IT WAIT 'TIL AFTER 8?

Cooking is one of the biggest contributors to our peak demand between the hours of 4-8 pm. If we can shift some of the load outside of these hours it will reduce the pressure on the electricity network, help reduce unplanned maintenance and keep the cost of our bills down.

Also, over a year some simple actions could not only help save you time cooking in the evening and reduce your bills, but make a significant reduction in the overall energy demand on our local electricity network. A win/win for all of us! For example, using a slow cooker can save you time in the evening and as with a microwave, uses significantly less energy than an oven. Likewise, using a steamer, keeping lids on saucepans and if you have an electric hob, turning the rings off before you finish cooking, all help to use less energy, saving you money and taking the pressure off the electricity network.

For your next challenge, from **SATURDAY 4 MARCH to SATURDAY 11 MARCH inclusive** between the **hours of 5-7 pm** we would like you/your family to use less electricity where possible by:

- using a slow cooker, pressure cooker or microwave instead of the oven;
- using a steamer to cook all of your veg in one go rather than separately;
- keeping pan lids on to keep the heat in/turning off electric rings before finishing cooking;
- **try** to 'batch' cook and freeze portions for use another day.

**Let's see if together we can make a difference!**

We have enclosed some recipe ideas and tips for cooking using less energy - let us know how you get on with them or send us your own top tips.

We appreciate all your hard work on the challenges so far! We'll be back in touch to ask how you've got on and what was easy or difficult to do and to invite you to one of our feedback sessions. Meantime, if you need some help to understand your bills or would like any other energy saving advice then contact the 'Shirley Warren Working Together' team. You can contact us via:


- the website - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk) - and use the contact page
- by email: [zaki.mahfoud@environmentcentre.com](mailto:zaki.mahfoud@environmentcentre.com)
- or call 023 8033 6172

With best wishes from the 'Shirley Warren Working Together' Team.


**Zaki Mahfoud**, Community Coach, Shirley Warren Working Together




## 7.4 Energy Literacy Factsheets



**Shirley Warren Lightbulb Community**  
FACTSHEET No 1



**Shirley Warren Lightbulb Community**  
FACTSHEET No 2



**Shirley Warren Lightbulb Community**  
FACTSHEET No 2

### How electricity reaches Shirley Warren

**Generation**

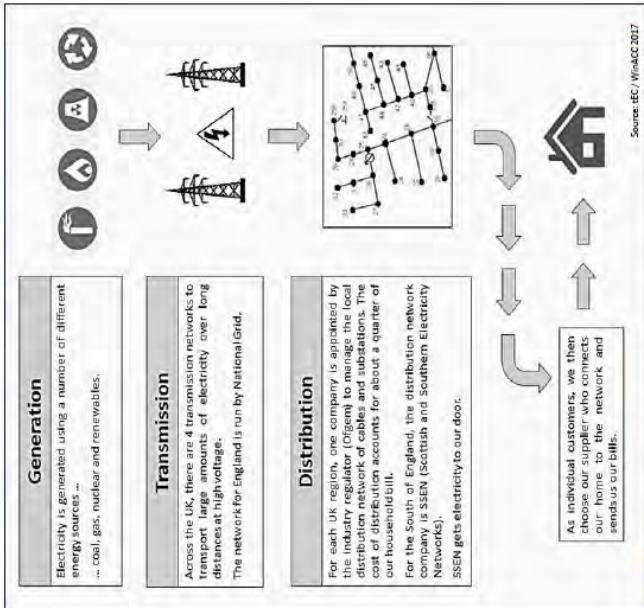
Electricity is generated using a number of different energy sources –  
... coal, gas, nuclear and renewables.

**Transmission**

Across the UK, there are 4 transmission networks to transport large amounts of electricity over long distances at high voltage.  
The network for England is run by National Grid.

**Distribution**

For each UK region, one company is appointed by the industry regulator (Ofgem) to manage the local distribution network of cables and substations. The cost of distribution accounts for about a quarter of our household bill.  
For the South of England, the distribution network company is SSEN (Scottish and Southern Electricity Networks).  
SSEN gets electricity to our doors.



Source: efc / WinACC 2017

Together we can make a difference!

[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
<https://www.facebook.com/ShirleyWarren/>

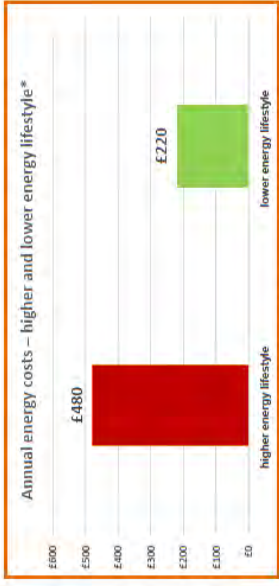
### What is a 'lower energy' lifestyle?

*Switching to a 'lower energy' lifestyle is not as hard as we might think. If we all adopted the following simple habits, the pressure we place on the community network would be vastly reduced. Amazingly, energy costs for an average household would also be cut in half!*

Some simple habits for a 'lower energy' lifestyle:

- Use a slow cooker twice a week instead of the oven (use the oven as normal on the other days)
- Use microwave and hob once a week instead of the oven
- Use a dishwasher on 'eco' instead of the standard cycle
- Reduce tumble drier use from 5 times to twice a week
- Wash at 30 instead of 40 degrees
- Swap from halogen to LED lightbulbs

Annual energy costs – higher and lower energy lifestyle\*



\* Note: not including heating or non-electricity costs – Source: efc / WinACC 2017

Together we can make a difference!

[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
<https://www.facebook.com/ShirleyWarren/>

22

SDRC 8.8 TM4 (Community Energy Coaching Trial) - Final Reporting

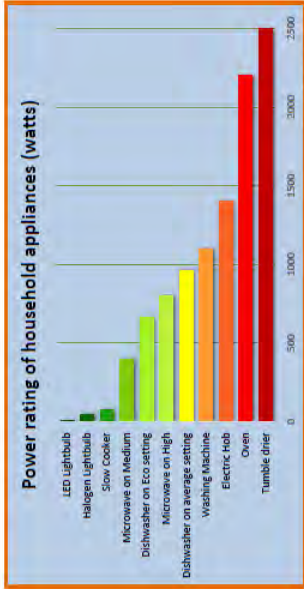
95

Shirley Warren Lightbulb Community  
FACTSHEET No 3

**Peak demand: 'Can it wait 'til after 8?'**

*We've all been there! You get home, stick the kettle on, switch on the TV, charge up your mobile or laptop, start cooking a meal, put some washing in the machine ... but you may not know that peak demand for electricity is from 4pm to 8pm.*

By shifting some of our usage outside of this period, we can all do our bit to reduce pressure on the local community network. This should mean less disruptive and costly upgrade work. What's more, since getting electricity to our homes via the distribution network accounts for about a quarter of our household bill, a reduction in the amount of essential maintenance will help to reduce long-term price rises. So, it's a win / win!



Source: tEC / Win4CC 2017

**Looking at the chart, you can see where the pressure points are! So, please ask yourself ... 'Can it wait 'til after 8?'**

Together we can make a difference!  
www.shirleywarren.org.uk  
https://www.facebook.com/ShirleyWarren/

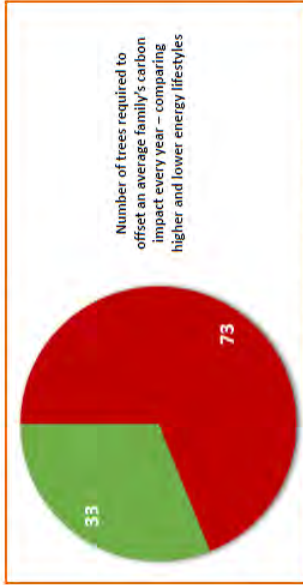
Shirley Warren Lightbulb Community  
FACTSHEET No 4

**Reducing our carbon impact**

*Using energy from fossil fuels releases carbon dioxide, one of the 'greenhouse gases' associated with climate change – trees absorb carbon dioxide, so we can measure our 'carbon impact' by the number of trees required to offset the greenhouse gas produced.*

For an average household, switching to a 'lower energy' lifestyle\* means reducing our carbon impact from 73 to 33 trees every year! Adopting some simple 'lower energy' habits can make such a difference!


- Use a slow cooker twice a week instead of the oven (use the oven as normal on the other days)
- Use microwave and hob once a week instead of the oven
- Use a dishwasher on 'eco' instead of the standard cycle
- Reduce tumble drier use from 5 times to twice a week
- Wash at 30 instead of 40 degrees
- Swap from halogen to LED lightbulbs



Number of trees required to offset an average family's carbon impact every year – comparing higher and lower energy lifestyles


\* Note: not including heating or non-electricity usage - Source: tEC / Win4CC 2017

Together we can make a difference!  
www.shirleywarren.org.uk  
https://www.facebook.com/ShirleyWarren/



Shirley Warren Lightbulb Community

FACTSHEET No 5



### The Energy Mythbuster

**When it comes to use of energy in the home, it is difficult sometimes to distinguish between myth and reality. So here are a few pointers on some of the most frequently asked questions:**

**Which lightbulbs are best to use?**  
 Halogen bulbs are very expensive to run. The best bulbs are the new LEDs which light instantly, come with different shades of light and which cost on average £3 to buy and £1 per year to run compared to the old 100w bulb which cost 50p to buy and £12 per year to run


**Are electric night lights expensive to run?**  
 They vary of course but are generally low in consumption. LED versions are cheaply available and cost about 30p per year to run

**Is it cheaper to leave fluorescent lights on?**  
 Fluorescent lights have a starter to kick start them so use a little more to switch on but usually modern ones are low energy. Generally, if you are coming in and out of a room within 5 minutes then leave on, if you are out for longer turn off

**What uses the most energy in the home?**  
 Heating uses more energy than most things in your home. Try turning down the thermostat by 1 degree as this will save you money as well as use less energy – but remember don't be cold – 18-21 degrees is optimal, above is too warm and below too cold. Making sure your house is well insulated and draught proof will help to keep your house warm and help reduce usage and bills


**Is it better to leave your heating on low all day or just turn it on when you need it?**  
 This depends on how much you are at home during the day but generally better to have on for a half hour-hour or so in the morning before you get up/go out and the same in the evening

*continued ...*



Shirley Warren Lightbulb Community

FACTSHEET No 5



*...continued*


**Combi boilers v Economy 7 – what is the difference and how should you use them most effectively?**  
 Combi boilers run on gas and provide heating and hot water. They heat water as it is needed. The heating is best controlled with a programmer or a thermostat and timer. Economy 7 is an electricity tariff that costs less for 7 hours at night. It is usually paired with storage heaters and an electric immersion tank. Correct use of storage heaters makes best use of the tariff and keeps your home warm when you need it. Immersion heaters are best used on a timer

**Is it better to leave water heaters on all day or turn off and heat from cold each time?**  
 It depends on the type of system you have as combi boilers only heat water when it is needed, whilst immersion heaters are best used with a timer to ensure they are not left on for more than 1 hour or so each time


**Is it best to fill a kettle with cold water or warm water from the tap to use less money?**  
 Boiling a kettle uses a lot of energy but from a health point of view it is better to fill your kettle with cold water at the start as hot water has been circulating around your system for a while. You also need to heat the water up in the first place so will have used energy to do so. If you only fill the kettle with as much as you need you will save money and energy

**Does it use less energy to have a shower than a bath?**  
 It depends on what is heating the water, and also how much water is used. A shower running off the gas boiler will usually use less water than a bath, as long as times are reasonable. Some electric power showers can put out a huge amount of water, and consequently use a lot of energy. It is best not to use electric showers at peak time as they have a much higher power draw than all other household appliances. A 4 minute shower is the most efficient

Source: BEC / Win4CC 2017



Together we can make a difference!  
[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
<https://www.facebook.com/ShirleyWarren/>



Together we can make a difference!  
[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
<https://www.facebook.com/ShirleyWarren/>







THE  
**BIG**  
SWITCH  
OFF





**INFORMATION PACK**

First of all, a BIG thank you...

... for signing up to the Big Switch Off on Saturday 19 November!

This is the start of something BIG for our community as we explore the power of collective action ... and what it is to be a 'caring community'.


Who knows what we can achieve together in the future!

Please have a look through the factsheets in this pack. These are designed to help you decide what is best for you in reducing energy consumption during peak hours.


Please keep us up to date with your thoughts and experiences about energy reduction if you can, both before and after the 19<sup>th</sup> at:

[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
 or on facebook – Shirley Warren Working Together

Thank you.  
 The SWWT Team  
 October 2017



## Join the Shirley Warren Lightbulb Community



a community which cares


... about the environment ... about each other ... about how we use our energy resources ... about avoiding waste ... and ultimately, about the legacy we are leaving our children

Together we can make a difference!  
[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
<https://www.facebook.com/ShirleyWarren/>

Our first 'lightbulb idea' is to get as many people as we can throughout Autumn 2017 to sign up to using less electricity at peak times (4-8pm) - easing the pressure on the community network.


Looking to the future, we would also like to hear your ideas about what else Shirley Warren can do to become a more caring community ... now and for future generations.

... TO GET THINGS MOVING PLEASE JOIN IN ...



### 'THE BIG SWITCH OFF'

6-7pm on Sunday 19 November 2017



For just one hour - sign up to saving as much electricity as we can across the whole of Shirley Warren!

Please sign up today

on our WEBSITE - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)  
on FACEBOOK - Shirley Warren Working Together  
by 'PHONE - 02380 336172 (ask for Zaki)

Our Information Pack gives you the why/when/how - be sure to download/request yours when you sign up!

