



Realising the potential of smart meters in the non-domestic sector

Workshop report

Date March 8, 2017

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1 Introduction

Background

Under the UK Government's smart metering programme, approximately 2 million non-domestic sites (including SMEs, public sector organisations and micro businesses) are due to receive smart meters by the end of 2020. There is scope for significant energy savings in these sectors, and access to timely, accurate usage data through smart metering is expected to play a key role in realising this potential. The Department of Business, Energy and Industrial Strategy (BEIS) has been conducting research to understand how different types of non-domestic organisation approach energy management; how smart meter data is currently being used and how it might be used to deliver energy saving benefits; and the current market and future prospects for energy management products and services aimed at smaller non-domestic sites.

Workshop details

An expert workshop drawing together participants with experience and understanding of energy management practices and energy efficiency engagement programmes was organised on 8th March 2017, at 1 Victoria Street, London. Participants at the workshop were allocated, according to their expertise, to one of four clusters, representing different types of non-domestic smart meter user:

- Small hospitality chains
- Independent retailers
- Small manufacturers
- Schools

The objective of the workshop was to identify solutions that will help different types of non-domestic organisation make use of their smart metering data to manage their energy better, and realise the benefits of smart metering. The workshop was split into three main sections, covering "gaps", "solutions" and "delivery":

- Gaps: what is missing from the existing context that prevents organisations from realising smart meter enabled energy saving?
- Solutions: what package of solutions would enable organisations to save energy using smart metering data?
- Delivery: how should solutions be designed and delivered in order to be effective?

Within the gaps section, participants were encouraged to think of relevant factors under a series of headings:

- Structural: such as remote decision making, diluted responsibility for implementation, cultural
- Motivation and opportunity: such as energy bills comparatively small, perceived lack of opportunities for energy saving
- Data: such as difficulty in accessing data, difficulty in understanding and making use of data
- Skills and resource: such as lack of time, lack of skills required to interpret data
- Other

Within the solutions sections, participants were encouraged to think in terms of a customer journey, as follows:

- Initiation: the initial decision to engage with smart metering opportunities
- Establishment: learning how to use smart meter data to effect energy saving
- Maintenance: maintaining smart meter enabled energy saving over the long term

Within each stage, different categories of solution were suggested: products and services; mass communications; training and advice; other.

Groups carried forwards a small number of high potential solutions from the solutions session for further consideration in the final session, where factors that would contribute to successful delivery of the solutions were identified. Consideration of these factors was prompted by the following questions:

- Who? Which party is best positioned to deliver the solution?
- When? At what point(s) in the customer journey would the solution be delivered?
- How? How is the solution best delivered, what are the key design choices?

This document

This document presents the output of the workshop, being the entries made by participants, within each cluster, into the MeetingSphere software (which was used to facilitate the event), and is not a statement of Government policy. It is structured by cluster, and within each cluster by section of the discussion (as outlined above). The findings emerging from the workshop will be used together with evidence from other research to help inform our policy thinking in this area, and frame probable follow-up research to further develop and test solutions with users.

2 Workshop attendees

| Name | Title | Organisation | Cluster |
|----------------------|--|----------------------------------|--------------------------|
| Kit Oung | Vice chairman | Energy Managers Association | Small hospitality chains |
| Malcolm Hanna | Technical Director | National Energy Foundation | Small hospitality chains |
| Laura Timlin | Director, Business Services | Carbon Trust | Small hospitality chains |
| Benedetta Cassinelli | Business Development Director/Partner | Considerate Hoteliers | Small hospitality chains |
| Marissa Lippiatt | Head of Resource Efficiency | Resource Efficient Scotland | Small hospitality chains |
| Demelza Birch | Benefits and Evaluation | BEIS | Small hospitality chains |
| David Kenington | Post Graduate Researcher | UCL Energy Institute | Independent retailers |
| Steve Denham | Associate Editor | Better Retailing | Independent retailers |
| Martyn Young | Energy Committee Member | Federation of Small Businesses | Independent retailers |
| Lucy Maggs | Head of Media | Smart Energy GB | Independent retailers |
| Sarah Whenham | Policy Adviser | BEIS | Independent retailers |
| Todd Holden | Director for Low Carbon | Business Growth Hub | Small manufacturers |
| Dipali Raniga | Senior Energy & Environment Policy Adviser | Engineering Employees Federation | Small manufacturers |
| Warren McIntyre | Business Support Programme Area Manager | Resource Efficient Scotland | Small manufacturers |
| Peter Mallaburn | Director of Policy and Governance | UCL Energy Institute | Small manufacturers |
| Margaret Sutherland | Assistant Director | BEIS | Small manufacturers |
| Edmund Phillips | Benefits and Evaluation | BEIS | Small manufacturers |
| Lee Jowett | Environmental Education Coordinator | Leicester City Council | Schools |
| Alex Green | Schools Programme Manager | Ashden Trust | Schools |
| Rebecca Keens | Schools Energy Officer | Central Bedfordshire Council | Schools |
| Richard Rugg | Managing Director Programmes | Carbon Trust | Schools |
| Ryan Francis | Business Support Assistant | Milton Keynes Council | Schools |
| Mairi Budge | Benefits and Evaluation | BEIS | Schools |
| Michael Harrison | Benefits and Evaluation | BEIS | All |

3 Small hospitality chains

3.1 Gaps (discussion)

Participant instructions:

What is missing from the existing context which prevents organisations from realising smart meter enabled energy saving?

