Know What Buttons to Push - Key Behavioral Change Learnings for Energy Efficiency

SAVE: a UK Network Operator Energy Efficiency project

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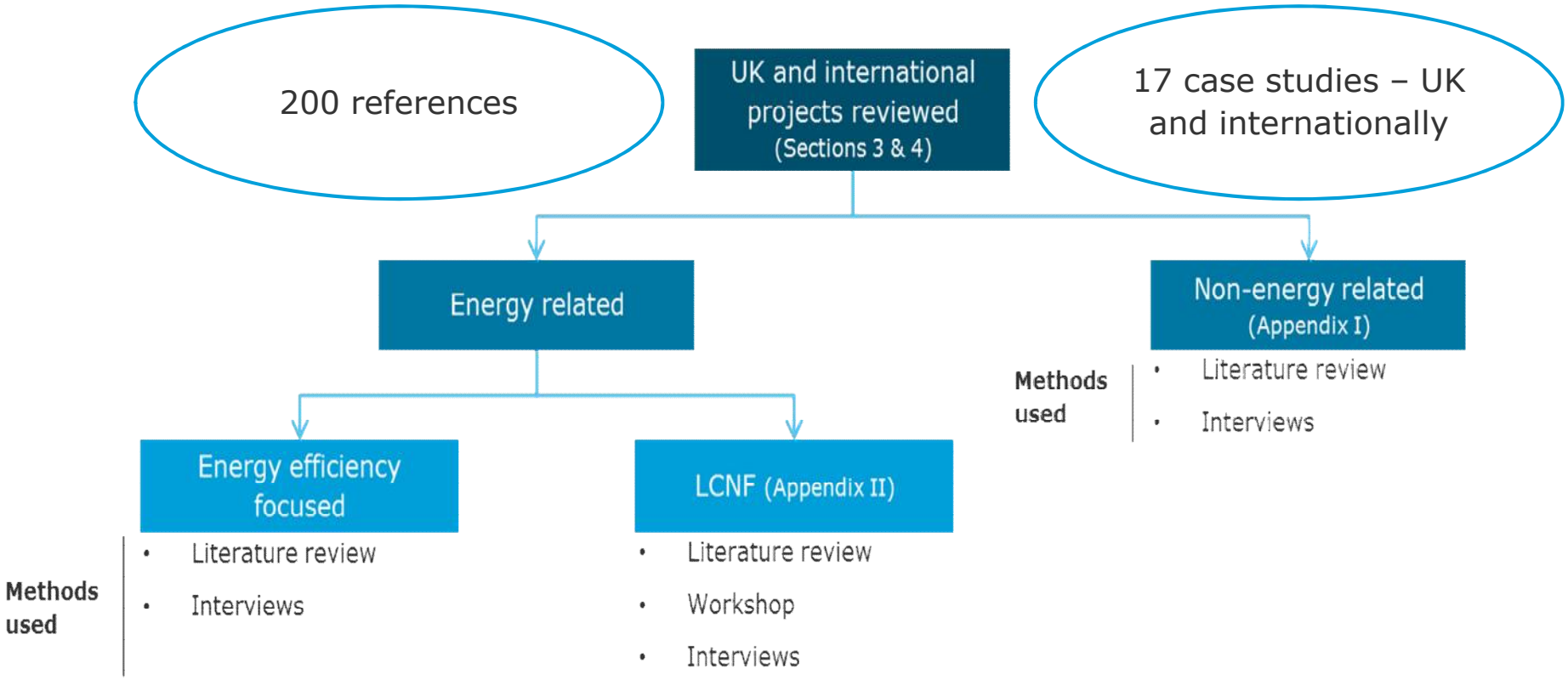
Solent Achieving Value from Efficiency (SAVE) project

- SSE's Low Carbon Network Fund project
- Valued at £8.3 million, started in 2014.
- Aims to:
  - Use targeted energy efficiency measures with domestic customers in the Solent (South England) region;
  - Quantify customer responses to a range of approaches;
  - Develop a 'Customer Model' to explore the potential effects of a range of intervention scenarios
  - Develop a network planning tool that incorporates the learning from this and other trials.
- The project focuses on local domestic customers, who will be offered new energy efficiency technology to trial in their homes and incentives for making long-term changes to their energy usage behaviour.

