LCN Fund Full Submission

Supplementary Answer Form

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Project code:	SSET206	Question Number	1
Question date	20 August 2013	Answer date	22 August 2013
Submission section question relates to	2. Project Description		
Topic	Replication of studies		
Question	How has the DNO confirmed that the trials do not replicate studies conducted by other learning or industry bodies?		
Notes on question			
Answer	SEPD has carried out a review together with DNV KEMA, ELEXON and the University of Southampton to understand the appropriate starting point for these trials to ensure that they build on existing knowledge without unnecessary replication. In the UK the uptake and impacts of energy efficiency measures (such as LED and demand shifting) have not been trialled by DNOs at scale and in combination to prove their capability for reducing network costs. We have ensured the project does not replicate studies by working with experienced partners who have an excellent level of current and previous relevant research, and consequently are aware of the knowledge gaps and questions that the project should look to answer. An example of this is the University of Southampton's Dr P James, who leads the build environment research portfolio of the Faculty of Engineering and the Environment's Sustainable Energy Research Group. Dr James leads the building energy work packages within the EPSRC TEDDI funded 'Intelligent Agents for Home Energy Management' project, and the ESRC funded project 'The Role of Community-Based Initiatives in Energy Saving'. He has also acted as an energy expert for DECC's Big Energy Shift project. In addition ELEXON undertook a systematic review of previous LCNF Tier 2 projects and bids, looking at the key learning outcomes and taking into account what has been published to date. The review analysed which projects involved the key themes of tariffs, public engagement, Low Carbon Technology trials and monitoring equipment to avoid duplication of learning.		

	As a result of this review process the trials have been designed to add to existing learning and knowledge by answering questions like: - is individual engagement more cost effective than community based engagement in facilitating energy efficiency? - to what extent can DNO incentives prompt customers into action and ensure energy efficiency is implemented? - are commercial energy efficiency incentives more effective when paid directly from the DNO or via an energy supplier? - how do customers react when a DNO shows a willingness to invest in energy efficiency measures beyond the meter, such as LED lighting? Review of previous knowledge has shown these are questions which have not been addressed by previous studies. Importantly other projects have combined customer engagement with technology and tariff trials, making it difficult to isolate the influence of each factor. In order to give this visibility the University of Southampton have proposed a factorial design to enable the impact and resulting value of each energy efficiency measure. The sample sizes and random selection methods based on demographic data, recommended by the University of Southampton, will provide visibility of the effects of measures individually and in combination, with a high level of statistical robustness. The trials will enable us to create a unique customer model to predict behaviour change based on socio-demographic characteristics. The approach to recruitment will also utilise an accredited market research agency, employing an expertise not found in DNOs or Suppliers. Evidence from previous research (e.g. DECC's Evaluation of the delivery and uptake of the Carbon Emissions Reduction Target) suggests that financial issues alone are not necessarily the only inhibitors to energy efficiency implementation. While a range of previous projects have investigated community energy efficiency measures, the recent DECC study, Community Energy in the UK: A review of the evidence, found that there is a lack of robust evidence on the impact of community energy projects which is unlikely to be filled without further empirical research. The SAVE project will investigate how DNOs can work with community-based partners to encourage energy efficiency behaviours at the community level and quantify the network impacts and costs of this type of approach. The overall trial design will also allow comparison of the impacts of community-level engagement with the other methods focussed on individual households. A review of global initiatives showed that in the US many utilities have explored providing incentives to customers to implement energy efficiency, leading to cost savings for the customers and utility alike. However, since these examples are with vertically integrated utilities and aggregators that have well-established and direct customer relationships it would be inaccurate to draw immediate parallels. In GB, DNOs do not currently have the same type of customer relationships; customer interaction is generally limited to interruptions and connection provision therefore it is more difficult for DNOs to offer incentives for energy efficiency in a fragmented energy supply chain. The SAVE project will explore opportunities for new incentives for energy efficiency provided by

	DNOs either directly or via partners (energy suppliers and community-based partners). Review of previous LCNF Tier 2 projects that have incorporated the use of Suppliers and Time of Use tariffs has also informed our project design. For example, in the LCNF project SoLa BRISTOL a number of tariffs were researched, including a simple tariff discount for customers installing solar PV and a storage system, thus encouraging customers to be early adopters of the technologies. The Customer Led Network Revolution (CLNR) project trialled an innovative dynamic time of use tariff for demand shifting, however the demographic was not representative of the population as a whole- simply one large supplier's smart-meter population at that point in time. By contrast, the SAVE project will recruit a representative sample of trial participants, using a market research agency for Methods 1-3 to ensure a structured approach to recruitment and appropriate coverage of different socio-demographic groups. For Method 4, recruitment will be supplier-led with guidance on socio-demographic groups from the market research agency; by working with a diverse range of suppliers rather than just one, as in the CLNR project, results will be more representative of real market conditions and therefore potential GB roll out. Finally our community based trials will use a similar approach to select two communities with contrasting characteristics, which are representative of communities across the study area. This robust approach to sampling will enable learning to be extrapolated and applied to other network areas. The SAVE project will also trial commercial incentives of different scale and duration, as opposed to a single tariff or other commercial incentive. By offering a range of incentives, and working with a range of suppliers to do so, this presents an opportunity to learn about challenges of implementing Half Hourly settlement and billing for Time of Use customers in large and small suppliers, as well as whether there are differences in the behaviours of customers with different supplier types. Finally this is the first time that ELEXON will be involved in the planning and evaluation of trials so that the impact of dynamic Time of Use tariffs and Half Hourly settling on balancing and settlement systems can be scrutinised in more detail, leading to more comprehensive evaluation of the outputs and practical insight into the consequences for the Balancing and Settlement Code (BSC), and regulatory and incentive mechanisms to be considered by Ofgem, in relation to both the networks and markets regulatory regimes.
Attachments	
Verbal Clarifications (Consultants)	