The 'Shirley Warren Working Together' initiative is part of the SAVE research project funded by Ofgem, the energy industry regulator, and is a collaboration between Shirley Warren and the local electricity distribution network. It is supported by the Action Communities Foundation, which is a charity that encourages and supports community-led initiatives. The project is also supported by the Action Communities Foundation, which is a charity that encourages and supports community-led initiatives. The project is also supported by the Action Communities Foundation, which is a charity that encourages and supports community-led initiatives.


Check out the date ...  
... sign up today

Dear Fellow Residents







WE NEED YOUR HELP!



WE NEED YOUR HELP to reach our target of getting 1000 Kings Worthy residents signed up to ...



**'THE BIG SWITCH OFF'**



Sunday 19 November 2017  
between 6-7pm

For just one hour - saving as much electricity as we can across the whole of Kings Worthy during the evening peak time - easing the pressure on the community network.

Sign up to the Event today:

on our **WEBSITE** - [www.connectingkingsworthly.org.uk](http://www.connectingkingsworthly.org.uk)  
on **FACEBOOK** - Connecting Kings Worthy  
by 'PHONE - 01962 827083 (ask for Alison)  
at our 'Sign Up Point' in Tubbs Hall  
by **FREEPOST** - return the attached reply slip

Our Information Pack gives you the why/when/how - be sure to download/request yours when you sign up

We want our community to be recognised as a community which cares ... about the environment ... about each other ... about how we use our energy resources ... about avoiding waste ... and ultimately, about the legacy we are leaving our children. The 'Big Switch Off' is the first step in demonstrating as a community our collective power for positive change.

**Be 1 of a 1000! Together we can make a difference!**

The 'Connecting Kings Worthy' initiative is part of the SAVE research project funded by Ofgem, the energy industry regulator, and led by Scottish and Southern Electricity Networks (SSN) as the local electricity distribution network operator. It is supported by the Parish Council, the Winchester City Council and Winchester Action on Climate Change (WinACC) and operates with the involvement of a range of other local organisations within the community. All of us are keen to work together to see the benefits of this initiative reach as many people as possible within our community. Together we can make a difference!



## 7.6 Big Switch Off 'Sign Up'

2 November 2017



**Get ready for  
The Big Switch Off  
Sunday 6-7 pm  
19 November 2017**

**Getting ready for the 19<sup>th</sup>  
Reduce Your Use – between 6-7 pm on Tuesday 7 November**

Ahead of the Big Switch Off event on the 19<sup>th</sup>, we hope that you might try out a few ideas for peak energy reduction in advance, to get into the swing! We are focusing initially on 'heat'.

Electric appliances using heat – cookers, washing machines, tumble driers, dishwashers, showers, kettles and so on – are amongst the biggest contributors to peak electricity demand between 4-8 pm. Using less of these things or putting them on lower heat settings, can make a big difference not only to your bills but also to the pressure we place upon the community network at peak times.

On top of this, heating your house accounts for roughly 50% of your energy costs. So, as long as you remain warm enough, turning your heating down by just 1 degree can save you quite a bit of money on your winter bills. We have enclosed a thermometer card to help you to do this – under normal circumstances, heating your house between 18-21 degrees is best.

As a practice for the Big Switch Off we would really appreciate it if you could join us by trying to use less 'heat loving' appliances on **Tuesday 7 November between 6-7pm**. The more of us who use less, the bigger the impact which we will hopefully be able to measure at the Shirley Warren community substations during that one brief hour – in readiness for the Big Switch Off.

We hope you will join in and see what difference we can make together!

If not already done so, please sign up for the Big Switch Off event on the 19<sup>th</sup> and get your Information Pack:

- on our WEBSITE - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)
- on FACEBOOK – Shirley Warren Working Together
- by PHONE – 02380 336172 (ask for Zaki)


The Information Pack tells you more about how and why you can reduce demand at peak times – also how and why Shirley Warren aims to be a more caring community, starting with this demonstration of our collective power!

With thanks in anticipation of your support.

**Jenny Elliott and the Shirley Warren Working Together Team**

The 'Shirley Warren Working Together' initiative is part of the SAVE research project (funded by Ofgem), the energy industry regulator, and led by Scottish and Southern Electricity Networks (SSEN) as the local electricity distribution network operator. It is supported by the Action Church, St Jude's, the City Council, the Community Garden, local residents and the Environment Centre (EEC) and operates with the involvement of a range of other local organisations within the community. All of us are keen to work together to make Shirley Warren a more caring community and see the benefits of this initiative reach as many people as possible within our community. Together we can make a difference!

13 November 2017



**Get ready for  
The Big Switch Off  
Sunday 6-7 pm  
19 November 2017**

**Getting ready for the 19<sup>th</sup>  
Reduce Your Use – between 6-7 pm on Thursday 16 November**

Thanks to all of you who were able to use less energy last Tuesday as part of the practice for the Big Switch Off event on 13 November. It was great to know that so many of you were giving it a go!

This week we have another practice challenge for you and another freebie to help you think about the energy you use.

We have enclosed a fridge magnet which shows you the power that some of our appliances are drawing down each time we use them. As you can see things like the tumble drier, cooker, washing machine use lots of energy, whilst LED lights and slow cookers use very little. The microwave uses quite a lot of energy but we typically use it for much shorter times than we do a conventional oven so it is a cheaper and more efficient energy appliance. A slow cooker is even more efficient.

Using your washing machine at 30 rather than 40 degrees is also a lot cheaper and more efficient as it takes less time to heat the water needed. The same applies for tumble driers and dishwashers if you use them on lower heat settings.

As a final practice for the Big Switch Off we would really appreciate it if you could join us by trying to use less of the most 'power heavy' items on **Thursday 16 November between 6 – 7pm**. Remember anything that uses heat to work is both expensive to run and adds to the strain on our local community network at peak times.

The more of us who use less, the bigger the impact which we will hopefully be able to measure at the Shirley Warren community substations during that one brief hour – in readiness for the 19th. We hope you will join in and see what difference we can make together!

If not already done so, please sign up for the Big Switch Off event on the 19<sup>th</sup> and get your Information Pack:

- on our WEBSITE - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)
- on FACEBOOK – Shirley Warren Working Together
- by PHONE – 02380 336172 (ask for Zaki)


The Information Pack tells you more about how and why you can reduce demand at peak times – also how and why Shirley Warren aims to be a more caring community, starting with this demonstration of our collective power!

With thanks again for your support.

**Jenny Elliott and the Shirley Warren Working Together Team**

The 'Shirley Warren Working Together' initiative is part of the SAVE research project (funded by Ofgem), the energy industry regulator, and led by Scottish and Southern Electricity Networks (SSEN) as the local electricity distribution network operator. It is supported by the Action Church, St Jude's, the City Council, the Community Garden, local residents and the Environment Centre (EEC) and operates with the involvement of a range of other local organisations within the community. All of us are keen to work together to make Shirley Warren a more caring community and see the benefits of this initiative reach as many people as possible within our community. Together we can make a difference!





**The BIG Switch Off**  
**Sunday 19 November 2017**  
**Sunday 6-7 pm**

16 November 2017

**Dear Fellow Resident**

**It's BIG Switch Off time!**  
**Sunday 19 November between 6-7 pm**

Thank you for your support to date, it sounds like you've been really trying to reduce your use and use less of the heavier 'energy guzzling' items during the 4-8 pm peak time – which is great!

We have now almost reached the **Big Switch Off** time when we want you to really try and use as little energy as possible between **6-7pm on Sunday 19<sup>th</sup> November**.

Could you avoid using the cooker by maybe trying to eat a bit earlier or later, or think of alternatives to watching tv or using a computer? If you could avoid using 'power heavy' appliances - like the washing machine, tumble drier, dishwasher, shower, immersion heater – during that one brief hour, that would be great!

We don't want you to be cold so please don't turn your heating off (maybe just turn it down a little if you can) nor do we want you to sit in darkness, but if you could turn off lights (and other electrical items) in rooms you aren't using that would be a help.

If you fancy going out to 'reduce your use' at home then we would like to invite you to come along to a **Supper Evening** on the 19<sup>th</sup> at the Action Centre on Warren Crescent (next to the Co-op Nursery) with food and fun activities for all ages. Drop in any time from 4-6pm and we'll see you there!

Finally, with Christmas on the way we have put together an energy saving Christmas pudding recipe for you to make in the slow cooker or microwave, both of which will save you time and energy compared to conventional cooking. If you are able to give it a go we'd love to see the results on the Shirley Warren Working Together facebook page.

We do hope that you can go all out to 'reduce your use' as much as you can between 6-7pm on Sunday – let's see if coming together as a community can really make a difference!

If not already done so, please sign up for the event on the 19<sup>th</sup> and get your Information Pack:

- on our **WEBSITE** - [www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)
- on **FACEBOOK** – Shirley Warren Working Together
- by **PHONE** - 02380 336172 (ask for Zak)

The Information Pack tells you more about how and why you can reduce demand at peak times – also how and why Shirley Warren aims to be a more caring community, starting with this demonstration of our collective power!

With thanks in anticipation of your support.

**Jenny Elliott and the Shirley Warren Working Together Team**

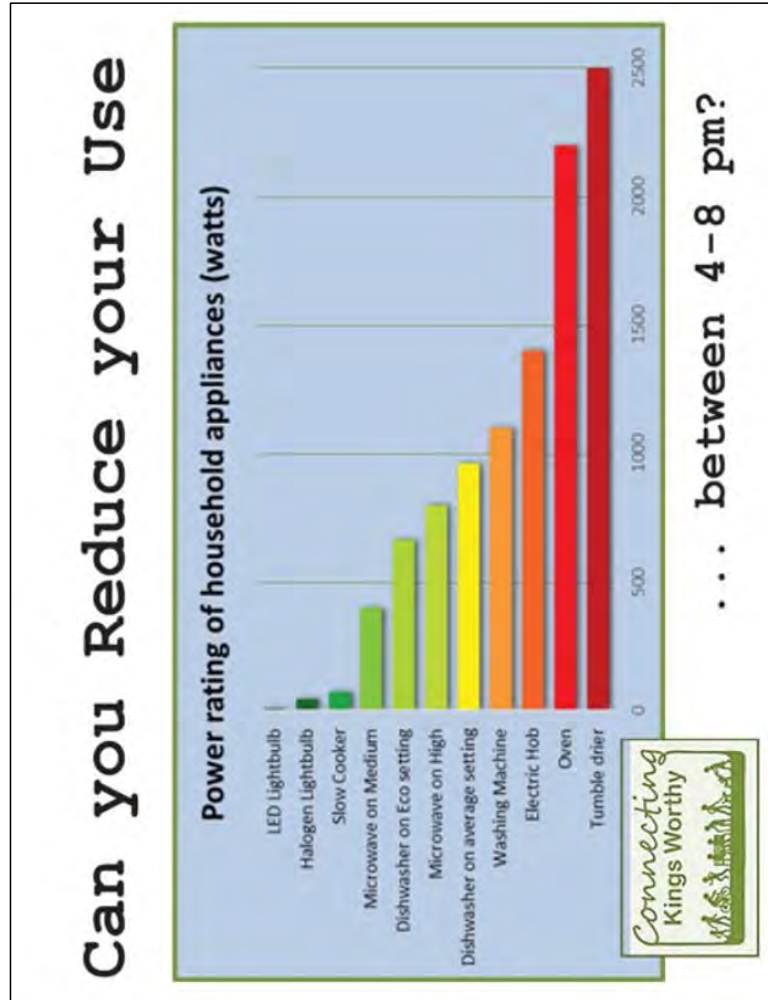
The 'Shirley Warren Working Together' initiative is part of the SAWE research project funded by Ofgem, the energy industry regulator and led by Shirley Warren. The project aims to reduce energy consumption in the community by encouraging residents to work together to reduce energy use. The project is led by Jenny Elliott, a local resident and a member of the Shirley Warren Community Group. The project is supported by the local council, the Environment Centre (EC) and operates with the involvement of a range of other local organisations within the community. All of us are keen to work together to make Shirley Warren a more caring community and see the benefits of this initiative reach as many people as possible within our community. Together we can make a difference!

## 7.7 Freebies – Fridge magnets



Can it  
wait 'til  
after 8?

[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)



7.8 Other Freebies


# Kings Worthy Village Information Map




Includes

- A map of the area
- Emergency numbers
- Useful numbers and contacts for the area
- List of clubs and organisations in the area
- Buses and bins information
- Regular and annual events

Provided free to all members of the community







Turn down your heating by 1°C and save up to 10 percent on your heating bills


	°F	°C
Turn down your heating and save money	80	27
	75	24
	70	21
Just the right temperature	65	18
	60	15
Turn your heating up a little or put a jumper on	54	12
Turn on any heating you have and wrap up warm!	48	9

32°F

0°C

If you need help or support with your heating bills please call 0800 804 8601 Monday to Friday 9am to 5pm or email [keepwarm@environmentcentre.com](mailto:keepwarm@environmentcentre.com)

DELIVERED BY




the Environment Centre (tEC)

Check out the website or Facebook page for Shirley Warren Working Together for more:

[www.shirleywarren.org.uk](http://www.shirleywarren.org.uk)

[facebook.com/ShirleyWarrenWorkingTogether](https://facebook.com/ShirleyWarrenWorkingTogether)



Solent Achieving Value from Efficiency



---

## 8 DELIVERY AGAINST OUTCOMES CHAIN

### 8.1 The Ultimate Outcomes

The ultimate outcomes of the Community Coaching approach in an operational ‘business as usual’ (BAU) setting were seen as threefold:

- DNOs (for example SSEN) are able to predict peak network demand and defer (and/or plan) associated network reinforcement accordingly;
- Communities are empowered to manage positive change impacts including local energy consumption;
- Stakeholders can accrue ‘value for money’ benefits from positive (perhaps more qualitative) social, economic and environmental impacts matched to each organisation’s particular agenda.

The Outcomes Chain model as put together at the outset of the project in June 2014, shows a theoretical progression through a series of intermediate outcomes over the course of the CEC trial.

