



Department for
Business, Energy
& Industrial Strategy

Non-Domestic Smart Energy Management Innovation Competition

Interim Executive Summary report from
NDSEMIC's Research & Evaluation
Programme

August 2019



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Executive summary

The Non-Domestic Smart Energy Management Innovation Competition (NDSEMIC) aims to maximise the potential for energy saving in three priority sectors (hospitality, retail and schools). To do this, it has developed energy management products and services that use smart meter data to help organisations to manage their energy consumption better.

NDSEMIC's Research and Evaluation Programme (REP) is a parallel two-year programme to draw out evidence about what's effective for delivering energy saving and explore with stakeholders how to drive broader market transformation. This half-way report summarises early learning on how best to engage customers in the target sectors with smart offerings, as well as outlining how the REP will engage wider stakeholders to generate further learning in Phase 3.

Introduction

1. Smart meters are being rolled out to homes, small businesses and schools across Great Britain, and are essential for the upgrade of Great Britain's energy grid. They deliver a range of benefits to consumers, and help pave the way for new services and technologies and a low-carbon future. NDSEMIC is an £8.8 million competition being led by the Smart Metering Implementation Programme within the UK Government Department for Business, Energy and Industrial Strategy. It aims to leverage the roll-out of smart meters, support innovation and stimulate market development.
2. NDSEMIC is supporting the development of innovations which use smart meter data to provide smaller non-domestic energy users in the retail and hospitality sectors and in schools with tailored, actionable insights. These are designed to help users to manage their energy consumption better and thus maximise the potential for energy savings in such organisations, which generally lack on-site capability in energy management.
3. The competition began in March 2018 and runs until January 2020. Seven Competition Partners have progressed to the final phase of NDSEMIC and are piloting their innovations in a real-world setting. The Competition Partners are:
 - *AND Tr*, developing a solution called 'AEMS'
 - *Considerate Group*, developing a solution called 'Flutter'
 - *Element Energy*, developing a solution called 'E-CAT: Energy Comparison & Advice Tool'
 - *Hildebrand*, developing a solution called 'GlowPro'
 - *Hoare Lea*, developing a solution called 'Untapped'
 - *Samsung*, developing a solution called 'Energy in Schools'
 - *Transition Bath*, developing a solution called 'Energy Sparks'
4. The Research and Evaluation Programme (REP) runs alongside the Competition and is being led by Ipsos MORI along with Carbon Trust and representatives from Technopolis and Loughborough University.

Key objectives of NDSEMIC programme

Develop **innovative and easy-to-use data tools and services** (such as online platforms, apps and behaviour change interventions) which are **tailored** to the requirements of the target segments, **add value** to smart meter data and **facilitate user engagement**.

Develop **packages of complementary interventions and support mechanisms** (such as advisory and training materials and case studies) tailored to the requirements of the target segments which **drive the uptake and effective use** of data products and services.

Secure **earlier and greater levels of energy management activity** within the key segments, leading to **reduced energy costs and carbon emissions**.

Develop and strengthen the market for energy management products and services for smaller non-domestic consumers by **reducing the barriers to / stimulating the market** for organisations developing solutions.

5. The seven projects range in format of intervention (from mobile apps to online sites and pupil-based activities in schools), target organisation (from microbusinesses to chains or shopping centres), target user (from staff to business managers or front-of-house staff) and how behaviour change is targeted and encouraged (including different styles of gamification). More details on each of the seven Competition Partners' projects, including anticipated project-specific benefits and piloting proposals, can be found on NDSEMIC's GOV.UK page¹ and in the full version of this report.

Engaging non-domestic customers in energy data – interim learning

6. Concept and user testing research conducted within NDSEMIC to date has explored how best to *garner initial interest* in energy management and encourage uptake of smart meter enabled solutions, as well as *catalyse appropriate energy efficient actions* based on the information provided to users. Early findings to date, which are based on small-scale user testing and input from expert stakeholders, are summarised below.
7. **Key message hooks** that may encourage engagement with energy data and smart metering across the target sectors of schools, retail and hospitality include: highlighting how energy data can help customers to feel in control of their energy use and costs, avoid unexpected bills, become more eco-friendly and enhance their reputation and environmental credentials; make the lives of staff easier; support organisations to operate more effectively and save money; and help future proof their organisation. Sharing relevant case studies of other similar customers benefiting from such data can also be a powerful hook for engagement. Examples of further learnings which are likely to be of specific relevance to either schools or retail & hospitality businesses, are given below:

¹ www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition

Example Learnings from Schools	Example Learnings from Retail & Hospitality
<ul style="list-style-type: none"> • Linking the offering with creating a more comfortable learning environment can help increase interest. • School caretakers and site managers may be especially motivated by messaging around improving the ease of maintenance. • Schools are enthusiastic about the idea of 'badges' around energy efficiency, as a source of pride and to act as a recruitment tool for teachers and to attract parents / pupils. 	<ul style="list-style-type: none"> • Customer comfort is paramount, so linking the offering with creating a more comfortable operating or working environment can help increase interest. • Highlighting money saving opportunities expressed in equivalent revenue terms may increase the likelihood of gaining attention. • Highlighting the opportunity to reduce operational risks through faster diagnosis of equipment or process issues (such as avoiding loss of stock) may also be effective.

8. **Key times to approach organisations:** Targeting decision windows and avoiding peak or otherwise unsuitable times will likely prove more impactful in driving engagement.

Example Learnings from Schools	Example Learnings from Retail & Hospitality
<ul style="list-style-type: none"> • Target decision windows, such as summer planning. • Avoid approaching schools during the busy months of June and July (exam period), September (new year set-up period) and December (Christmas). August can be a bad time to engage teachers but can be a good time to approach estates teams. 	<ul style="list-style-type: none"> • Key times to approach include; when registering a new business, when opening a new brand, during energy contract renewal and during quieter periods (e.g. January for hospitality). • Key times to avoid include; November – December (very busy period for sales / bookings) and peak times of day (e.g. mealtimes in restaurants, Saturdays in retail, weekends in pubs).

9. **Key actors to engage:** Evidence generated by NDSEMIC to date suggests that engaging key decision makers is likely to be required to drive action (such as head teachers, business managers and business owners) but that using the internal influencing power of non-decision-making actors (such as caretakers, supervisors and customer-facing staff) can also be effective in encouraging organisations to take energy saving action. Other actors, such as energy suppliers and brokers, Local Authorities and trade associations, can also influence decisions.

Example Learnings from Schools	Example Learnings from Retail & Hospitality
<ul style="list-style-type: none"> • Head teachers and business managers are the key decision makers with control of the budget and lead decisions relating to operations, investments and policies. • Deputy Heads and new teachers are potentially key individuals to take new initiatives such as energy efficiency forwards. • School building users have more ability to take localised actions to save energy through behaviour change, e.g. a teacher controlling the temperature in their classroom. • Site or estate managers or caretakers will have responsibility for managing the site and communicating with building users directly about energy efficiency actions. 	<ul style="list-style-type: none"> • In many small businesses, the owner or co-owner is often the sole decision maker and likely to be the primary user of smart meter data and an energy management solution. • In larger businesses, a manager may have responsibility for paying bills and making procurement decisions. Managers are also likely to be the primary users of smart meter data and energy management solutions. • Other actors identified who may have influence over both decision makers and energy users include; site managers, property managers, security staff and managers within kitchen / housekeeping teams.

10. **Key functions to offer within solutions:** Functions enabled within energy management solutions need to provide users with the motivation, capability and timely opportunity to act². At this early stage of testing, promising functions include showing energy consumption and potential savings in pounds and pence and broken down over time and for specific zones (e.g. kitchen), as well as presenting ‘average’ consumption figures against relevant benchmarks or industry metrics. Budgeting tools with alerts, tailored and shareable energy tips and impacts also have potential to incite action, particularly if these are linked to the standard routines and activities of the user.