Sticky points:

● most significant (3 points per participant) also highlighted in bold

Structural

- **(1) landlord/tenant - where does responsibility lie with regard to further investment?**
- Smart metering is still missing in some buildings so need to change [install] them
- Finance and resource to manage the issues needs to be given more weight as this is the most likely reason causing inaction.
- Too many and confusing products and services with different sounding names may be confusing for people to engage with energy

Motivation and opportunity

- ● **(1) Very few case studies available on success stories.**
- Focus is usually on winning more business and increasing revenues rather than cutting cost. Cost cutting isn't seen as interesting.
- Across multi-site orgs there is the opportunity to use competition to engage and motivate performance.

Data

- ● **(2) Utility companies still charge fees to release data to customers when they want to use other platforms. It could be costly and quite complex to overcome**
- ● **(1) Ability to understand the data and how it relates to the business.**
- Is there an over-reliance on main incoming [fiscal] meters?

Skills and resource

- ● **(3) For small companies/sites lack of knowledge, interest is a big problem. Often organisations see EM as a one off activity and once done they no longer require the in house skills. Needs to be seen as part of a continuous improvement programme.**
- ● **(1) Key issue is staff with time to look at areas beyond their day job**
- Lack of skills and knowledge of staff
 - not an organisational priority
- Issue about independent 'case study' type information about what businesses could achieve in terms of managing energy / improving efficiency
- lack of skilled staff to use data properly

Other

- ● **(1) The Role of the suppliers - data ownership / accessibility / trust**
- ● **(1) trust in adviser / installer**

- Data quality - what are they going to get

3.2 Solutions (discussion)

Participant instructions:

What package of solutions would enable organisations to save energy using smart metering data?

Sticky points:

- most significant (3 points per participant) also highlighted in bold

Initiation

Products and services

- (1) Information of what constitute best practice benchmarks, e.g. minimum energy efficiency expectations or how others in the sector are doing.
- (1) Data needs to be action based - no time to study / interpret so businesses won't do it. The data therefore needs to be tailored, combined with other site intelligence to make the data useful.
- (1) Need new tools / analysis packages that bring out the value in the data

Mass communications

- ● (2) Need a lot of good success case studies
- ● (1) Good communication on the benefits of smart metering

Training and advice

- ● (1) When smart meters are installed there needs to be straightforward advice and guidance on what to do next. However our experience is that guides are helpful but will not solve all the issues and some people will not read/use them.
- Trusted advisers

Other

- ● (1) Need to prove the model in terms of data / communication / commercials
- How to integrate the data into their business practices
- ● (1) encourage a network of local 'positive promoter' businesses willing to demonstrate benefits and take calls from others
- ● (1) Need national energy performance benchmarks which can be obtained from the various CCA and Environmental Permitting reports.
- Companies trust other companies so having advocates who talk about their experience is really useful
- prioritised / recognised as important by senior management
- ISO have a guidebook for Energy Management in SMEs with tools on CDROM. Can build on this?
- Remind top management on their duties according to Companies Act, i.e. long-term success

Establishment

Mass communications

- (1) National advertising to raise awareness of benefits? Combine with promotion for domestic buildings.

Training and advice

●(2) **Training, workshops internal & external communication amongst different teams and departments**

- Guided workshops for sectors, e.g. how to do energy management in schools, etc.
- Need to raise minimum competency on energy management, e.g. UK's junior energy manager's qualification with existing Government funding available.

Other

- ●(1) **Build robust evidence base moving forwards**

Maintenance

- ●(2) **Energy management needs to be integrated into business strategy with goals in line with each other**
- ●(1) **Publish data on aggregated info being collected through smart meters to help improve benchmarking data available**
- ●(1) **solutions not readily available - need to be developed with the most proactive organisations and form the basis of demos or case studies for others**
- National competition / awards like the Global Energy Management Leadership award?
- Align energy KPIs with business KPIs
- Develop business case studies on the benefits to the organisation
- Engagement

3.3 Delivery (discussion)

Participant instructions:

How should solutions be designed and delivered in order to be effective?

WHO? Which party is best positioned to deliver the solution?

WHEN? At what point in the customer journey would the solution be delivered?

HOW? How is the solution best delivered? What are the choices?

Engagement

- Engaging the top of the office
- Trusted case studies
- Online training that is compulsory for staff? Incorporate in existing hotel compliance training as part of induction for new staff. Could cover basics on smart meter and staff behaviours can be monitored via the data. May need go into legislation.
- Value in TV advertising campaign about smart meters and what it can offer businesses; very generic and about raising basic level awareness. Similar to Gaz and Leccy. Smart Energy GB.
- BEIS sponsor fund exemplar case studies - how to get business benefit from smart meters. Government endorsed material distributed by utilities at installation.
- Something like WRAP?
- A lot of guidance already exists e.g. from Carbon Trust but need to make link to smart meters and make sure businesses aware of the guidance.
- Utilities should do some follow-up 6 months after installation to check all ok.
- Sustainable Development Goals - could use to remind management that energy matters and relevant to sustainability, business efficiency and performance.