As part of the modelling theory, a series of underlying assumptions were made, to be tested through the trial, and a series of strategic interventions identified, which it was anticipated would be required to graduate from outcome to outcome, where natural progression could not be assumed.

### 8.2 General progress

The Outcomes Chain diagram in Figure A10 overleaf sets out the Delivery Team’s self-assessed summary of overall progress in graduation through the chain over the course of the CEC trial research.

Outcomes shown in green are assessed as achieved. Outcomes shown as amber are assessed as partially achieved with further progress required, this being predominantly dependent upon (i) delivery of specific legacy commitments as set out in Learning Outcomes LO8 / Stakeholder Collaboration, LO 9 / Engagement Protocol, LO16 / Legacy Planning (Main Report, Section 4.4) and (ii) potential rollout of a scaled ‘Connected Communities’ programme (as set out in Appendix 13)

Figures A11 and A12 provide respectively an assessment of the relevance of the stated assumptions in practice and the relative impact of strategic interventions in facilitating progress through the chain.



Figure A10: **THEORY OF CHANGE: OUTCOMES CHAIN**

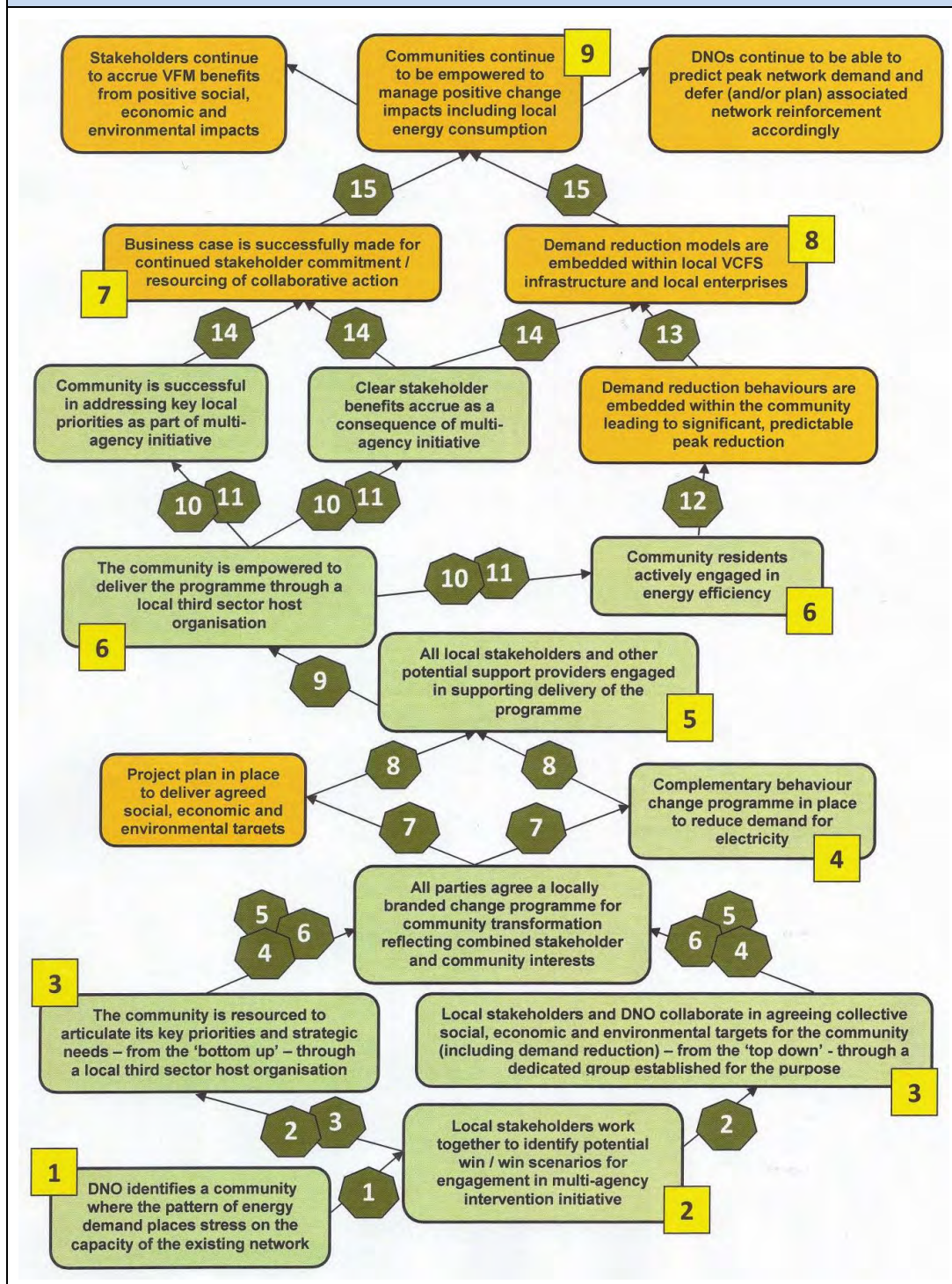



Figure A11: **OUTCOMES CHAIN – UNDERLYING ASSUMPTIONS**

			Learning Outcome Ref: (Main Report, Section 4.4)
1	Social intervention	In theory, strategic intervention aimed at changing local demand behaviour patterns is a feasible and sustainable alternative to asset reinforcement in managing network capacity	LO15
		In practice, reflecting the bid commitment to determine the merits of DNOs interacting with customers on energy efficiency measures, strategic intervention has been seen to be particularly beneficial in (i) facilitating measures aimed at improving Energy Literacy (ii) co-creation of local organisations acting on behalf of the DNO in facilitating change in peak demand behaviour and (iii) the specification of formal guidelines for potential rollout of a replicable BAU engagement programme	
2	Initial financial support	In theory, Local Authorities and other key stakeholders will tend to see the value of collaboration in energy demand reduction but will tend not to dedicate significant resources up front	LO7
		In practice, the stakeholders' implied aspiration that the DNO should be a catalyst for collaborative multi-agency engagement has been confirmed	
3	Common stakeholder agenda	In theory, local stakeholders (and communities) will generally welcome the idea of multi-agency effort to empower positive change within communities - working collaboratively will reveal opportunities for mutually beneficial co-operation working to a common agenda for change	LO2 LO12
		In practice, applying the 'Earning the Right' principle in community engagement has created the platform for a successful change programming blending community-led and agency-led agendas as part of a collective aspiration for change	
4	Fit with local aspirations	In theory, behaviour change in terms of energy demand reduction will tend to sit naturally as part of a dedicated multi-agency strategy for improving quality of life within a community	LO3 LO6 LO18
		In practice, the implied readiness for convergence between the community-led change strategy and the DNO-led demand reduction strategy has been affirmed through the trial with the approach being characterised as 'making the emotional connections' and with particular 'breakthrough' impacts in relation to household cooking routines	
5	Inclusive Governance	In theory, an inclusive governance approach involving stakeholders in co-producing, designing and delivering the change programme is more likely to facilitate and sustain positive behaviour change	LO8 LO9 LO13
		In practice, the inclusive approach has been endorsed by stakeholders in the form of potential legacy commitments including an aspiration to sustain the process of joint working, a joint engagement protocol and potential rollout of a scaled programme	
6	Community support	In theory, a local change strategy is more likely to attract popular community support when generated and led from within the community in association with a known, trusted host organisation	LO12 LO16
		In practice, the assumed significance of the role of the trusted local intermediary has been endorsed throughout the trial research affirming the importance of the 'messenger effect'	
7	Long-term business case	In theory, calculations of real SROI accruing from the programme will underpin the long-term business case for ongoing resource allocation by stakeholders to sustain positive change impacts	LO13 LO14 LO17
		In practice, calculation of 'Social Return on Investment' has been more challenging than anticipated requiring further work to substantiate the value of 'stacked' stakeholder benefits	
8	Structural change	In theory, initial direct investment to prompt short-term change will give way to multi-agency investment to develop and sustain long-term structural change hubs / mechanisms	LO8 LO9 LO16
		In practice, the prognosis for continued multi agency collaboration is positive with a commitment locally to sustaining the work of Shirley Warren Working Together and Connecting Kings Worthy as local change hubs – and more widely, subject to rollout of a scaled 'Connected Communities' engagement programme	
9	Retrenchment	In theory, there will be a tendency for initial positive demand impacts to subside through natural attrition without regular reinforcement of alternative behavioural norms to sustain transformation	-
		In practice, to test this, an extension to the original project phasing has been agreed to allow the NEL team to revisit the project communities and key stakeholders in November 2018 to review the durability of legacy impacts and commitments	



Figure A12: <b>OUTCOMES CHAIN – STRATEGIC INTERVENTIONS</b> 			
	Intervention	Review of Progress	Section Ref: (Main Report)
1	Generate change programme budget	-	-
2	Local Stakeholder mapping / Partnership building	Intervention complete	2.2 3.1
3	Appoint / Resource local host organisation	Intervention complete	2.2
4	Establish Governance framework	Intervention complete	2.2
5	Consolidate Stakeholder objectives	Intervention complete – subsequent delivery as part of local change strategy limited by absence of sufficiently granular data monitoring	3.4
6	Establish / Co-produce Strategic change programme	Intervention complete	3.1 3.2
7	Establish data baselines / monitoring systems	Intervention complete in relation to DNO and community generated targets – monitoring of stakeholder targets limited by absence of sufficiently granular data monitoring	2.2 3.1 3.4
8	Manage / Resource Governance delivery framework	Intervention complete	2.2
9	Training / Development Programme	Intervention complete	2.2
10	Focussed behaviour change / outreach intervention programme	Intervention complete	3.1 3.2 3.3
11	Monitor and adapt outreach programme	Intervention complete	3.2
12	Review transformation levels / compliance against energy targets	Intervention complete against a background of challenges associated with observability of consumption impacts at substation / feeder level	3.4 4.1 4.2 4.3
13	Embed structural change	Completion subject to delivery of specific legacy commitments	3.3 4.3
14	Business case development	Completion subject to delivery of specific legacy commitments and next stage rollout of scaled programme	4.3 4.4
15	Multi-agency support programme	Completion subject to delivery of specific legacy commitments and next stage rollout of scaled programme	4.3 4.4

**Main Report Reference:**

**SECTION 2.2**

## 9 NETWORK SCALABILITY

Building upon the CEC research in a business as usual situation, it is crucial for a DNO to understand both the tangible benefits and scalability of specific network interventions aimed at demand reduction.

The intervention affects across all substations on the day of the Big Switch Off (BSO) event are summarised in Figure A13 below showing the change in demand as a result of the BSO 'Promotion' intervention<sup>1</sup> (measured using temperature adjusted regression analysis), highlighting also those feeders subject to the more targeted BSO 'Sign Up' intervention.

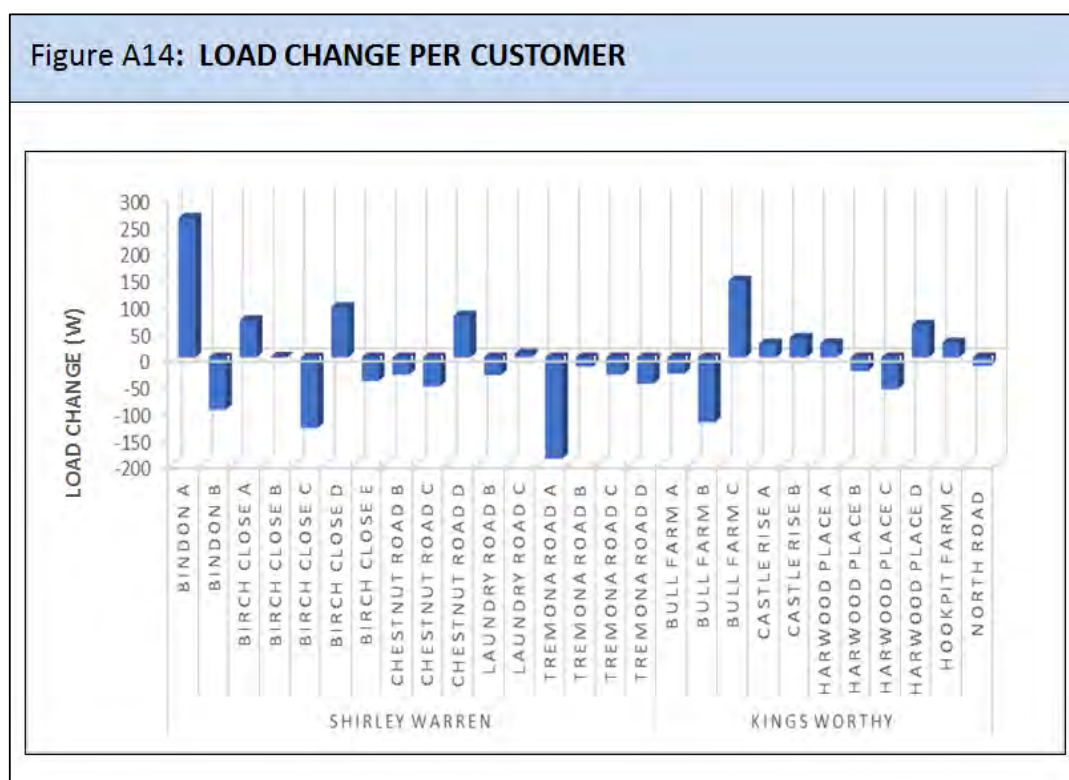
Figure A13: **BSO PROMOTION EVENT – INTERVENTION EFFECTS**

Town	Feeder	Load Change (%)	Load Change kW	No of Customers	Load Change per customer (W)
Shirley Warren	Bindon 1	16	4.4	17	260.8
	Bindon 2	-18	-9.9	101	-97.8
	Birch Close 1	13	4.3	62	69.1
	Birch Close 2	0	0.0	25	0.7
	Birch Close 3	-10	-8.8	67	-132.0
	Birch Close 4	9	3.5	37	93.7
	Birch Close 5	-7	-2.6	59	-44.0
	Chestnut Road 2	-12	-1.6	50	-32.3
	Chestnut Road 3	-19	-4.4	82	-54.1
	Chestnut Road 4	3	1.9	25	77.7
	Laundry Road 2	-6	-2.5	77	-32.7
	Laundry Road 3	1	0.1	22	6.8
	Tremona Road 1	-21	-7.8	41	-189.2
	Tremona Road 2	-3	-1.0	57	-17.0
	Tremona Road 3	-6	-2.0	62	-32.0
	Tremona Road 4	-10	-4.3	87	-49.1
Kings Worthy	Bull Farm 1	-3	-1.7	56	-30.1
	Bull Farm 2	-16	-9.0	74	-121.2
	Bull Farm 3	21	4.3	30	143.4
	Castle Rise 1	3	1.5	59	25.6
	Castle Rise 2	4	2.4	67	36.4
	Harwood Place 1	2	1.6	62	25.9
	Harwood Place 2	-5	-2.9	114	-25.5
	Harwood Place 3	-19	-3.4	58	-59.1
	Harwood Place 4	14	4.5	74	60.5
	Hookpit Farm 3	2	1.4	51	27.5
	North Road	-2	-2.6	167	-15.7

<sup>1</sup> Note some figures appear to show a positive impact on load as a result of imperfections of the base-lining process. As averages are used for this exercise the positives are left in. It is not anticipated the CEC trials would have caused any increase in consumption.