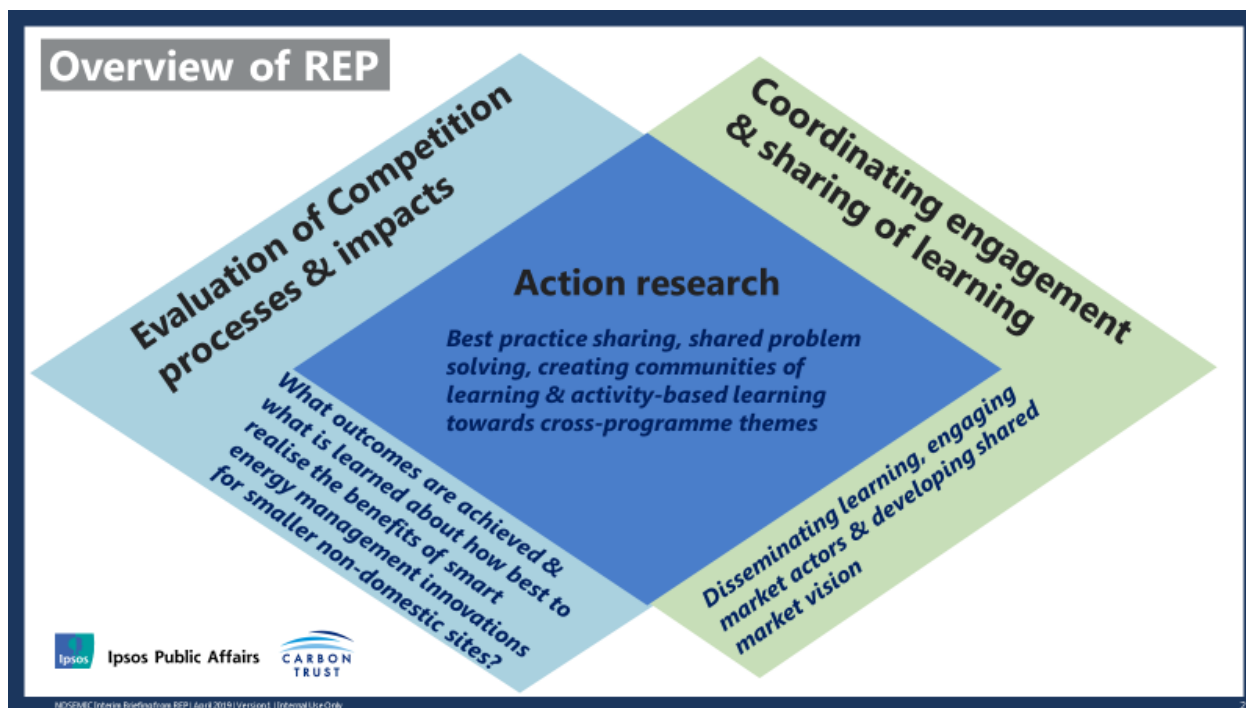
Example Learnings from Schools	Example Learnings from Retail & Hospitality
<ul style="list-style-type: none"> • Key staff may have limited knowledge of energy; clear tips with actionable steps may help them to make changes. • Including zero-expenditure actions (e.g. changing heating control settings) may prevent disengagement when no funding is available to implement higher cost measures. • Signposting within a solution to potential sources of finance for energy efficiency improvements may also support schools to pursue action. • Gamification approaches have potential to encourage behaviour change, fostering competition between classes or between schools. 	<ul style="list-style-type: none"> • Providing a snapshot view of current energy use against targets is a successful way of engaging time-poor staff. • Many staff are unable to check an app during working hours, so solutions and services need to be provided in an appropriate format. • Staff may not have the know-how to take the appropriate action; solutions may consider how to support users to ‘act’ e.g. by providing clear information or easy to follow ‘how-to guides’. • Many hospitality roles are temporary, shift-based or casual. Handover manuals and training materials may be a way of ensuring energy efficiency messages are ‘embedded’ with new staff.

² Further information on the COM-B model for behaviour change is accessible here: www.behaviourchangewheel.com/about-wheel

Research & Evaluation Programme approach for NDSEMIC

11. NDSEMIC's Research and Evaluation Programme (REP) has three main strands of activity as summarised below; Action Research, Coordination and Evaluation. The approach being taken to the last of these (conventional evaluation) is outlined in the full version of this report.