Products and services

- Opportunity at installation - short video containing case study or how to guide or top tips.

- Benchmarking which is sector specific, comparing where the business is compared with others. need to get access to multiple sources of data to do with the business, building and energy consumption.
- Could energy management be incorporated in the hotel industry star rating?
- Hotels traditionally interested in 'sustainability' and there are multiple platforms for energy, water etc., but the need to hire consultant to makes sense of discrete data and understand behaviour implications.
- Smart meters can risk data overload that require a lot of analysis - solution might be hiring a consultant or buying (potentially expensive) software. Can utilities do this?
- Can BEIS create national data platform to enable access to data. Prohibitively expensive? could have very basic functionality and then business has option to use it as is, or to get additional support/service to do more sophisticated.
- Case studies/workshops then show what can do with minimum data and then demo what more could do if wanted to do.

4 Independent retailers

4.1 Gaps (discussion)

Participant instructions:

What is missing from the existing context that prevents organisations from realising smart meter enabled energy saving?

Sticky points:

● most significant (3 points per participant) also highlighted in bold

Structural

- ●(2) how you access and when you access data
- ●(2) Access route/channels for sharing data is equally important - if it's not done correctly then unlikely to get the benefits
- ●(1) When new owner enters building you cannot bring your smart data with you, so lose historical data
- ●(1) small usage companies only look at energy usage when they get the bill - need something easy to understand at this point - at front of bill
- ●(1) Reputational drivers do play a role in this for retailers
- 40% saving possible with a strong focus on energy efficiency (design for this) - but it is unusual
- Lessons learnt from half-hourly rollout (referring to AMRs). some suppliers present graphical data. Needs to be easy to understand (i.e. some supplier learned from AMR that presenting graphical data was important).
- Landlord/tenant type arrangements?

Motivation and Opportunity

- ●(2) cost of energy, although important, is not a primary business concern – “customer is king” culture, rent and Rates higher spend levels.
- ●(1) The sell is about savings - 1st premises, and then employees then energy.
- ●(2) Smaller retailers think about sustainability with energy playing a role, but any intervention to customer facing businesses better if it holistic.
- ●(1) No estimated billing is good sell-in.
- Little reason for tenants to be energy efficient if it does not impact service charge.
- One area, which will limit motivation is that retailers are likely to think about energy and energy use from a broader perspective, of which energy may play a greater or lesser role. For example, customer facing businesses may be interested in sustainability as a broad agenda, and so interventions which support or are integrated within that agenda would be helpful.
- KENT CC started certifying small businesses on sustainability/energy. Little engagement because no one on high street thought this would help with getting customers.

Data

- ●(1) How to split out the data so the consumer can recognise what is consuming what. Splitting data up by usage.
- ●(1) Knowing where you can save energy.
- ●(1) Cost is a key bit of data too - DUoS periods (move away from 4pm to 7pm) - not just consumption.
- ●(1) Practical issue of how to present data and in what format so that it gets retailers attention?

- Small businesses move premises and some fail and some start - continuity of meter data needed. The data should remain available to the new owner / Landlord.
- Experiences in loss of data is barrier to independent retailers engaging.

Other

- Poor experience of keen early adopters - meters stop working when switching supplier, still getting estimated reads, new supplier wants to install new meter etc.

4.2 Solutions (discussion)

Participant instructions:

What package of solutions would enable organisations to save energy using smart metering data?

Sticky points:

- most significant (3 points per participant) also highlighted in bold

Initiation

- ●(2) opportunity - when the smart meter is being installed.
- ●(2) Needs to be sustained campaign to motivate businesses to include energy management practices into their business processes.
- ●(1) Bill is opportunity for more bespoke advice on data.
- Initial selling should let you know what is coming (prior to installation). Then at installation explain what it can do/benefits.
- Getting clear and visible information on the bill.
- Small businesses are not engaging in standardised utility platforms - why?
- Take parallel of scanning - only minority using data. Challenge is how to get more data developed into a business practice.
- Regulation on small businesses is not a solution.
- First solution is education from multiple organisations including free trade magazines, trade associations, supplier (most important), brokers. Not all micros engaged across the piece.
- Also useful trigger point is when equipment is being replaced.
- For landlord/tenant issues where energy is part of service charge motivating the tenant by linking sub meters to their data use.

Establishment

- ●(3) Following education on data - bills and prompts like IHD to reduce solution.
- ●(2) Educating businesses about when and how to reduce energy. For example educating businesses about when to turn off freezer in peak period.
- ●(1) Linking between data and time of use. Need a signal to tell people when that period is and the ability to breakdown energy usage by equipment.
- Intelligent sub meters that can recognise tenant energy usage.