Targeted Feeders – BSO Sign Up					
Shirley Warren	Bindon 3	-19	-20.93	130	-160.9
	Bindon 4	8	6.85	60	114.1
Kings Worthy	Hookpit Farm 1	-11	-10.78	64	-168.3
	Hookpit Farm 2	-14	-7.11	26	-273.6
	Hookpit Farm 3	-21	-16.35	78	-209.6

Using this data, it is possible to estimate the reduction per customer as a result of the CEC trials, averaging this out across all feeders to depict an estimated mean reduction per customer. This can then be scaled geographically based on customer numbers.



As such, the average reduction per customer as a result of wider CEC engagement is 3.8W (0.5% reduction) or at targeted level: 139.7W (10.6% reduction). The scalability of these results is shown in Figure A15 below.

It is clear that the impact of the CEC interventions is inherently different across areas and across different 'types' of customer. It is the aim of the SAVE Project modelling work to understand how different customers interact with smart interventions in different manners and to map this to the network. For the community energy coaching trials this analysis materialises in the community model (main Report, para 1.1.6). The community model will ultimately look to use census information to understand the demographics of customer on different areas of the network and how this resultantly impacts load reduction. Scaling this, the DNO can start to anticipate more accurately

how a given intervention may perform in an area given the demographics of those customers being engaged.

Figure A15: ESTIMATED CO2 SAVINGS BASED ON THE CEC BSO EVENT				
Area	Est. CEC reduction	Est. Carbon Savings per 1 hour event <sup>2</sup>	Targeted CEC reduction	Est. Carbon Savings per 1 hour event
LV rural (100-200 customers)	0.38kW – 0.76kW	0.2 - 0.4kg	13.97 – 27.94kW	7.5 - 15kg
LV urban (200-400 customers)	0.76 – 1.52kW	0.4 -0.8kg	27.94 – 55.88kW	15 - 30kg
Primary Substation (5000 – 10000 customers)	19 – 38kW	10.2 - 20.4kg	698.5 – 1397kW	375.1 - 750.2kg
Solent region (1.3 million customers)	4.94MW	2652.8kg	181.61MW	97,524.6kg
SSEN Network (3.7 million customers)	14.06MW	7550.22kg	516.89MW	277,569.7kg
Great Britain (26 million customers)	98.8MW	53055.6kg	3.63GW	1,949,310kg

Given the community model’s continuing development to fit the final network investment tool (due June 2019) such data is not available as yet, however proof of concept can be illustrated by looking at the split in interaction effects across King Worthy (rural, relatively affluent) and Shirley Warren (urban, relatively deprived) independently. When comparing the average anticipated impact of a high-level CEC engagement approach across Shirley Warren the project sees an anticipated load reduction of 10W, whilst Kings Worthy sees no anticipated load reduction.<sup>3</sup> Looking at the targeted interventions however average reduction per customer increases to 23.4W and 217.2W in Shirley Warren and Kings Worthy respectively. This hints that the trial’s urban, relatively deprived area interact comparatively better with whole community based interaction, whilst the rural more affluent area interacts better with a more targeted community based intervention. The community model will look to further quantify and detail these results in due course, tying into the reporting timetable for the other household based trials.

Main Report Reference:

SECTION 4.1

<sup>2</sup> British Gas Carbon Calculator notes CO<sub>2</sub> (kg) = kWh x 0.537

<sup>3</sup> Average shows an increase of 6W, as highlighted above it is not anticipated that CEC trials would have a positive impact on load, hence it is assumed this is noise in data and hence, no affect.

## 10 LOCAL COACHING ACTIVITY LEVELS

Main Report Reference: SECTION 3.1

Figure A16: INDICATIVE LOCAL COACHING ACTIVITY LEVELS IN SHIRLEY WARREN (SW) AND KINGS WORTHY (KW)																			
Activity		Definition		Jan-Mar 16		Apr-Jun 16		Jul-Sept 16		Oct-Dec 16		Jan-Mar 17		Apr-Jun 17		Jul-Sep 17		Oct-Dec 17	
Individual engagements through coaches (no. of individuals)		SW	KW	SW	KW	SW	KW	SW	KW	SW	KW	SW	KW	SW	KW	SW	KW	SW	KW
Non-resident contacts – newly acquired	Through formal meetings and/or substantive engagement with individuals or groups	18	25	4	1	11	4	11	0	13	3	25	3	10	4	50	0		
		3	2	0	0	9	12	9	5	5	10	15	7	20	23	20	11		
14		78	39	2	12	14	5	9	20	47	30	600+	20	100	40	1442			
0		1	10	87	8	74	15	78	30	43	35	85+	30	53	50	627			
Local Meetings (no. of meetings + no. of individuals attending)																			
SAVE – General/Strategy/Co-design planning & development	Meetings linked to DDS	10 (18)		9 (56)	5 (46)	1 (10)	3 (46)	2 (15)	3 (25)	5 (19)	2 (10)	3 (30)	2 (11)	4 (33)		2 (19)	4 (30)		
SAVE – Energy related Co-design development & action planning	Linked to Energy agenda						1 (5)	1 (9)		1 (10)	2 (8)		2 (10)	2 (22)	3 (8)	1 (12)	3 (12)		
SAVE – Awareness raising /promotion/relationship building/activity based	Work with schools, Parish/local council, other local groups and ad hoc meetings	15 (25)	5 (69)	7 (25)	2 (29)	4 (25)	5 (46)	1 (7)	6 (37)		19 (61)	1 (12)	7 (469)		3 (19)	1 (15)	4 (15)		
Local Events (no. of events + no. of individuals attending)																			
Participation in non-SAVE events			5 (89)				1 (8)	1 (24)								2 (220)			
One-off events inspired / organised by SAVE – non energy focus					5 (46)		3 (41)	1 (30)		1 (30)		2 (50)	2 (1050)	3 (100)	1 (100)	1 (20)			
One-off events inspired / organised by SAVE – energy focus							2 (13)									2 (120)	1 (27)		

Figure A17: PROJECT COST BREAKDOWN

PROJECT MANAGEMENT		Costs directly attributable to setting up and managing Trial Method 4 as a research project - these costs are seen as constituting a one-off, non recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme	
1	Research Set up	Compliance systems / Project Manual / Targets & Milestones / Financial Planning / Best Practice Review / Host Engagement / Coach training / Learning visits	13%
2	Area Selection / profiling	Establishing selection criteria / strategic engagement activity / running bidding process / demographic analysis and profiling / Pre Active Engagement period activities	9%
3	PPRB Reporting	PPRB meetings / Ad hoc Reports / Weekly Calls / contribution to SDRCS & 6 monthly Reports / general dissemination	5%
4	Stakeholder Group	Strategic development / Complementary target setting / Research oversight	7%
5	QPR reporting	Formulation of Quarterly Reports including Learning Log and Outcomes chain	4%
6	Final Reporting/dissemination	Post Active Engagement period activities / Final SDRC	5%
<b>GENERATED LEARNING</b>		Costs directly attributable to generating tailored learning outcomes designed to inform BAU activities - these costs are seen as constituting a one-off, non recurring investment to secure research outcomes which might subsequently underpin a BAU community engagement programme	<b>42%</b>
1	Substation data analysis	Including baseline and test-related analysis / exploration of qualitative v quantitative learning options and capacity to input to Network Modelling	0%
2	Baseline Response/Surveys	Initial usage profiling and awareness questionnaires / face to face and online / formal TP1 messengers impact testing	4%
4	Direct Asks & Feedback	Design and delivery of formal TP1 (cut) and TP2 (shift) interventions / door to door feedback	3%
5	Messaging Focus Groups	Post TP1 informal feedback sessions / Inter TP2 and TP3 set piece intervention sessions / including design of materials and freebies costs	5%
6	Convergence Focus Groups	TP3 set piece intervention sessions / including design of materials and freebies costs	2%
7	Lightbulb Community Sign Up	TP3 design and delivery including materials	2%
8	Big Switch Off	Design and delivery of TP3 Community wide sign up to BSO	3%
9	PSR take up	Liaison with SEEN SECV team and local operational teams / baseline awareness surveys / locally branded promotion	<b>3%</b>
<b>BAU STARTER PROTOTYPE</b>		Elements of research cost which might be expected to be incurred in delivering a subsequent BAU engagement programme building upon learning generated through the research trial - this constitutes a baseline for further refinement / reduction in subsequent rollout cost calculations around BAU cost/benefit	<b>24%</b>
1	Host Recruitment/ Management	NEL apportioned costs	1%
2	Local Stakeholder Engagement	Routine local activity with wide range of organisations	0%
3	Mapping / gapping	Trial area profiling / Pre Active Engagement phase and during TP1	4%
4	Community Engagement	Pre TP1 activity / Activity during Active Engagement phase in support of promotion and development of local DOS	3%
5	Website / Comms	Initial specification and ongoing maintenance / 3rd party Development Work	6%
6	Co-design / Dedicated Strategy	Focussed co-design/development group work during Active Engagement period	4%
7	Feeder Reconciliation	NEL apportioned costs	1%
8	Lightbulb Promotion	Generic promotion and awareness raising over and above formal interventions	7%
9	Legacy & Sustainability	Supporting post project outcomes for each trial area over and above dedicated Focus Group sessions / including work with local BAU teams	<b>34%</b>

## 12 MAKING THE EMOTIONAL CONNECTIONS

As it has evolved over the trial's 2 year active engagement period, the essence of the coaching approach has become characterised as - '*making emotional connections*' - among and between organisations and individuals and with particular environmental and ethical issues.

An indication of some of the potential benefits is set out in Figure A18 below.

Figure A18: MAKING THE EMOTIONAL CONNECTIONS	
Connections between:	Potential benefits
<b>Stakeholder Agencies</b>	<ul style="list-style-type: none"> <li>• A counter to single issue/organisation approaches</li> <li>• Combined cost efficiencies through 'stacking' of benefits</li> <li>• Common purpose underpinning multi-agency work</li> <li>• Multi-utility solutions</li> <li>• Co-design approach ensuring local 'buy in'</li> <li>• Aligning public and private sector investment in communities</li> </ul>
<b>Stakeholders and community organisations</b>	<ul style="list-style-type: none"> <li>• Integrating 'top down' and 'bottom up' agendas</li> <li>• Co-design of more cost effective solutions</li> <li>• Local intermediary organisations delivering more durable solutions</li> <li>• Enhanced agency reputation</li> <li>• Investment focused on shared priorities</li> <li>• Development of trusted relationships to aid delivery of local solutions</li> </ul>
<b>Local organisations active in the community</b>	<ul style="list-style-type: none"> <li>• Common 'community-centric' vision</li> <li>• Shared resourcing / networking</li> <li>• Opportunity to identify 'gaps' for shared local action to take place</li> <li>• Shared sense of community</li> <li>• Catalyst for change</li> </ul>
<b>Local organisations and 'hard to reach' groups</b>	<ul style="list-style-type: none"> <li>• Coordinated support for the most vulnerable</li> <li>• Inclusive services</li> <li>• Increased formal volunteer engagement</li> <li>• Ability to bring in/tie in external support as required</li> </ul>
<b>Residents</b>	<ul style="list-style-type: none"> <li>• Social media support networks</li> <li>• Friendship groups</li> <li>• Informal care networks</li> <li>• Informal volunteering</li> <li>• Enhanced skills and confidence</li> </ul>
Connections with:	
<b>Environmental concerns</b>	<ul style="list-style-type: none"> <li>• Raising awareness and a willingness to engage</li> <li>• Establishing ethical behaviours</li> <li>• Generating Active caring support</li> <li>• Distinctive community image</li> </ul>
<b>Ethical issues</b>	<ul style="list-style-type: none"> <li>• Providing opportunities to open/widen debate at a local level</li> <li>• Addressing the issue of 'what we do' versus 'what we say we are going to do'</li> <li>• Distinctive community branding</li> </ul>

Main Report Reference:

SECTION 4.3



---

## 13 ROLLOUT OF CONNECTED COMMUNITIES PROGRAMME

### 13.1 Building on the Prototype

With a view to scaling up the CEC trial research to a viable BAU programme, the Learning Outcomes from the Coaching trial offer a lot to build on, notably:

- The value of the ‘Connected Community’ concept as a compelling driver for collective behaviour embracing both physical and emotional connections;
- Clear buy-in at the community level to peak demand reduction based on increased levels of energy literacy and the associated ‘earning the right’ principle of co-design;
- Demonstrable reductions in peak electricity demand as an incentive for a DNO to take the lead in focused community engagement – with an associated need to review lower cost peak monitoring options;
- The generation of ‘stackable’ social impacts to underpin more cost-effective multi-agency collaboration – with an associated need for clearer quantification of benefits;
- The potential for sustained transformation of communities with demand reduction (and other positive impacts) embedded in locally branded change strategies;
- An engagement protocol which can underpin the co-creation of trusted local intermediary organisations able to support and embed change.