First task: international review of best practices on residential customer engagement approaches

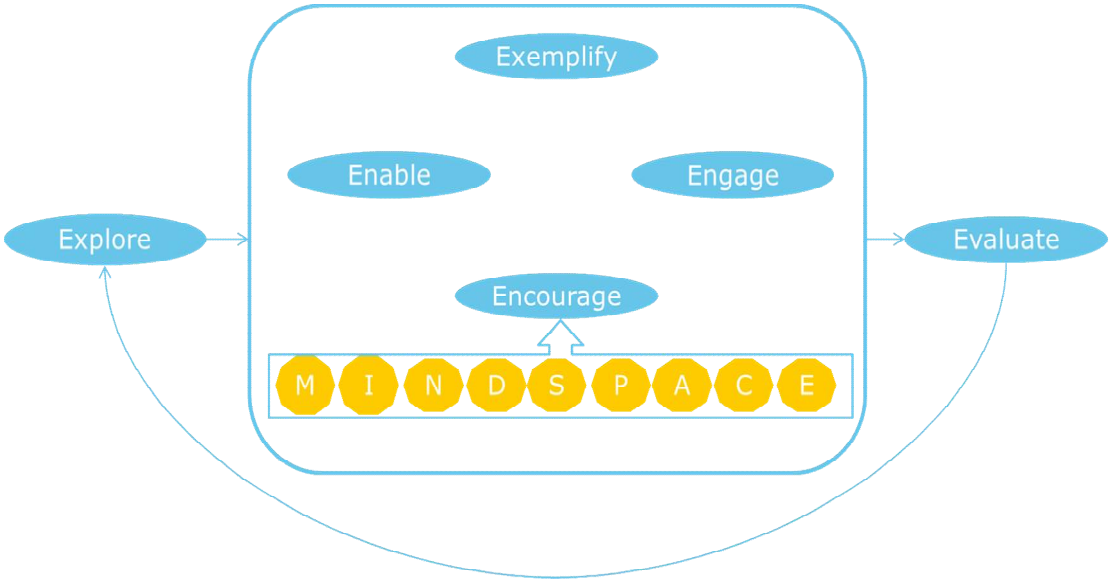
Review spans diverse geographies (USA, Europe and Australia) and, hence, multiple cultures, climate conditions, and regulations.

Overview of the categories of projects reviewed and the methods used



The nine most robust influences on human behavior were used as a checklist

The 6Es Framework - MINDSPACE



Explanation

Messenger

Incentives

Norms

Defaults

Salience

Priming

Affect

Commitments

Ego

General observation

- Projects reviewed repeatedly demonstrated that customers need **more than one** reason to engage and change behaviour
- First three elements of MINDSPACE,
  - Messenger,
  - Incentives and
  - Norms,

  seemed to be the most frequently used to influence behavior in the energy efficiency context, with the remaining ones playing a supplementary role

Key Behavioral Change Learnings for Energy Efficiency (1)

CUSTOMER SEGMENTATIONS

- differences in energy use
- personal values; and
- preferred methods of communication

CUSTOMER EDUCATION

- through a combination of physical equipment, information and advice.

TRUSTWORTHY MESSENGERS

- not necessarily found in one entity
- partnership between energy companies and trusted groups (e.g. local organisations and community groups)

FINANCIAL INCENTIVES

- can be effective, but
- need to be relatively large and impacts are often not sustainable over time

Programme	Basis of Segmentation
SEAS – NVE (Denmark's largest energy company)	Personality types (the Critical; the Dreamer; the Basic; and the Local)
Gentoo Energy Saving Bundles	Values modes
E-Source – Nielsen Claritas	Perceived receptiveness to energy efficiency interventions

A good British example:

Sunderland based housing association Gentoo

- very high take-up of rates for EE schemes, in some cases as much as 100%.
- Face-to-face engagement and support for consumers throughout the process
- Recruitment of a respected figure within the community → managed to increase participations rates within their particular area from 26% to 96%.

Key Behavioral Change Learnings for Energy Efficiency (2)

NORMATIVE COMPARISONS

- based on intelligent like-for-like comparisons

OPT-OUT DESIGNS

- typically more effective than opt-in approaches
- for example, if offering energy advice visits or competitions.

SHARING INFORMATION TECHNIQUES

- Novel and creative techniques for sharing information, effectively capture customer attention

BALANCE BETWEEN POSITIVE & NEGATIVE MESSAGING

- Use of negative concepts such as ‘waste’ or ‘loss’ in balance with making customers feel good about themselves

Key Behavioral Change Learnings for Energy Efficiency (3)

CUSTOMER COMMITMENTS

- setting goals and targets can be very effective to longer-term behavior change
- But, often need strong incentives to give them meaning

LEADING BY EXAMPLE

- improves the perception of customers and
- increases the credibility of the project and its communications.