Maintenance

- ●(2) Small businesses do not want to pay for services. But standard benchmarking for businesses could be included as part of bill so you can compare our energy usage with another similar user.
- ●(1) Role for developing tailored energy advice for independent retailers.
- ●(1) A lot of potential for load shifting/time of use tariffs. This might engage independent retailers in terms of potential to reduce costs.

- Idea of including prompts on equipment to turn off during red zone.
- Top 3 use of data: 1) switch off and 2) taking control of energy use so understand where and how they can make energy saving.
- Interoperability of data - ability to retain historical data when switching supplier.
- Smart meters need to be able to answer what are we using and where is it going.
- Without energy history you can't negotiate the best deals with suppliers.

4.3 Delivery (discussion)

Participant instructions:

How should solutions be designed and delivered in order to be effective?

WHO? Which party is best positioned to deliver the solution?

WHEN? At what point in the customer journey would the solution be delivered?

HOW? How is the solution best delivered? What are the choices?

Engagement before and at point of installation

- This is about before, after and post installation.
- Who? First thinking about raising awareness of smart meters.
- Prior to installation need Government backed comms.
- Government messages to be put in front of independent retailers (whether by supplier or another channel)
- First of need to know generic message - smart meters are coming; when they are coming and what they are doing.
- Clear message on what to expect - e.g. costs.
- Message can through bills; but other means like trade publications; Facebook; twitter.
- Local business organisation on twitter. Retailers often tweet different things.
- 250 town centres have Business Improvement Districts. Independent highly regulated organisations.
- Point of installation.
- At time of installation needs a best practice booklet - something interactive with new piece of kit. Could include things about the future such as time of use.
- Challenge about how tailored energy advice needs to be - energy usage is energy usage.
- At point of installation provide information on how to disaggregate equipment usage.
- One way to reach people is via bills, with smart meter message.
- Post installation message is about establishing usage.
- Energy champions - case studies. But needs to have Government gravitas - if it comes from supplier, not trusted.
- Also degree of distrust with brokers, so not necessarily a suitable medium.
- Post installation is about setting up behaviour and habits.
- Post installation contact should happen one month after installation - to test meter working. Then continual contact, particularly as installation point bill payer not always there; or building vacant. This is why continuous contact is very important (need ongoing consistent/continuous education on smart meters – from raising awareness about them, to how to use them, to maintaining use).
- Dealing with people who do not have email accounts, also think about community clubs etc. with changing treasurers for example.
- All of this assumes data is provided.

Ongoing provision of feedback

- This links to post installation education, establishing changes in energy behaviour.
- One idea is some type of display with energy costs are high.
- Adding information, so combining with other data - for example a display combined with temperature.
- Simple messages that are not necessarily related to smart data - example of 18 is better than 20 for heating (this was an example of a simple message that worked well and people were able to remember, from a campaign to turn down thermostats to 18 as an ambient temperature.
- Display useful because all staff have sense of ownership of energy usage.
- Want to know how using energy across the store - e.g. high consuming energy product what is the economic case for that.

Benchmarking, comparisons and follow up

- Who - would benchmarking come from? One benchmark what did you use in the previous period in the same property. Also useful to have database of different sizes of store.
- Could make more sophisticated comparisons - open question: could you make relevant comparisons?
- Possibly more relevant is the energy saving made from previous month/year/time period.
- Franchises - differing energy arrangements - limited commonality, except where they are getting advice. Even control of appliances that get put in can be part of broader spec. Most independent retailers do not have knowledge about specifying energy fit out.
- Maybe some opportunities with fit out companies/national association of shop fitters.
- Problem with switching suppliers and retaining data - interoperability should be resolved.
- Need for annual/regular reminder to help establish and continue behaviour via bills.
- Bills are route for benchmarking except where you switch suppliers and lose data.
- Boomerang effect - if you appear to be better than average there is a risk that you might take foot of the pedal.
- Incentive/year on year savings
- Trade associations are useful route for case studies to be shared.

5 Small manufacturers

5.1 Gaps (discussion)

Participant instructions:

What is missing from the existing context that prevents organisations from realising smart meter enabled energy saving?

Sticky points:

● most significant (3 points per participant) also highlighted in bold

Structural

- ●(3) **No sense of urgency - energy savings seen as something to 'do at a later date'.**
- ●(1) **Just seen as an overhead**
- ●(1) **energy costs not related to equivalent sales required (after tax and costs) to make same amount of money.**
- ●(1) **Leadership, urgency to act and buy-in**
- These organisations usually don't have a dedicated energy person
- It's a junior admin person who deals with it, not seen by senior people
- Seen as an administrative burden not something to be engaged in

Motivation and Opportunity

- ●(2) **Margins at these businesses are small (e.g. 2%), so even a small saving in costs translates to a very large amount of sale.**
- ●(2) **It is too complex, just a cost of doing business**
- ●(1) **Need some cumulative indicator of how much money has not been saved**
- ●(1) **Increase visibility of data to understand opportunity cost of not acting**
- ●(1) **More stick than carrot at the moment**
- Seen as a fixed cost, not a variable
- Don't assume people will act in a logical way if you give them the right information, we're more like Homer Simpson than Mr Spock... that's why we get hangovers!
- there is an initial barrier, people think 'can I risk changing my processes and lose 3 days productivity, I'll fall behind my competitors'.
- There's no deadline, with energy management. You could start tomorrow, next year, 10 years hence.
- Understand operational improvement opportunity not just opportunity cost - how does this information help me improve my manufacturing process (i.e. productivity).
- Rebates for actions taken based on insight - e.g. introduce rebates on Climate Change Levy if you take investments/actions to improve energy efficiency because of data/insight.