The CEC trial has effectively served to create a prototype for non-traditional, DNO led engagement blending the change agendas of the DNO, other stakeholder agencies and the community itself. Building on the prototypes created, the delivery team has identified an opportunity for further proof of concept work to develop a replicable, multi-agency ‘Connected Communities’ Coaching Programme – effectively the CEC trial ‘in a box’. This would build more widely on the learning established through the research trial and the positive knowledge, insights and understanding regarding peak demand reduction and added social value as achieved through the collaborative process.

As a key next step, the team has designed a Beta rollout stage to test whether a scaled programme can be delivered within a strict enough budget to ensure a cost-effective return on investment for all stakeholders. A Stepped Guide setting out how the DNO might go about this along with stakeholder partners is included in this Appendix at para 13.3.

### 13.2 Connected Community

A ‘connected community’ as it has evolved through the research trial can be described as:

*‘a community where the DNO, other utilities, key public, housing and environmental agencies are working together with local residents in a targeted way to build a community which cares ... about the environment, about each other, about how we use our energy resources, about avoiding waste ... and ultimately about the legacy we are leaving our children’.*

Looking back over the experience of the research trial, Community Energy Coaching has demonstrated positive change in both peak demand reduction and related social impacts. However, the trial outcomes for just 2 research communities may not be readily or predictably transferrable to other specific communities in an operational setting. So, on one hand, the results must necessarily

---

be treated as indicative rather than conclusive. On the other, given the strength of the Learning Outcomes, the enthusiasm of participants and legacy commitments already established, there is room for optimism that further exploration through a Beta rollout building on the prototype established through the trial, could serve to generate a viable, albeit very streamlined 'business as usual' (BAU) programme.

Such a programme would be designed to offer:

- For the DNO – greater energy literacy across a community; a programmatic response to the challenge of peak demand reduction; alignment with social obligations in the care and support of vulnerable customers; more resilient communities better able to respond effectively to adverse climate and network events;
- For other stakeholder agencies – a multi-agency approach to community engagement with the DNO as the leadership catalyst; specific cost-effective outcomes accruing to individual agencies as part of an integrated programme delivering stackable benefits; enhanced organisational reputation linked to increasing trust relationships with local leadership groups;
- For a community – a branded programme with established creative material to underpin a process of managed behaviour change; resource support to local individuals and organisations to facilitate coordination and cohesion in improving community well-being; an opportunity for distinctive re-branding in creating the conditions for long-term, sustainability.

### 13.3 Stepped Guide

In the event that a DNO wishes to develop the research trial prototype further, the following stepped Guide sets out how the DNO might go about this along with stakeholder partners. It has been put together to address the key considerations in scaling up to a Beta rollout and beyond. Assumptions as to scale and focus have necessarily been made as indicated at each of the 5 steps.

Crucially, a Beta rollout would serve to test whether a scaled programme can be delivered within a strict enough budget to ensure a cost-effective return on investment for all stakeholders.

The Guide builds directly upon the Learning Outcomes identified through the trial research.

### 13.4 STEP 1: Which areas and how many?

For the purposes of this Guide, a notional multiplier of +5 has been applied in progressive scaling from the 2 prototype sites to a nominal 10 Beta sites and then to a nominal 50 BAU sites.

Looking at the full BAU programme, choice of sites could be driven feasibly by:

- the DNO focusing on communities where the electricity network is currently under stress or through expected demand shifts is forecast to be so;
- multi-agency consensus taking into account relative socio/economic disadvantage using Vulnerability Mapping and related indicators, presumably with an implicit focus on 'below the radar' communities;

- a combination of both, with the option also of self-selection as part of an open application programme, presumably with an implicit focus on 'resilient' communities.

For the more immediate next stage Beta rollout, it would make sense to include both 'below the radar' and 'resilient' types of community as part of the further testing / validation process. For both types of area, the process would accordingly look further at relative predictability and measurable cost-effectiveness in achieving positive peak demand reduction and related social impacts.

The choice of sites will have a bearing on resource implications, not least in response to the need for more intensive cohesion work in 'below the radar' communities.

### 13.5 STEP 2: What are the likely delivery costs?

It is assumed that the programme at both Beta and BAU stages would provide for 2 year coaching support in each community. Reflecting the experience of the research trial, the first year is envisaged as a 'Foundation Year' establishing a trusted intermediary organisation and clarifying current norms against a series of key indicators. The second year would accordingly be a 'Challenge Year' seeking through the intermediary organisation to create new norms.

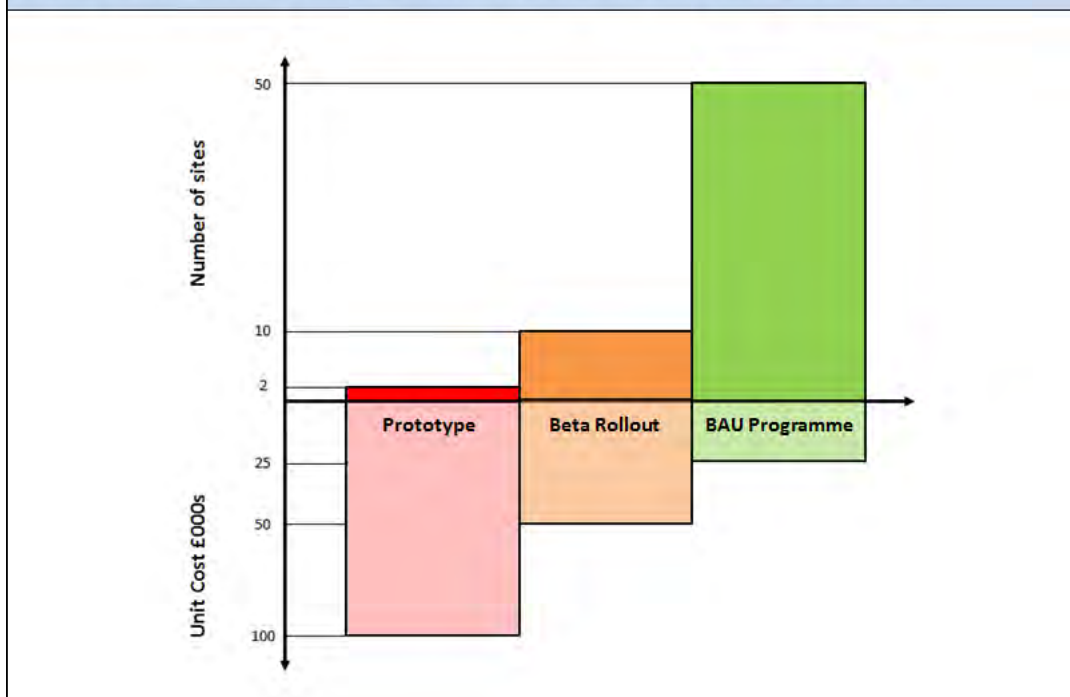
The unit cost for each rollout site is calculated at £50k and £25k respectively for Beta and BAU rollout stages as detailed in Figure A19 below. This is set against the equivalent unit cost per prototype site of £100k (Main Report, para 4.2.4) giving an effective budget multiplier of -0.5 through the successive stages.

Figure A19: CONNECTED COMMUNITIES – PROVISIONAL ROLLOUT COSTS		
10 BETA SITES		£000s
Per site over 2 years	• Community Grant	10
	• 2 FTE Coaches overall / time allocated pro rata per site	14
	• Materials / Local Promotion	10
	• Substation peak alarm monitoring	8
	• Overheads / recharges	8
	<b>TOTAL: 2 year costs / site</b>	<b>50</b>
50 BAU SITES		
Per site over 2 years	• Community Grant	10
	• 4.5 FTE Coaches overall / time allocated pro rata per site	6
	• Materials / Local Promotion	5
	• Overheads / recharges	4
	<b>TOTAL: 2 year costs / site</b>	<b>25</b>

On this basis, the allocation of Coach time reduces progressively from 1 FTE for 2 Sites at Prototype stage to 2 FTE for 10 sites at Beta rollout stage to 4.5 FTE for 50 sites at BAU Programme stage.

Alongside the site multiplier of +5, this progressive scaling is summarised in Figure A20 below in terms of site numbers and unit costs combined.

**Figure A20: CONNECTED COMMUNITIES: PROGRESSIVE SCALING**



This progression presents a ‘starter for 10’ ahead of any further formal work to develop the programme in more detail.

### 13.6 STEP 3: What would the targeted outcomes be?

The definition of a ‘Connected Community’ for the purposes of the rollout programme is assumed to be along the lines of the standardised aims as set out in Figure A21 below. This sample group of indicators is by no means fixed, but it does reflect the range of positive impacts attributable to the work of the CEC trial over the past 2 years. It also embraces the interests of other potential stakeholders working alongside the DNO, building upon the multi-agency approach piloted through the trial.

Reflecting the value of the co-design experience, it is also assumed that initial engagement with each community would serve to generate a number of individualised priorities to be incorporated in a customised local change strategy.

Figure A21 also gives an indication of the positive quantifiable outcomes that might be sought in any community as part of the programme.

This sample group of indicators provides a basis of assumption for calculating the ‘stacked benefits’ which could accrue collectively through the Connected Communities Coaching Programme. Final decisions on the implied description of a ‘connected community’ would accordingly take into account the declared priorities of all stakeholders involved. As such a wider range of economic and/or health related indicators could also be envisaged. In any event, it would be important that the ‘Challenge Year’ targets are aspirational yet realistic.

Figure A21: PROGRAMMATIC DEFINITION OF 'CONNECTED COMMUNITIES'		
A Connected Community aims to:	'Foundation Year' sample norm	'Challenge Year' sample target options / 1000 h/h
<b>Standardised</b>		
1. Promote PSR awareness	<ul style="list-style-type: none"> <li>• 10% awareness level</li> <li>• 10% of forecast eligibility (Cats 1 &amp; 2) signed up (tba)</li> </ul>	<ul style="list-style-type: none"> <li>• 50% awareness level and/or</li> <li>• 50% of forecast eligibility (Cats 1 &amp; 2) signed up (tba)</li> </ul>
2. Volunteer more	<ul style="list-style-type: none"> <li>• 25% formally volunteer once / month+</li> <li>• Regular volunteers average 10hrs / month</li> </ul>	<ul style="list-style-type: none"> <li>• 33% h/h formally volunteer once / month</li> </ul>
3. Encourage use of Carbon Monoxide (CO) alarms	<ul style="list-style-type: none"> <li>• 50% of h/h with alarm installed</li> </ul>	<ul style="list-style-type: none"> <li>• 80% of h/h with alarm installed</li> </ul>
4. Walk not drive to school	<ul style="list-style-type: none"> <li>• 50% Primary School children travel by car</li> <li>• As per survey level</li> </ul>	<ul style="list-style-type: none"> <li>• 25% Primary School children travel by car and/or</li> <li>• Uplift in walking rate per travel plan</li> </ul>
5. Use less water	<ul style="list-style-type: none"> <li>• 150litres / person / day</li> <li>• 350 litres / h/h / day</li> </ul>	<ul style="list-style-type: none"> <li>• 50% of h/h reduced to 280 litres / day</li> <li>• Equivalent 10% h/h reduction overall</li> </ul>
6. Reduce peak electricity usage	<ul style="list-style-type: none"> <li>• X% of daily usage between 4-8pm</li> <li>• Measured % at or above agreed % capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced % of daily usage between 4-8pm</li> <li>• 50% reduction in measured % at or above agreed % capacity</li> </ul>
<b>Individualised</b>		
A modest number of additional aims to be agreed locally		

### 13.7 STEP 4: Who would fund the rollout?

It is assumed that any further rollout of a Connected Communities Coaching Programme would be undertaken on a multi-agency basis building upon the collaborative, co-design engagement approach piloted through the CEC trial and the emerging Community Engagement Protocol.