ANALYSIS OF EE RESULTS

- within the context of wider factors
- the wider economic and regional context,
- the number of participants and
- the level of focus on peak demand.

Next Steps

- Report submitted to Ofgem (UK Energy Regulator) and expected to be published in the beginning of next year
- Review undertaken will provide the evidence base for developing customer engagement trials in the SAVE project
  - High level design of trials in March 2015
  - Detailed design of trials by December 2015
  - Actual implementation starting in January 2016

Thank you!

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SAFER, SMARTER, GREENER

Project Review Template (1)

Overview	
Programme:	Gentoo Retrofit: Retrofit Reality, PAYS, The Energy Saving Bundle
Country/region:	Sunderland
Period covered:	2008-2011
Stakeholders	Gentoo Group (lead), DECC, Energy Saving Trust
Background:	Gentoo is a social housing provider with 29,000 properties and 70,000 residents. Having met the Decent Homes Standard five years ahead of schedule, in 2007 they set their sights on improving the sustainability/energy efficiency of the properties they owned. They executed this via a series of retrofit pilot projects, which tied in with the evolving policy landscape, and the development of the Green Deal. These projects are viewed by Gentoo as part of a learning 'journey'. The projects covered a number of retrofit measures including boilers, glazing, insulation and PV. There was also major ongoing emphasis on engaging with residents and changing their behaviour.
Aim of customer engagement activities:	Retrofit Reality: exploring how to make retrofits 'people friendly' PAYS: investigating if customers are prepared to pay a contribution towards cost of energy efficient measures The Energy Saving Bundle: testing the Green Deal model across whole neighbourhoods.
Sample size:	Retrofit Reality: 139 homes PAYS: 119 homes The Energy Saving Bundle: 1200 homes
Explore	
Is there any customer categorisation in advance?	All customers are in social housing and a number are fuel poor/on benefits. To begin with, categorisation was based solely on property type and retrofit measures required. More recently, some attitudinal targeting has been developed: • Attempts to categorise tenants as Pioneers, Prospectors, Settlers • Different types of collateral available for those who are very engaged and those who are less so although no results available on the effectiveness of these developments as yet
Enable (technical and physical interventions taken to change behaviour)	
What different technical or physical measures are offered?	Retrofit Reality: PV, boilers, double glazing, EWI, efficient showers PAYS: Boilers, TRVs, heating controls, lighting, double glazing, electric fires, PV, EWI, low flow water appliances, personalised energy reports to help customers with budgeting The Energy Saving Bundle: Boilers, double-glazing, PV (in various different combinations). N.B. included comms to encourage PV customers to use appliances when sun shining.
What practical and structural barriers are identified?	Numerous practical issues to do with resident engagement/installation e.g. liaison between technical staff and residents/lack of room for extra kit in houses/predicted vs. actual savings/challenges of people living in fuel poverty/people not understanding how to use new kit (e.g. not used to thermostat controlled heating)/challenges of co-ordinating visits.
What is done to alleviate the barriers?	Majority of issues successfully dealt with via painstaking engagement and hand-holding with residents. Mainly face to face, via visits to homes, in most cases by the same individual every time (backed up by a dedicated team in the office – the total size of team is 26). Plus in depth surveying of all properties in advance and using tried and tested installers.
Encourage (Individual and/or potentially personalised interactions with customers)	
What methods are used?	Information: Most common process used is a letter followed up by a visit (in some cases organised in advance by the customer ringing the office). Literature also left and where necessary discussions with family and friends also took place. Emails and texts have been used, to date less successfully although they recognise they are still learning about these methods (63% of tenants do not have broadband but most have smartphones). A letter with a reminder text proved successful. Word of mouth is important as these pilots have taken place in a small area. Behavioural advice was key alongside actual installation. Incentives: Free Energy advice kits including low energy bulbs and a Radiator Fan worth £50 have been given away in one trial. In another, customers were given £1 each time they submitted a meter reading.