Data

- ●(1) **Data can make things active not passive, can send specific information to specific people (especially finance)**
- ●(1) **E.g., "you used 15% more last night than you did before"**

Skills and resource

- ●(1) **People don't go looking for extra work**
- ●(1) **needs to be presented to them actively**

Other

- ●(1) **It is not something that makes it to the attention of senior management.**
- Maintaining momentum on change initiative - Monitoring and ongoing engagement after launch.

5.2 Solutions (discussion)

Participant instructions:

What package of solutions would enable organisations to save energy using smart metering data?

Sticky points:

● most significant (3 points per participant) also highlighted in bold

Initiation

- ●(3) **Run energy efficiency as part of the same as resource efficiency generally: it is the same people as the business who deals with it, and helps leverage the message, increase the size of prize.**
- ●(2) **Need to understand how these businesses work day to day to work out how to get them aware and engaged in EM.**
- ●(2) **There is a role for mass media awareness raising. get smart meters into East Enders / Corrie.**
- ●(1) **Better segmentation**
- ●(1) **provide support to networks**
- ●(1) **have a competition to secure funding for networks if they achieve x savings by year y.**
- ●(1) **A solution that helps peer to peer networks thrive and endure.**
- ●(1) **The smaller a business is, the more it behaves like a family or individual. Need to combine domestic and non dom approach.**
- ●(1) **Focus on affordability, competitiveness and productivity benefits to UK manufacturers from engaging in the agenda.**
- Networks: put people in groups where they can learn from each other
- Need better segmentation, and think about domestic issues in a non dom sense. Need ways of measuring and identifying target
- "The role of place"
- Some means of a sector to cooperation
- "Peer to peer is fantastic"
- Networks are good but they tend to fall apart after a while, hard to keep going. Also supply chains are geographically spread out
- Supply chains are a natural grouping
- Need to find match funding
- Green Business Five is an example of success: has council involvement, need someone to bring trust
- The point at which a business becomes unlike a household is when someone is dedicated (at least in part) to energy management
- Normalise this behaviour, if people see others do it, they do it
- That said, lumping things together can make it complicated
- Keep the language simple and targeted
- Keep the language relevant to business concerns

Maintenance

- ●(2) Link smart meters to case studies
- ●(1) the action bit is most important for small businesses
- ●(1) In mass comms, make sure you use the same language as people use in business
- ●(1) The message need not come from an energy perspective, if that turns people off, could be from the perspective of making your business fit for digital age
- Forget about carbon and energy: talk about competitiveness
- Data > Analysis > Action > Feedback (the is the process as applies to bigger business, the action part is most important for small business, who have very little time for data analysis or following up on actions)
- Case studies are valuable
- Digital agenda is a good hook

5.3 Delivery (discussion)

Participant instructions:

How should solutions be designed and delivered in order to be effective?

WHO? Which party is best positioned to deliver the solution?

WHEN? At what point in the customer journey would the solution be delivered?

HOW? How is the solution best delivered? What are the choices?

Engagement- messaging, segmentation, making it important

- Who - Devolved administrations and Local Authorities, Chambers of Commerce and other trade bodies, business networks, existing resource efficiency programmes for more localised messages.
- Useful to exploit existing programmes
- Mass comms to get it into people's consciousness PLUS the targeted comms
- Finding trusted parties to deliver it
- How about funding a business to do it for other businesses?
- There is a political question of where Government should step in and act and where it is not Government's place
- Sometimes Government is NOT the trusted organisation
- Kite mark
- Professional support services like accountants?
- Segments may be sectoral, locational, size based: each of these might have different trusted partner
- The segments exist naturally already, we don't have to work out who they are
- Pilot a sector
 - Pilot with a sector with potential but not doing much
- The information exists already; none of this is new
- Smart meters produce an action point every half hour, not just every time you get a bill, it is an opportunity multiplier
- Segmentation: slice and dice the sector (by size, location, by sector), identify who is trusted and who is capable of speaking to them work with them (could be trade groups, layers of Government, LEPs, other businesses) or if it doesn't exist, potentially create a new one.
- Need a delivery body (e.g. an agency) like the Carbon Trust to deliver it.