Overview of REP support and objectives

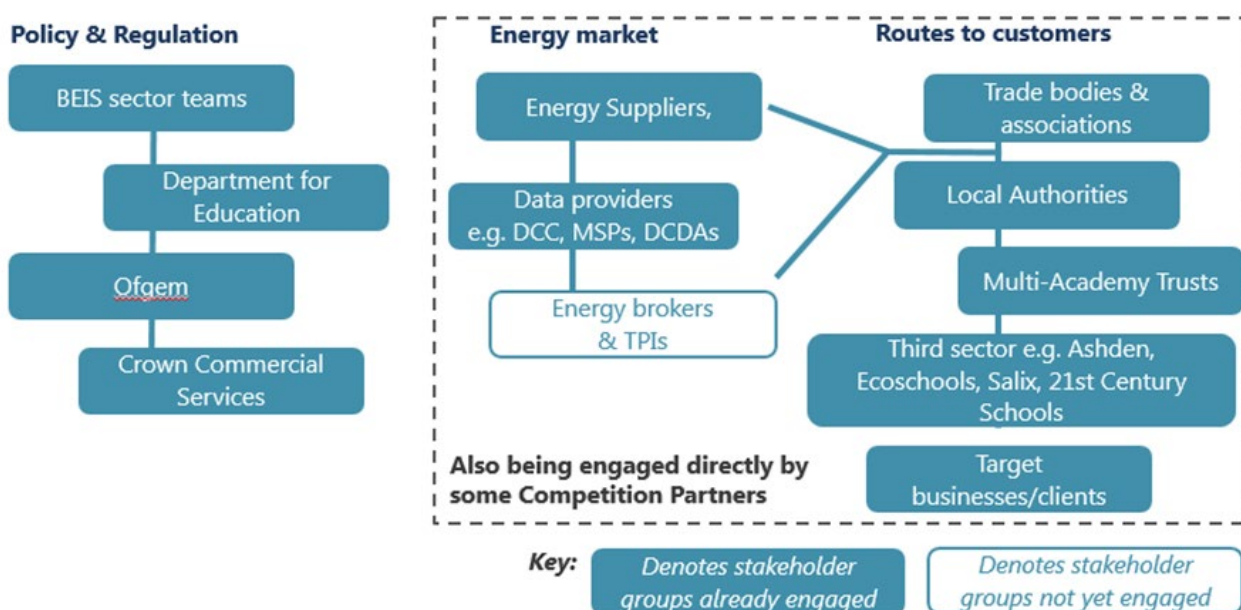


12. The REP extends the scope for learning about what's effective and how to achieve market transformation beyond conventional evaluation, through its Action Research and Coordination activities. These activities aim to engage both participants in the Competition and wider stakeholders and experts in a collaborative learning process. Workshops, interviews and wider stakeholder events are used to develop common visions and objectives, identify solutions and generate momentum.
13. To support this process, the REP aims to engage diverse actors who could play a new or stronger role in the smart energy services market for smaller non-domestic sites in the target sectors that NDSEMIC is trying to create and transform.
14. Given these aims, during Phase 3 the REP will engage a range of stakeholders in activities focusing on:
 - Stimulating the supply of new products and services: exploring issues related to **data access** and developing viable **businesses models and routes to market** which maximise the desired outcomes.
 - Stimulating demand for new products and services: exploring **what leads consumers to engage** with smart-enabled products and services, including willingness to pay (to support commercial business models).

- Understanding **what actors and conditions are needed to drive market transformation**, both in the small retail and hospitality business sectors and the schools sector.

15. Some of the key stakeholders the REP has started to engage with are set out below. These are also the groups the REP envisages engaging further during Phase 3. As illustrated, many of these organisations are also being engaged directly by Competition Partners as they negotiate routes to reaching non-domestic customer sites for piloting and longer-term partnership opportunities.

Stakeholders being engaged by REP



Next steps for final phase of NDSEMIC

16. Throughout Phase 3, the REP will undertake a range of stakeholder engagement and research activities as outlined above, alongside traditional evaluation. Synthesis across multiple strands of activity will enable the assessment of what is effective for engaging smaller non-domestic sites with smart offerings, in what contexts and for whom, and an improved understanding of the conditions under which a smart energy services market for smaller non-domestic organisations will thrive.
17. Following the completion of Phase 3, a series of final reports from the REP will be published in 2020.
18. For further information and resources related to NDSEMIC please visit GOV.UK: www.gov.uk/government/publications/non-domestic-smart-energy-management-innovation-competition

This publication is available from: www.gov.uk/beis

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