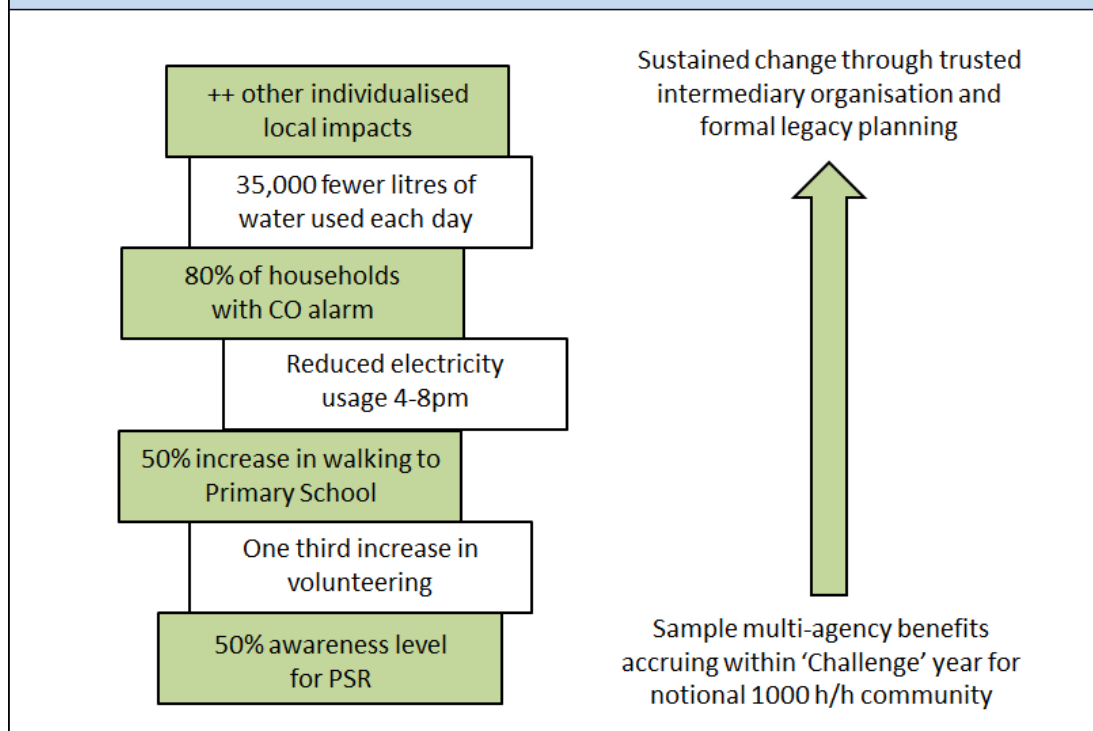
Stackability of benefits will be key to long-term cost effectiveness of the Programme, the idea being that, through collaborative funding each agency can derive greater benefit than it could by working alone. Indeed, not all agencies would necessarily be able to prioritise resource allocation to community engagement other than on such a multi-agency funding basis.

Based on the sample 'Challenge year' targets options (set out in Figure A21) the diagram below in Figure A22 gives an indication of the collective benefits which could accrue to stakeholder agencies involved.

Based on assumptions about site numbers and unit costs, the provisional rollout budget estimates are (i) 500K for the Beta stage (10 x £50k) and (ii) 1.25m for the BAU Programme stage (50 x £25k).

As part of any further work to develop the programme in more detail, it is assumed that other resource opportunities would be explored in order to secure this funding, especially for the next stage Beta rollout.

Figure A22: 'STACKABLE' PROGRAMME BENEFITS



### 13.8 STEP 5: How would success be measured?

Success at the Beta rollout stage would usefully be assessed against 3 types of measure:

- **Cost-effectiveness** – looking, for example, at the ratio of 'Equivalent Total Value' (ETV) as derived by 'stacking' benefits together and relating collective impact to likely operational cost. This would allow stakeholders, prior to making any commitment, to review whether the predicted ratio between unit cost per site and 'stacked' value overall could be deemed value for money from an individual and/or multi-agency perspective. As recommended in this report, if there is an opportunity for further research to look at a more granular 'Equivalent Unit Value' (EUV) assessments, then the ratio of cost to value could be calculated for each individual social impact. Whichever value base is used, any progression from Beta to BAU rollout would accordingly be subject to validation of the value for money potential against actual performance in delivering social impact targets per rollout site through the Beta stage;
- **Peak Reduction** – looking, for example, for a different, low cost monitoring solution as recommended in this report (Main Report, Section 4.4, Learning Outcome 4). Given that the key issue in an operational setting is the frequency with which a capacity ceiling on a substation transformer is breached, it is suggested that as part of any Beta rollout, equipment be installed which can issue an alert whenever demand exceeds a set proportion of operational capacity. Measuring achievement in reducing peak demand might then be a matter more simply of recording in-house the number of 'breach' events against a set percentage of transformer capacity. In the event that the demand reduction potential of a

---

streamlined trial programme can be validated at the Beta stage, for the fuller BAU rollout peak demand monitoring might be seen as unnecessary other than on a sample basis;

- Threshold indicators – looking specifically at more qualitative success factors building upon the experience of the CEC trial, critically (i) the creation of a trusted intermediary organisation as the catalyst for local change during the 2 year engagement period and beyond and (ii) formal Legacy Planning for sustaining positive change beyond the 2 year engagement period.

In addition to these 3 success measures, consideration might also be given in due course to establishing a network of ‘connected communities’. Such a network could facilitate the sharing of good practice in delivering peak reduction and contingent social impacts with, potentially, some form of awards programme to recognise specific achievement.

**Main Report Reference:**

**SECTION 4.4**

NEL / June 2018









**Solent Achieving Value from Efficiency**



**Solent Achieving Value from Efficiency**

TM4 (Community Energy Coaching Trial)  
SSET206 / LCNF Tier 2 SDRC 8.8: Supplementary Appendix

## **Post-Trial Review 'One Year On'**



**January 2019**

***Scottish and Southern Electricity Networks (SSEN) is the new trading name of Scottish and Southern Energy Power Distribution (SSEPD), the parent company of Southern Electricity Power Distribution (SEPD), Scottish Hydro Electricity Power Distribution (SHEPD) and Scottish Hydro Electricity Transmission. SEPD remains the contracted delivery body for this LCNF Project.***

Prepared By

Document Owner(s)	Project/Organisation Role
Judi Sellwood / John Every Neighbourhood Economics	Project Managers for TM4 / CEC trial

Version Control

Version	Date	Authors	Change Description
0.1	21/12/18	NEL	First draft - internal
1.0	17/01/19	NEL	Incorporating SSEN edit
2.0	21/01/19	NEL	Final report with Appendices

## CONTENTS

1	THE COMMUNITY ENERGY COACHING (CEC) TRIAL – ONE YEAR ON .....	4
1.1	CONTEXT .....	4
1.1.1	The Post Trial 'One Year On' Review.....	4
1.1.2	The Aim of the Review .....	4
1.1.3	Key Success Criteria.....	4
1.2	SUMMARY OF SDRC 8.8 RESEARCH FINDINGS.....	5
1.2.1	The Original CEC Trial.....	5
1.2.2	Summary of the original Research Learning .....	5
2	ANALYSIS OF CEC TRIAL LEGACY .....	7
2.1	THE REVIEW PROCESS.....	7
2.1.1	What we did / What we found / What we concluded.....	7
2.2	THE CUSTOMER LEVEL .....	7
2.2.1	What we did.....	7
2.2.2	What we found .....	7
2.2.3	What we concluded .....	8
2.3	THE COMMUNITY LEVEL .....	8
2.3.1	What we did.....	8
2.3.2	What we found .....	8
2.3.3	What we concluded .....	9
2.4	THE STAKEHOLDER / PARTNER LEVEL.....	10
2.4.1	What we did.....	10
2.4.2	What we found .....	10
2.4.3	What we concluded .....	11
3	RECOMMENDATIONS.....	12
3.1	RECOMMENDATION 1: Community Engagement Guidelines .....	12
3.2	RECOMMENDATION 2: Social Constraint Managed Zones.....	12
3.3	RECOMMENDATION 3: Evaluation of Attributable Social Impacts.....	12
3.4	RECOMMENDATION 4: Wider Application of Research Learning.....	12
	APPENDIX 1 – BSO PARTICIPANT FOLLOW UP SURVEY .....	13
	APPENDIX 2 – LEGACY PLAN UPDATES .....	14
	APPENDIX 3 – COMMUNITY ENGAGEMENT GUIDELINES.....	16
	APPENDIX 4 – SOCIAL CONSTRAINT MANAGEMENT ZONE (SCMZ) MODEL .....	17
	APPENDIX 5 – ANALYSIS OF BIG SWITCH OFF 9TH NOVEMBER 2018.....	18

A full Glossary of Terms and list of acronyms used in CEC Trial reporting is included in the main Report of Findings: <http://www.neighbourhood-economics.com/the-save-project/>

# 1 THE COMMUNITY ENERGY COACHING (CEC) TRIAL – ONE YEAR ON

## 1.1 CONTEXT

### 1.1.1 The Post Trial 'One Year On' Review

This Report is a Supplementary Appendix to the Final Report for the SAVE Community Energy Coaching (CEC) Trial (SDRC 8.8, June 2018). It sets out the results of the post-trial Review undertaken by Neighbourhood Economics in November 2018, one year on from the end of the 2 year active research phase of the trial.

### 1.1.2 The Aim of the Review

The core hypothesis for the CEC trial was that:

*“Measurable changes in localised consumption behaviours generally – and in terms of peak energy demand reduction in particular – are more likely to be achieved with key local and national stakeholders working intensively together to resource and empower defined geographical communities in actively embracing a compelling, locally relevant, collaborative sustainability-related theme. Furthermore, resultant positive behaviour change is more likely to be reinforced and sustained in the long-term by the momentum of pooled stakeholder effort”.*

The aim of the post-trial Review was to test implicit assumptions in the core hypothesis regarding the sustainability of behaviour change impacts attributable to the collaborative coaching approach. As such, the Review explored the legacy of the active research phase of the project as it could be observed a year on.

### 1.1.3 Key Success Criteria

With the formal closure of the trial at the end of 2017, we were hopeful of being able to draw conclusions about the relative levels of sustained commitment to the principles of peak demand reduction and multi-agency collaboration. As such, we identified 3 key success criteria. We postulated that:

- a) There would be a continuing commitment to behaviour change amongst at least 50% of local customers who signed up to the BSO events delivered as part of the active engagement phase of the research in November 2017;
- b) The energy efficiency theme coupled with an understanding of the peak demand issue would be embedded as part of the agenda of local community-based organisations with evidence of delivery on Legacy Plan commitments;
- c) Utilities and other stakeholder agencies part of the Stakeholder Group for the CEC trial would be continuing to collaborate in developing operational relationships and in designing and delivering joint community engagement initiatives as part of business as usual (BAU) activities.

Also, given the passage of time since the end of the formal trial research, we were keen to assess the relative levels of 'decay' in commitment to change amongst different types of participant (customers, local community groups, stakeholder partners) and potentially to draw conclusions about how these levels might in retrospect have been improved in a comparable operational situation. In terms of behaviour change amongst customers in particular, we assumed that a year on, 50% of original trial participants or less would still be able to express a sustained commitment to active peak demand reduction.

## **1.2 SUMMARY OF SDRC 8.8 RESEARCH FINDINGS**

### **1.2.1 The Original CEC Trial**

The CEC Trial was one of four trials conducted as part of the SAVE behaviour change research programme as funded through the Low Carbon Network Fund. The trial aimed to test within 2 differentiated communities in Kings Worthy (Winchester) and Shirley Warren (Southampton) whether a sustainable reduction in peak electricity demand could be achieved working in collaboration with local communities. If successful, this would allow SSEN and any other Distribution Network Operator (DNO) to reliably manage demand to defer / avoid reinforcement on constrained parts of a network.

The trial's community-centric approach also offered the opportunity to address energy consumption within the context of the wider community well-being and service delivery agendas important to other partner agencies and the communities themselves.

The research was undertaken in partnership with other utility companies and stakeholders, including SGN (Southern Gas), Southern Water, University of Southampton, Eastleigh, Winchester and Southampton Councils, VIVID (formerly First Wessex), Winchester Action on Climate Change and the Environment Centre in Southampton.

The 2 year active engagement phase of the CEC trial (2016 and 2017) is now complete and the final report of findings was submitted to Ofgem in July 2018. The full report and appendices can be downloaded at <http://www.neighbourhood-economics.com/the-save-project/>

The 3 other trials under SAVE are focused upon sample groups of households across the whole of the Solent area. These trials continue to run through 2018 and will report next year.

### **1.2.2 Summary of the original Research Learning**

Full exposition of the 18 Learning Outcomes from the Trial research is set out in Section 4.4 of the Final Report, June 2018. Key findings can be summarised in the following learning points:

- 'BIG Switch Off' events achieved over 10% reduction in peak demand on specific substations
- Being part of a caring, connected community was the key driver for behaviour change
- Shifting peak demand was seen as a compelling new energy literacy message
- Making emotional connections with the community was crucial in securing active participation



- Messenger identity was key ... customers responded much more positively to messages from the locally branded intermediary groups – Shirley Warren Working Together (SWWT) and Connecting Kings Worthy (CKW)
- Talking about saving time as well as about saving energy broke down the barriers to changing cooking routines
- The multi-agency coaching approach was seen as transformational in delivering stackable benefits for all involved including other utilities and stakeholders.

## 2 ANALYSIS OF CEC TRIAL LEGACY

### 2.1 THE REVIEW PROCESS

#### 2.1.1 What we did / What we found / What we concluded

Reflecting the key Success Criteria (1.1.4 above) this analysis sets out briefly what we did as part of the post-trial review process in November 2018. It reports on what we found in following up with the 3 separate specific interest groups - customers, local community groups and stakeholder partners - and accordingly what we concluded in terms of the sustainability of behaviour change as observed at the close of the trial at the end of 2017.

### 2.2 THE CUSTOMER LEVEL

#### 2.2.1 What we did

We knew from customer interviews and substation monitoring as part of the original BSO research interventions that on selected feeders in both trial communities, 25% customer sign up could deliver measurable peak demand reduction in excess of 10% for a defined constraint period (See Section 4.1, Final Report, June 2018).

One year on, we re-interviewed a random selection of households who had formally signed up to the original BSO events in November 2017. In all we conducted 25 doorstep interviews in each trial area to assess performance against the notional success criterion of at least 50% of local customers expressing a continuing commitment to behaviour change

#### 2.2.2 What we found

Crucially:

- A sustained commitment to active peak demand reduction as expressed by 80% and 72% of customers interviewed in Shirley Warren and Kings Worthy respectively, an average of over 75% across the 2 areas combined (Question 3, Appendix 1);
- Customers in both areas citing examples of continued peak reduction activities which reflect key 'energy literacy' campaign messages notably changing cooking / eating routines and shifting usage of key appliances (Question 4, Appendix 1);
- 68% and 60% of customers in Shirley Warren and Kings Worthy respectively stating that they would continue to encourage others to reduce peak demand (Question 6, Appendix 1).

The detailed interview questionnaire analysis is set out in Appendix 1.