- Incorporating it in to productivity / competitiveness, not environmental (which people tend to switch off from)
- Social value act encourages local presence in contracts can it be used to encourage energy efficiency. In tender documentation, ask suppliers to show how they are thinking about and doing EM.
- WHEN: when the meter goes in is key. What I did last month is not that interesting, key is making it actionable.
- The other points are bills and contract renewal and changes.
- getting info to the right people - you'd be silly not to do this.
- questions for an MD of a company should know - how much electricity do you use, how much is it - how much sales do you need to cover than. responsible person should know all this - questionnaire. E.g. ESOS model.
- what's your second highest cost for national gallery in Scotland – i.e. its energy.
- EE not resonating because we're asking the wrong questions to the wrong people.
- Buff up the message - it's smart to know your energy costs.
- Mainstream - Chambers of Commerce and FSB are about helping their members to be a good business so link to performance.
- Various agencies - different bodies saying the same thing until it sinks in.
- Different media forms - digital, printed, twitter, people.
- what works framework – Cabinet Office
- Regional comparisons – ‘this is energy use in Blackheath, how does it compare to Croydon’
- Primary value of energy saving - say it in a way that your audience cares about – e.g. how you could have spent the money.
- Segmented messages that show greater value - then people will use them
- Recognise the complexity - first adopters, second adopters, laggards pick up when it becomes ridiculous not to.
- Link meter to ESOS - those smalls that have elected to participate.
- Role of energy in industrial strategy priorities on productivity, digitalisation etc.

Making it mainstream

- Best to exploit existing trusted business support networks, wherever they are
 - Could be b2b bodies like trade associations or LAs or national bodies
- Business led, but a clear role for Government to lend authority and provide support
- Piloting could be valuable to build confidence and test out a new programme – e.g. energy audits.
- Who owns the data, can it be transferred when you swap supplier?
- How do we get it to the right people?
- Need to get it to the decision makers?
- Has to go through the right channels to get to the right people?
- An annual survey that asks decision making people questions, that forces them to think can they answer them, gets them thinking?
- Encourage managers to think they should know how much gas electricity they use.
- Idea of a set of energy questions that are put to management at a regular touch point that both finds out data and raises awareness.
- What Works? A Cabinet Office programme, a programme to look at big social problems, and understand what works, what structures/methods are effective.
- Good marketing that makes this a money/competitiveness thing, not just energy/environment, is needed to reach decision managers in each business.
- ESOS - a lever that Government can use
- Putting something in the industrial strategy

6 Schools

6.1 Gaps (discussion)

Participant instructions:

What is missing from the existing context that prevents organisations from realising smart meter enabled energy saving?

Sticky points:

- most significant (3 points per participant)

Structural

- (1) methods for engaging with schools will need to differ by LA as all are structured differently, have different roles. Ability to engage directly with schools varies greatly e.g. some can easily cascade a message to individual schools
- CHP - complexities of monitoring. School doesn't know how to use or monitor - Milton Keynes approach - capture in solutions .
- Schools need support developing their own system to engage and be able to use - who funds the smart meters and if there is a fault?
- Energy company swap a meter out and then the LA are no longer able to use the meter!

Motivation and Opportunity

- (1) mandatory targets
- Schools see energy costs as an unavoidable cost, that cannot be changed.
- Problem of cost - how can they reduce this? Unaware of the opportunity to make changes in energy supplier etc.
- No incentivisation structure for LAs/schools
- Not always seen as priority - can they actually make a difference
- If using LAs to engage with schools cannot be improved and made more consistent, other networks should be used such as: Academy chains, head teachers networks, school business manager groups, Independent schools association.

Data

- Struck by how many schools have smart meters and how many use the data and have the skills to do so.
- LAs can look at the data centrally but individually schools don't always do this.
- Stark (data hosting platform for smart metering).
- Lack of awareness that data is there
- Once they know data is there most (school business managers) tend to be v excited about it though not consensus here, some who engage with schools don't find this
- Cost of accessing data - fees for accessing data-hosting platform, e.g. Stark. Should LA or school take this cost on?

Skills and resource

- (1) Schools unsure how to use data even if they know it exists/don't have time/relationship between business managers and facilities managers doesn't allow for changes to be made based on data
- Not a top priority among the many priorities, not a clear signal that this is a priority in schools.
- LAs need clear direction from Government - a handful are motivated.
- Academy

- When schools are shown how to use smart metering (which many have but don't use yet), they can see the benefit of using these systems and then feel empowered to start saving energy.
- Ability to understand the meters - is this the caretakers, premises officer, business manager? Head teacher?? Governors!?

Other

- ●(2) very hard to engage DfE - need to look at Scandinavian countries for best practice here.
- ●(1) LAs desperate for some kind of mandate from Government.
- ●(1) As more schools become academies, there is less control with the LA and Government to influence change.
- Oil AMR technology.
- Salix finance - speak to them.
- Re Oil AMR - a number of schools e.g. 3/4 of Leicester schools have oil boilers, whole villages in Beds not connected to gas.
- BIOMASS
- CHP AMR Technology?
- Unclear understanding of the relationship between LAs and Academies - should LAs be supporting Academies in smart metering? Should this service come at a small cost?
- On the ground support for schools (LA)
- Mandatory targets for schools
- Contacts with external PFI - no incentive to save whatsoever!
- Accessible format which children can use and take ownership of it
- How can we reach independent schools, who are often very energy intensive, but do not have a link to LA or Government?