Project Review Template (2)

How is the MINDSPACE applied in these methods?	M: Key in all these activities as Gentoo are well known and trusted by their residents. In one particular location, people would only respond to a community representative from that exact area and were put off by the appearance of someone in a suit (even though they were from the next door town). I: See above. Not a major element of strategy and in most cases people were being asked to make a contribution to measures. N: Played a big role in the take up of solar PV. To begin with this was a hard sell but when it became more normal residents started to request it to be like their neighbours. D: When a new tenant moves in, an energy advice visit is automatically arranged and they have to opt out if they do not want it. S: N/A P: N/A A: N/A C: Customers participating in schemes sign up to take part in ongoing data collection, get a certificate and can make 4 pledges around future behaviours. Those who received the Energy advice kit had to agree to install the contents and to follow up visits to check progress. E: N/A
Engage (Group interaction/feedback from customers)	
What engaging activities take place?	Community workshops/events (publicised by letters/posters). Discussions also took place in regular tenant meetings. Liaison with local newspaper to raise awareness. Tracking levels of engagement based on interaction/surveys.
Are these methods successful?	Dedicated events have been successful when they took place at a small scale in places where people were going anyway (e.g. the housing office). When larger events were organised in harder to access locations (e.g. a sports hall) turnout was very poor. This was partly due to logistics but also because a 'green' message was not appealing and conferred no personal benefit. In future, the plan is to piggyback on existing events.
Exemplify	
Does the organisation leading the project adopt the same behaviour that it suggests?	Major focus on setting the right example. Gentoo has a fleet of electric vehicles, has PV on the rooves of their own buildings and are currently exploring activity around growing fruit and veg in community.

Project Review Template (3)

Evaluate (Quantitative and qualitative evidence)	
What methods are used to assess the impact of different approaches?	Retrofit Reality: 5 different packages tested. Monitoring actual energy use (via meter readings) and energy costs, pre and post survey of attitudes and behaviour (by Northumbria University) although the sample size for this appears to be very small, much anecdotal feedback to staff. PAYS: 4 different packages of measures tested. Pre and post analysis of consumption and bills. Customer satisfaction survey and qualitative feedback. The Energy Saving Bundle: 'Green Debate', general survey of 600 customers prior to creation of project. Questionnaire covering the experience as well as wider attitudes. Quantitative data including meter readings and occupancy data in a sample of 38 properties for one year pre and one year post, in depth monitoring of property archetypes by BRE, data loggers to understand heating habits in relation to outdoor/indoor temperatures. Comparisons made with predicted EPC figures. Plus: health impact assessment, analysis of reasons why some households did not join the scheme.
What is the impact of particular behaviour change effects relating to elements of MINDSPACE?	Hard to ascribe different impacts to specific MINDSPACE interventions using quantitative data. However, Messenger (trusted nature of Gentoo, ability to deal face to face and willingness to use local ambassadors) was key. The need for relevant local messengers was demonstrated by the success achieved in one area where local person was introduced, increasing take up from 26%-96%. Norms was a powerful factor too, with most of the projects ending up with very high take up across small communities. For example in one location, 47 bungalow residents were offered EWI. Initially only 45 agreed, but on consideration the final 2 did as well. It should be noted that the particular nature of the relationship between a progressive social housing provider in a concentrated area where they are well known means that they have many advantages versus those going in 'cold'. Considerable energy savings were achieved by all 3 projects. It is not possible to separate out the effects of installing measures vs. behaviour changes although it is interesting to note that in all cases RdSAP predictions of savings proved unreliable. With Retrofit Reality, overall energy consumption was reduced by 25%. In the case of the Energy Saving Bundle, 3 out of 4 bundles demonstrated a significant reduction in electricity use between 28 and 31%.
Do different customers behave differently?	Fuel poor customers tended to take 'comfort' benefit rather than save energy/reduce bills Not all customers were budgeting for their energy use, although we do not have evidence on how they can be identified (PAYS) Some behaviours very ingrained and hard to change (e.g. customers who has electric fires) Main evaluation is across different packages rather than different customer types.
How impact varies over the longer term?	Longer term impact not measured. However across the projects, energy savings from measures tended to be lower than those predicted by RdSAP (partly because fuel poverty means many customers using less than predicted beforehand).

Summary (Key learnings and evaluation of the robustness of the study – our view)

Gentoo report that customer behaviour was as central to achieving energy savings as the installation of measures themselves and in many cases a lot of help was needed by residents to get the best out of new kit. Customer feedback data is more anecdotal than the energy saving statistics and in many cases only a small sample of homes were properly monitored for either. However, there is a very good sense of learning from all projects and a dedication to addressing challenges and being open about successes and failures.

A striking aspect across all projects is the incredible level of success in recruiting residents to take part in the schemes (in some cases, groups of customers even approached Gentoo directly). Many of the projects therefore achieved 100% take up, which is virtually unheard of. This appears to be down to the personal hand-holding and significant resource devoted to these projects by Gentoo.