### 2.2.3 What we concluded

From our follow up household interviews, we concluded as part of the Review that:

- A year on, there was an encouraging level of continuing commitment to reduced peak consumption as expressed by over 75% of customers across the 2 areas as compared to the assumed 50% or less success criterion level. This can be expressed in terms of the rate of decay of qualitative behaviour change impacts as a 'half life' of 2 years;
- There was no evidence of any real difference in levels of continuing commitment between the trial areas.

## 2.3 THE COMMUNITY LEVEL

### 2.3.1 What we did

We knew that there was an 'in principle' commitment to embedding energy efficiency as part of wider community agendas expressed by SWWT and CKW in Legacy Plans agreed at the end of the original trial research period. These plans are the embodiment of the 'trusted local intermediary' status of SWWT and CKW in effectively conveying behaviour change messages beyond the active trial. (See Section 4.3.4, Final Report, June 2018).

As part of our 'one year on' review, we met individually and collectively with local community representatives who had been part of the original co-design teams through SWWT and CKW to explore progress with delivery of these legacy commitments. Detailed updates for each trial area are set out in Appendix 2.

### 2.3.2 What we found

- Generally there is a good record of delivery in both areas although this has been more demonstrably achieved in Shirley Warren. Of the 10 legacy commitments taken on in each community, 7 have been or are being delivered with 3 in process in Shirley Warren while in Kings Worthy, 5 have been or are being delivered with 4 in process and one as yet uncertain;
- Of the 2 communities, energy literacy messages around energy efficiency and peak demand reduction are observably more fundamentally embedded in Shirley Warren through the work of SWWT. We can readily put this down to the relative paucity of other 'competing' groups and the regular community café and associated activities set up as part of the trial and still continuing to provide a focal point for collective action to improve community resilience. Through SWWT conversations around energy have broadened to take in wider sustainability and environmental issues with residents now feeling empowered to take action, both on an individual basis and as a community, as a result of their involvement with SAVE. Some modest support continues to be provided by the Environment Centre (tEC) as the original local host organisation;
- In Kings Worthy, CKW remains one of a large number of groups requiring volunteer support to sustain their activities with potential support more dissipated as a result. While individual groups have taken up the CKW mantle in their own way, notably St Mary's Eco Church, the Worthy's Festival, the Primary School and Parish Council, it has been more difficult for the

community to routinely filter action through CKW. On one hand the brand is still seen positively within the community as providing an overarching and neutral focus for both energy and the wider sustainability/environmental issues that are now being discussed; on the other, levels of community resilience in Kings Worthy are intrinsically high with no particular urgency to coalesce under the CKW banner. Some modest support continues to be provided by Winchester Action on Climate Change (WinACC) as the original local Host organisation;

- In both communities the ‘bottom up’ nature of the coaching approach was confirmed as critical to both their original enthusiasm to be involved and their continued engagement with the key energy literacy issues beyond the end of the active research phase. Residents feel that they have been listened to, valued, supported and trusted as part of the CEC trial, particularly so in Shirley Warren. This has been the catalyst for positive social change, allowing people to come together and believe in themselves in a way that other initiatives/projects have not. In both communities, being seen as ‘part of the solution and not just part of the problem’ was key to the project being able to add value to community wellbeing as well as them being able to add value, support and take ownership of the trial through the co-design process. These findings echo learning captured through the active research phase of the trial (See Section 4.2.6, Final Report, June 2018).

### **2.3.3 What we concluded**

From our individual and collective meetings with community representatives, we concluded as part of the Review that:

- SWWT was and remains a fundamental factor in local resurgence of community activity in Shirley Warren over the past 2 to 3 years. Led by key individuals from the local Action Church, it has provided an inclusive focus for self-development of the community. As a formally constituted group, it now continues to grow feeding on the need for increased community resilience and the urgency for social action. It is well-placed to generate significant additional resources to sustain itself and also to support local investment projects;
- In Kings Worthy, the plethora of local groups made initial engagement relatively easy, but the ongoing need to service them all is leading to an increased pressure on a limited number of local volunteers who, although interested and willing, are finding it difficult to maintain the level of commitment required to sustain CKW as a separate entity. CKW remains a known and trusted overarching and neutral local brand which, through social media networks is continuing to provide a virtual space for the promotion of community wide initiatives and information. In order for CKW to play a more central developmental role it would benefit from an additional modest input of funding/support, over and above that which WinACC can currently continue to provide;
- Of the 2 trial areas, the SAVE legacy through SWWT has been more fundamentally significant from an overall community wellbeing viewpoint. The pre-existing levels of community activity and associated resilience – very low in the case of Shirley Warren and very high in the case of Kings Worthy – have played a significant part in determining the degree to which respective legacy commitments are now embedded locally. The implication is that if SSEN and/or other stakeholder partners were to apply coaching principles in similar local engagement elsewhere, working in the least resilient / most vulnerable communities is likely to yield both the more enduring behaviour change and the more significant uplift in social wellbeing;

- A modest ongoing support package in each trial community bridging the end of the active trial period would potentially have seen greater reach/traction achieved with the opportunity to embed the work of SWWT/CKW more deeply. In particular it would have helped to broaden the reach of activity across the community in Shirley Warren and to recruit new volunteers to maintain and reinforce the role of CKW.

## 2.4 THE STAKEHOLDER / PARTNER LEVEL

### 2.4.1 What we did

We knew from legacy scoping work as part of the original trial research that:

- utility partners and other stakeholders have been impressed with the nature and success of the CEC approach and had already begun to apply some of the lessons learned within their own organisations and to their work with other partners: for example, Eastleigh Borough Council changing the focus of its promotional messaging around reuse and recycling; SSEN and Southern Water looking at future collaboration with a view to shared resourcing around household level behaviour change, the value of Priority Services Register (PSR) sign ups and other social impacts for vulnerable customers; increased networking and formal recruitment of stakeholder representatives to the boards of tEC and WinACC enhancing future partnership working;
- the utilities in particular recognise the value of delivering a range of stackable benefits potentially offering both value for money and an improved customer journey, especially for vulnerable customers. In addition, the Local Authorities and host organisations saw the model of private sector led engagement as a potential breakthrough in future joint working giving the resource challenges that they, along with other partners, currently face. These points echo learning captured through the active research phase of the trial (See original feedback from Stakeholders captured in Section 4.2.6, Final Report, June 2018).

Looking beyond the energy sector to wider community wellbeing / resilience policy, we had also as part of our original trial reporting explored a prototype Connected Communities Programme with a view to scaling up the CEC trial research to a viable BAU roll-out programme embracing a broader civic responsibility agenda beyond the energy sector (See Section 4.4.3, Final Report, June 2018).

Against this background, we convened ‘one year on’ a special Review Session with the Stakeholder Group to revisit the legacy from the trial. Alan Whitehead (MP for Southampton, Test and Shadow Minister for Energy and Climate Change) was also in attendance.

### 2.4.2 What we found

- There is consensus amongst the project Stakeholders that the set of Community Engagement Guidelines as put together to build upon learning through the CEC trial, should be shared within their own organisations to promote and underpin future good practice. These guidelines are set out in Appendix 3;
- SSEN are actively applying the learning from the CEC trial and the wider SAVE project in building upon their current Constraint Managed Zone (CMZ) initiative. This is a BAU initiative to commercially secure demand management/power injection services to

defer/avoid network reinforcement on defined parts of a network. Building on this, there is an opportunity to explore the potential for a Social CMZ initiative incorporating contributions from other stakeholders alongside commercial operators and looking at delivery of social benefits (reflecting utility companies' social obligations) alongside demand management. The initiative is being formally developed prior to being opened up through a public tender process. The proposed SCMZ model is described in Appendix 4;

- The Stakeholders all continue to endorse the coaching approach taken by the CEC trial and value the wider social benefits, as delivered alongside peak demand reduction, particularly those for vulnerable customers. There is continued support in principle for further collaboration to generate 'stackable' social impacts on a more cost-effective basis. Given the challenge of delivering a scaled up version of the CEC model cost effectively, this support is more likely to be actualised through the evolving SCMZ initiative led by SSEN in the near future rather than through any wider roll-out programme potentially linked to the wider community wellbeing / resilience agenda;
- Quantification of the value of social impacts remains a particular issue in relation to the measurement of cost effectiveness in any future collaborative work to generate stackable benefits (See Section 3.4.4, Final Report, June 2018);
- It was agreed that there are policy lessons to be learned from the CEC trial research and the wider SAVE project looking at its applicability to both energy / carbon policy and wider community wellbeing. The key principles underpinning the CEC trial could usefully be applied in a public policy context, notably (i) the value of a trusted local intermediary (ii) recognising the primacy of the community's role in driving behaviour change (iii) seeking to combine the service agencies' 'top down' interests with a community's 'bottom up interests to empower local change and (iv) the efficiencies of multi-agency / cross utility working.

### 2.4.3 What we concluded

From our follow up discussions with stakeholder partners, we concluded as part of the Review that:

- There is general consensus that the community coaching approach remains ground-breakingly good within the experience of the stakeholder partners involved. Project learning continues to be applied, both formally and informally, building upon the key principles of the CEC trial. The fundamental principle of recognising the primacy of the community's role in driving behaviour change remains the most difficult to subsume within routine operational practice;
- The Community Engagement Guidelines put together on behalf of the Stakeholder Group offer an agreed benchmark for future joint working by the stakeholder agencies involved;
- The development of the Social Constraint Managed Zone (SCMZ) initiative through SSEN provides a natural opportunity for BAU application of many of the lessons learned from the CEC trial and the wider SAVE project. Effective business case development will require a clear framework for evaluating the benefit of targeted / attributable social impacts;
- Alongside the SCMZ initiative which builds directly on the needs of the energy / utilities sector, there remains an opportunity for multi-agency collaboration addressing wider community wellbeing / resilience policy. Whereas leadership of the SCMZ opportunity lies clearly with the SSEN, agency capacity to pursue a wider civic responsibility agenda is less clear.

## 3 RECOMMENDATIONS

### 3.1 RECOMMENDATION 1: Community Engagement Guidelines

Given the level of positive support for the Community Engagement Guidelines put together on behalf of the Stakeholder Group and the associated evidence base built up through the research trial, it is recommended that SSEN and/or other partners within the energy industry should seek to establish an industry-wide protocol for future work within local communities based upon these Guidelines;

### 3.2 RECOMMENDATION 2: Social Constraint Managed Zones

The development of SCMZs, building upon SSEN's current Constraint Managed Zone initiative, offers the best opportunity for capturing and applying the learning from the CEC trial and the wider SAVE project in the immediate future. Building upon current CMZ application, it is recommended that SSEN should continue to explore the BAU case for an SCMZ initiative incorporating contributions from other stakeholders alongside commercial operators and looking at delivery of social benefits alongside demand management;

### 3.3 RECOMMENDATION 3: Evaluation of Attributable Social Impacts

Reflecting the experience of the CEC trial in generating social impacts (alongside core peak demand reduction), any similar engagement work targeting attributable social benefits will require a clearer framework for quantification and evaluation. This will potentially apply to both new initiatives such as SCMZs and also to more routine delivery against social obligations. As such it is recommended that SSEN and/or other partners should seek to establish the necessary consensus framework;

### 3.4 RECOMMENDATION 4: Wider Application of Research Learning

Although unclear at this stage who might lead it, there remains an opportunity for multi-agency collaboration addressing wider community wellbeing / resilience policy beyond the interests of the energy sector. Complementing the energy / utilities sector focus of the SCMZ initiative, this could facilitate further exploration of the fundamental principle underpinning the CEC trial approach, that is, recognising the primacy of the community's role in driving transformational behaviour change across a broader civic responsibility agenda. It is recommended that SSEN and/or other public sector partners should explore further options for resourcing follow-on work to assess the viability for BAU roll-out of such a programme.