6.2 Solutions (discussion)

Participant instructions:

What package of solutions would enable organisations to save energy using smart metering data?

Sticky points:

- highest potential (3 points per participant)

Initiation

- ●(3) Found that schools are willing to adopt practices/technologies/etc. when they have been shown that other schools (preferably within their LA) have already benefitted. If 'flagship' schools can show they are reducing their energy use/saving money using the data and data hosting platforms, this may act as an incentive for other schools. A method for facilitating this needs to be implemented. E.g. LAs asked to identify flagship schools and report on their consumption. Or other method?
- ●(2) Access to data needs to be free if you want schools to consider accessing it even if a small amount as any financial outlay is a barrier
- ●(2) 'Mentor' schools (Ashden model) - most likely to listen to another school. Importance of peer to peer e.g. through case studies at the least but ideally listening to a head teacher or energy manager from another school.
- ●(2) Does the school actually have a member of staff that takes responsibility for energy consumption? Often the business manager pays the bills, and the facilities manager operates the heating, but no one specifically takes control/sets targets. Encouraging schools to adopt

this responsibility as a part of an existing role would bring energy (and therefore smart metering) onto the agenda.

- **●(2) Communication - most schools know they have a new meter but know nothing more - SMICOP requirement needs to be enforced.**
- **●(2) Educating governing body that resource efficiency that this is part of their responsibilities. Tends to be part of finance or facilities and whichever governor takes this on.**
- **●(1) Need to build capability on how they go about procuring energy to ensure they make the right decisions -combination of a school business manager or bursar and estate manager/caretaker who BOTH need to work together as once understands the finance and the other the practicalities. Someone needs overall responsibility of energy management.**
- **●(1) Some kind of toolkit that could help to set the context/motivate/set the agenda for smart and schools.**
 - P272 position of LA is very unclear - need to clarify.
- 'Spend to save' ROI type evidence. Cases studies of comparable schools. Hearing from [A] one thing but hearing from another head teacher.
- Look at energy alongside a range of other factors a school need to make decisions about (#6)
- Most schools don't have a dedicated energy manager though some academy trusts are starting to do this.
- Role for Ofsted in this. Officially it doesn't play a part in Ofsted assessment but anecdotally some have said it has helped with their Outstanding rating.
- Installation less of an issue in terms of during the day as schools holidays. Access to meters can be an issue.
- LAs don't necessarily know which schools have a smart meter. Can LAs be informed of this? If not how can the LA engage.
- Also how can schools know whether they have a smart meter. Can campaign alert schools to how they know whether they have a smart meter.
- There needs to be a clear message from the Government or local authority - not energy companies.

Establishment

- **●(1) helping schools to find out if they have a meter and how to take the first steps to use it. More schools have smart meters than think they have.**
- There is a common misconception that new buildings perform better than old schools - schools assume that new buildings manage themselves.
- The equivalent to OFSTED in Wales assesses schools on their sustainability - can England also do this?
- LAs leading by example. When energy-related LA staff interact with schools, they should be looking at smart meter data if available. Explaining to the school how/why they did this and what the benefits are.
- Peer to peer learning and best practice sharing is key to change.

Maintenance

- Switching suppliers - if apps/portals etc are different will this make it more difficult for 'energy managers' i.e. get used to one system - work with industry to try and drive some kind of similar tools?
- Maintaining networks of support - to ensure that on an ongoing basis school staff are using their AMR data, and when staff change does the knowledge and skills get passed on?
- Schools need to understand the relative cost of energy in their school. For example, if I reduce the heating temp to 19 degrees I will save the equivalent amount of money to funding 3 lunchtime clubs, or equivalent to x more pupil premium places etc.

6.3 Delivery (discussion)

Participant instructions:

How should solutions be designed and delivered in order to be effective?

WHO? Which party is best positioned to deliver the solution?

WHEN? At what point in the customer journey would the solution be delivered?

HOW? How is the solution best delivered? What are the choices?

Communication and awareness raising

- WHO: For schools, it's different than for other sectors, Government has a bigger role. DfE endorsement essential. Needs to be clear what energy suppliers are doing is authorised and mandated e.g. Salix. For anything to be taken seriously by schools needs to be DfE. Has to look like something they have to read/engage with.
- Welsh Government have more subsidies, support to help schools. Welsh Government best example in terms of supporting schools in resource management.
- LAs need to be informed in advance of any mass comms to schools so they are prepared. Some may organise an event around it.
- SEGB - how is this trusted by schools? Engaging with trade media, academies magazine, PR tools. Mail approach unlikely to be that effective, half won't read. What channels to DfE use to communicate with all schools - this works. Make it look like something they have to read.
- WHAT: Comms to LA needs to inform about what smart meters are, that programmes are available to help their schools.
- Communication should address: What is a smart meter, what is its purpose? How do I know if I have a smart meter? What to do if I don't have a smart meter? What are the benefits of smart metering?
- WHEN - need intel on how many schools have this in order to ascertain what the timing of comms should be. Anticipate high % have one already in which case comms can start asap
- HOW: if mail needs to be Government branded, make them open it.