## APPENDIX 1 – BSO PARTICIPANT FOLLOW UP SURVEY

BSO PARTICIPANT FOLLOW UP SURVEY					
Doorstep Interview Questionnaire Analysis, November 2018					
		Shirley Warren		Kings Worthy	
		% yes*	comment	% yes*	comment
1.	Do you remember joining in the event, 6-7 pm on 19 November 2017?	92		88	
2.	If so, what particular things did you do to reduce energy usage?		14 comments: <ul style="list-style-type: none"> <li>• Switch off lights etc x3</li> <li>• Not use appliances 6-7pm x7</li> <li>• As per Factsheet advice x2</li> <li>• Went out for evening x2</li> </ul>		14 comments: <ul style="list-style-type: none"> <li>• Switch off lights etc x5</li> <li>• Not use appliances 6-7pm x2</li> <li>• As per Factsheet advice x4</li> <li>• Went out for evening x3</li> </ul>
3.	Have you continued to try to reduce electricity consumption during the peak period – 4-8pm?	80		72	
4.	If so how?		12 comments: <ul style="list-style-type: none"> <li>• Generally economical x3</li> <li>• Changed eating times x3</li> <li>• Use slow cooker</li> <li>• Not use appliances 4-8pm x2</li> <li>• New LED bulbs</li> <li>• Have cut bills by 50%</li> <li>• Smart meter installed</li> </ul>		19 comments: <ul style="list-style-type: none"> <li>• Generally economical x5</li> <li>• Changed eating times x3</li> <li>• Batch cooking</li> <li>• Not use appliances 4-8pm x5</li> <li>• New LED bulbs x3</li> <li>• New boiler installed</li> <li>• Smart meter installed</li> </ul>
5.	(a) SWWT has organised another BSO event on 9 November. Will you be joining in? (b) If CKW organised another BSO event, would you join in?	76		80	
6.	Would you encourage others to reduce peak hour electricity consumption?	68		60	
7.	If so why?		5 comments: <ul style="list-style-type: none"> <li>• Because of substation peak issue x4</li> <li>• Environmentally sound</li> </ul>		12 comments: <ul style="list-style-type: none"> <li>• Because of substation peak issue x5</li> <li>• Environmentally sound x4</li> <li>• Save money</li> <li>• Community responsibility x2</li> </ul>

\* per 25 interview sample

## APPENDIX 2 – LEGACY PLAN UPDATES

ORIGINAL LEGACY PLAN - CONNECTING KINGS WORTHY	UPDATE: ONE YEAR ON
<p>Looking a year ahead, the CKW Development Group want to build on the neutrality of the CKW brand and see it used to underpin the 'specialness' of Kings Worthy as an active and 'connected' community. Specifically they want to:</p> <ul style="list-style-type: none"> <li>• Actively use the CKW brand to continue to promote both energy saving and wider environmental messages, including those started through SAVE;</li> <li>• See the Group continue to meet on a quarterly basis to provide a focus and drive to ensure the brand continues to be used/developed;</li> <li>• Use the CKW brand at upcoming Church and School fairs to promote specific community wide energy/environmental messages linked to the development of the 'Eco-Church' and school curriculum in the first instance;</li> <li>• Build on St Mary's Church's aim to become an 'eco' church and make the wider community aware of the background and potential impact along with opportunities for reinforcing energy and environmental messages/action;</li> <li>• Maintain use of the CKW website and FB page to promote associated local activity;</li> <li>• Building on a local visioning exercise, to create exemplar community buildings where the community can see for themselves the difference energy efficiency measures can make through for example. Solar PV and a public display unit;</li> <li>• Continue to look at the opportunity to develop a 'Sustainable KW' strategy which all groups could independently adopt as part of their BAU practice;</li> <li>• Work with the SSEN Customer Relations Team to update the parish resilience plan;</li> <li>• See the development of a SAVE app as a legacy of the project which would have a simple slide calculator to show impact in money saved of energy efficient actions undertaken for example slow cookers, shorter showers etc. This would require ongoing, external support;</li> <li>• Continue to receive support from WinACC for on the ground help to enable the group to deliver on these aspirations.</li> </ul>	 <p>CKW Facebook page actively being used to promote both energy / wider environmental / sustainability and community based issues</p> <p>Current group members have found it difficult to find a gap within the busy calendar of other regular group activity to suit all needs so attendance at meetings has been very low</p> <p>Continued promotion through Church Rep and coach's legacy activity</p> <p>Church Rep an active supporter of CKW and keen to see it continue – also now on the Parish Council so has other opportunities to encourage and broaden the reach</p> <p>Static webpage with an actively updated Facebook presence seen as the way forward.</p> <p>The Parish Council have agreed to install Solar PV on Tubbs Hall and are keen to demonstrate energy savings to the wider community</p> <p>This remains an aspiration but lacks the 'person' resource to promote and carry through</p> <p>Parish Council happy to engage but ball with SSEN CRT at present</p> <p>This remains too big an aspiration to achieve without additional ongoing external support.</p> <p>Ad hoc low key support available based upon WinACC's limited resources (former coach lives locally)</p>

ORIGINAL LEGACY PLAN - SHIRLEY WARREN WORKING TOGETHER		UPDATE: ONE YEAR ON
<p>Looking a year ahead, the SWWT Development Group want to see SWWT actively continuing to promote energy saving messages, including those started through SAVE, alongside activities to promote wider social benefit. In particular:</p> <ul style="list-style-type: none"> <li>• They want to see if they can undertake a BSO in November 2018 to build on 2017's successful event;</li> <li>• They want to continue to promote the 'can it wait 'til after 8' message and other energy saving messages to encourage people to use less at peak times but through regular 'touch point' activities rather than set piece events;</li> <li>• They would like to see a slow cooking club where people could learn how to use slow cookers and benefit from both the time, cost and energy savings to be made but would need some additional resource/staff/volunteer time to enable it to happen. If there was an opportunity to tie in with a 'healthy eating' type project to access additional help/support that would make it more achievable;</li> <li>• They intend to continue to undertake regular clean ups to reach further into the community helping to restore pride in SW and the way it looks;</li> <li>• They would like to see the new Community Café built at the front of the Action Centre and in operation – with an 'eco' focus (or similar) to actively embrace energy issues by using energy efficient appliances, looking at environmentally friendly use of disposable (compostable) cups and plates rather than using the dishwasher, possibly having solar panels to generate its own electricity, energy saving messages and information being available to users and so on;</li> <li>• They would like continued access to the materials designed for the project, for example, the fridge magnets, information sheets and so on;</li> <li>• They would like to invite Alan Whitehead (MP for Southampton) to talk to them about wider energy policy issues that they are interested in exploring as a result of the project, raising mutual awareness of the impact of energy and environmental policies upon local residents. They will look for a suitable opportunity to do this;</li> <li>• They would like to try and integrate energy into other community activities and make it something that they do across the board as a matter of course – embedding the learning locally.</li> <li>• Making the most of the links they now have with tEC, they would like to access energy efficiency support/ tie in with other available projects and with other organisations for broader support as needed;</li> <li>• They are happy to engage with SSEN Customer Relations team staff to look at community resilience planning.</li> </ul>		
		BSO event 2018 successfully took place on Friday 9 November 2018**
		These messages continue to be promoted through the Community café and other regular 'touch point' activities and with a recent newsletter delivered to all households
		This remains an aspiration but is a lower priority given the external resource required. Slow cookers continue to be used at lunch club and other community events, such as the BSO, so continue to be promoted informally through these activities.
		Clean ups continue to take place on a 6 weekly basis with the last one on the 17 November 2018
		Background work continues to get local councillor and pre-planning support for a modular café at the front of the centre but a % of match funding is needed prior to submission of a grant application for capital funds and this has yet to be raised.
		A stack of materials were ordered before the end of the project to ensure continued access and were in evidence at the BSO
		NEL invited Alan Whitehead to attend a final Stakeholder review session hosted, by agreement, at the SW Action centre by the SWWT team providing an opportunity for a sharing of learning from the trial and for a wider policy discussion.
		This occurs naturally through the community café and other regular SWWT and church activities
		Money Saving event organised by tEC to support BSO on 9 November 2018. Ongoing individual household advice continues to be available to SW residents as well as general support for SWWT activities
		SWWT happy to engage – ball with SSEN CRT at present.

\*\* high level analysis of the impact of the repeat BSO event as measured at substation feeders is attached at Appendix 5



## APPENDIX 3 – COMMUNITY ENGAGEMENT GUIDELINES

### COMMUNITY ENGAGEMENT GUIDELINES

#### An opportunity for stakeholder endorsement of good practice lessons from the SAVE Community Energy Coaching Trial

Given the very positive feedback from residents and stakeholders alike to the coaching approach, SSEN and its partners in the SAVE Project Community Energy Coaching (CEC) Trial are pleased to endorse a set of good practice guidelines for successful community engagement.

Key learning from the trial has been distilled down to 5 headline guidelines to underpin efforts to achieve deeper and more sustainable behaviour change through community engagement:

- Understand the local agenda before seeking to introduce your own – ‘top down’ information or community campaigns typically start with the agency-led issue that needs to be addressed and can take relatively little account of (i) the complementary needs or interests of the recipient community (ii) the context in which communication will be received and (iii) the corresponding willingness or ability of residents to engage or act. By starting from the ‘bottom up’ and understanding the needs and aspirations of the target community, ‘top down’ campaign messages can be tailored to suit, with willing community partners sharing ownership of the issue. ‘Earning the right’ is key;
- See the community as part of the solution not part of the problem – often the people with the better ideas for addressing a problem will be those closest to it. Using a co-design approach can harness the expertise of ‘in house’ industry experts along with the wider knowledge and experience of local stakeholders and residents. Blending different perspectives into locally tailored solutions will provide more traction and greater local buy-in than something perceived as ‘imposed’ or ‘parachuted in’. It is more likely that customers will respond badly or not at all, if they feel ‘done to’;
- The need for change does not lie only within communities – service organisations and public agencies can subject communities to an ongoing cycle of change requests: ‘eat more of this’, ‘less of that’, ‘use less of this’ and ‘save more of that’. The expectation is that the need for change lies within each individual, household, community but rarely within the organisations and agencies themselves. If we really want to create new social norms we need to interact positively with those we seek to change and be prepared to change ourselves and our traditional ways of working in the process, taking time to appreciate local circumstances and build mutual understanding;
- No one size fits all - communities are multi-faceted and complex. From a local perspective a single issue, ‘silo’ tick box approach to service delivery and problem solving is likely to be perceived as a frustrating waste of time. For an effective appreciation of the core needs within a community, engagement needs to be sustained and relatively non-prescriptive with an opportunity to involve a range of service providers who, acting together, can make a real difference against a commonly agreed agenda;
- Ensure wherever possible that the importance of consistent relationship building is not always superseded by urgent operational demands – a bottom up, co-design approach takes time and commitment to deliver results and consistent success is based upon the quality of the relationships that can be developed and maintained. Trust in service agencies is slow to be established at the community level but quick to evaporate when commitments made routinely give way to other urgent operational demands.

These good practice guidelines will typically apply in all operational situations involving groups of customers and are likely to be of particular relevance to utility companies and their partners in seeking to deliver core social obligations in a more meaningful and sustainable way. The CEC trial has demonstrated that in adopting a more collaborative, multi-agency style, the positive outcomes of community and customer engagement can be both more effective and more durable.



## APPENDIX 4 – SOCIAL CONSTRAINT MANAGEMENT ZONE (SCMZ) MODEL

SSEN's SCMZ model is designed to take learning from the SAVE project to improve and open the DNO's flexibility procurement to locally based and socially oriented organisations. This will allow for a fair and visible procurement process for such organisations to compete for flexibility alongside larger flexibility providers who have typically dominated the market.

Prior to the innovation of SCMZs SSEN procured its flexibility through a service called Constraint Managed Zones (CMZs). CMZ's have typically been identified in areas of the network whereby network capacity triggers have signalled load-growth on a substation that could take it beyond capacity in the near future. This would traditionally be managed through network reinforcement. A CMZ looks to allocate a provision of the funds that would be used on reinforcement (based on the net present value of postponing reinforcement for the duration of a CMZ term- typically 4-6 years) to provide a price ceiling in which network service providers (that is, battery providers, aggregators etc) can competitively tender to provide their solution as an alternative means of managing peak demand.

As the SAVE project trials have progressed SSEN has (i) been able to evidence that energy efficiency and domestic DSR can actively impact the network (particularly the project's LED trials which have attributed a 5-7% reduction in domestic peak demand); (ii) provided evidence into the value and capacity for stakeholders to work together in community energy efficiency initiatives, laying a blue-print for stacking benefits and collaborative working to rollout network management solutions (see SDRC 8.8 Community Energy Coaching Final Report, June 2018).

Taking this learning into business as usual through SCMZs, SSEN is working to ensure that community groups have visibility of the DNO's need for flexibility and are stimulated to both be able to participate, and build collaborative (co-design/stacked) business cases to deliver flexibility services directly to the DNO. For instance a local council might be rolling out energy efficiency across their borough, it may be that an SCMZ provides a geographical price incentive for them to increase their energy efficiency campaign across the households served by the DNO's SCMZ site, allowing the council to stack funding for their initiative and expand it. Through market stimulation the DNO may even be able to facilitate collaboration with wider service providers, such as gas and water utilities to rollout joint utility customer benefits allowing for access to even more revenue streams and a more competitive/cost-effective network management tender. Market forces of a competitive tender process would drive price and allow the DNO to procure the most cost-effective and/or socially optimal solution to manage their SCMZ.

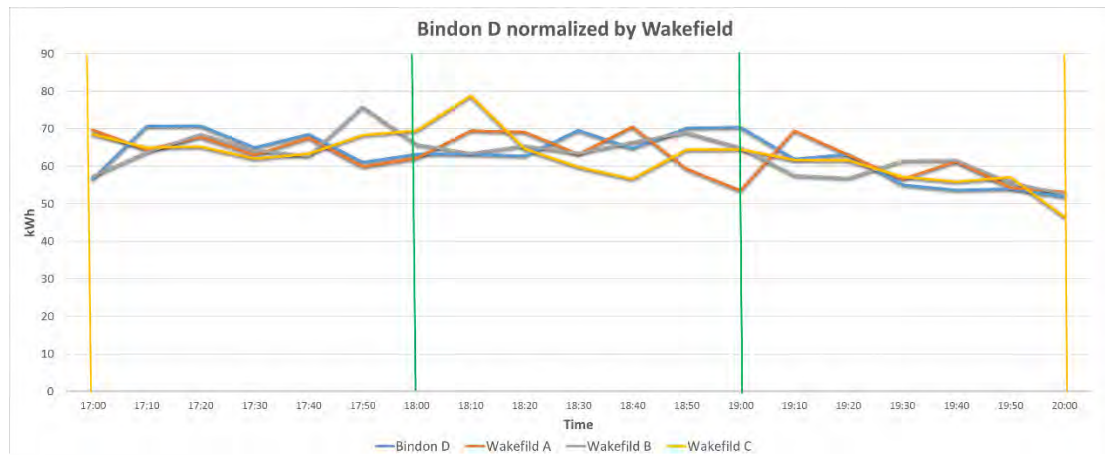


Figure 4 Bindon D: the graph shows the trend of consumption on the trial day for the feeder Bindon D normalized by Wakefield A, B and C

## Overall Findings

Overall, the analysis has shown a higher consumption on the trial day, compared with the week before and week after for Shirley Warren as a whole. Looking at individual trial feeders, it is possible to observe for Bindon substation that usage drops by 30 and 10 kWh on the trial hour compared with the week before and week after respectively, however such reductions were not seen when comparing to other variables and hence outcomes remain inconclusive. The qualitative work completed in the report above, supported by anecdotal evidence in this appendix reinforces the encouraging level of continuing commitment to reduced peak consumption.