Role modelling/mentoring

- Premise - schools are more likely to adopt change when other schools prove it works.
- WHO - Ashden has used award winning schools, best practice ones but they are not always the best as this can be quite off-putting for those far from that. So more 'schools like me' comparable. Clusters within a town or another natural cluster.
- 'Sustainability champion' within the school - Ashden tend to get 30% school business managers/finance, 25% site managers, 50% teachers, 3% governors attending workshops.
- Using examples of actions that can be changed and putting into context. Carbon Trust does good stuff here e.g. linking it to number of computers you could buy/TA hours.
 - Fit 4 the Future, an Ashden and National Trust programme for energy managers has used these types of comparative figures to help encourage energy efficiency in historic buildings.
- All comms need to be 'relatable' - delivered face to face ideally if not via video. Local head teacher meet ups.
- ECO schools officers group, could invite them plus a head.
 - Eco-Schools network could be accessed and environmental officers within councils who could spearhead work.
- SEGB if they lead comms would need to be part of a partnership strategy specifically for schools. SEGB might be behind it but might not be visible in the comms.
- 'One to many' workshops.

- Ashden are happy to help to pilot a BEIS/smart metering focused programme through their LESS CO2 programme.

Stick vs carrot

- Premise: Making evidence of energy management a requirement on Ofsted inspections (or some other way of making it compulsory).
- WHO - Governors - basic rudimentary training for governors. Making them aware that energy management is part of their remit in financial control. Competencies for governors being launched later this year. Making them aware that schools are smart metered and you can scrutinise energy use. National Governors Association magazine PR approach (#18)
- Ofsted - establish what requirements are? What are they assessing on that fits with sustainability. 26,000 schools, 160 LAs responsible for them.
- Incentivisation - how targets are set to incentivise LAs.
 - It's a perception that anything to do with schools sits with DfE but in reality could just be providing endorsement to BEIS.
- -Requirement for targets - where an LA appropriately incentivised to have role doing this they are best placed geographically to engage.
- Would need to involve DfE and CLG and BEIS policy leads . Carbon Trust say would get most benefit in terms of carbon saving from investing in schools generally due to state of buildings. League tables on schools.
- If the support/comms was focused on 'helping governors to help their schools save money' it would be welcomed by the governor groups.
- Carbon Trust report on low carbon potential of the public sector for DECC concluded greatest potential in schools. Carbon Trust can share.
- -Time of year - better to speak to site managers in the winter they are v busy, business managers end of f/y no good. Summer can be quite a good time? Planning for the next year.

7 Closing comments

Participant instructions:

What are you thinking following this workshop?

What should happen next?

- Opportunity to develop a potential pilot system for schools?
- Develop a few ideas for piloting.
- Comprehensive engagement with 'actual' SME's from range of sectors.
- The results need to be shared within BEIS wider than smart teams - so that others can use.
- Ensure engagement with DfE.
- BEIS needs to proactively reach out to DfE to understand its remit and agenda relating to energy efficiency.
- review BEIS literature e.g. energy efficiency best practice programme.
- some of the pieces of this jigsaw exist and have been tested we can learn from this and not reinvent the need.
- Research to test different energy use outputs (i.e. graphical displays etc.), designed to be helpful to help SMEs to respond by reducing their energy use is important.
- Sector pilots to develop case studies
 - make these as local and relevant as possible. Example of real achievable changes that schools can make.
- Happy to be involved in any next steps for schools
- Utilise learning e.g. from WRAP
- Pilot testing with range of non-domestic users who have already installed smart meters trying out different approaches / marketing / promo of benefits to secure implementation of energy saving measures.
- Use existing programme and methods rather than starting new systems - where a route of communication has proven to work: go with it.
- Testing of different benchmarking approaches would be helpful, as they can be a useful tool, but there are dangers with it (e.g. businesses who are better than 'average' could end up using more - boomerang effect).
- For schools, the role of and comms between DfE / BEIS / Smart Energy GB needs to be established / formalised to ensure schools receive clear messaging on what it means for them and how they can benefit.
 - When decisions are made, LAs will need to be informed / guidance provided on how they are to communicate with schools to ensure it is in keeping with BEIS (or other) messages / education.
- Investigate replicating an existing model e.g. WRAP Food Waste / working groups.
- BEIS and DfE should together work with OFSTED to understand opportunities to integrate resource efficiency into their role and remit.
- Information about what smart meters are and how schools could use, lots of information needed.
- BEIS to specify basic tools for Suppliers to develop to support SMART metering technology.
- Testing simple energy efficiency messages, which can be integrated into the process of installation would be helpful (e.g. messages/training to be given to installers).
- Really important that "success" is defined and agreed or the goal posts can be moved this happened in the past.
- The power of smart meters is data, BEIS should go back to energy efficiency programmes / strategies from the past (there are many, probably distributed across many parts of Government now) see how data could illuminate those past efforts and see what is effective.
- Engagement is key to success. Communications show start with WHY the schools should do this, then WHAT is being offered, the HOW can they do.

- Carbon Trust is very happy to remain engaged in how BEIS takes forward this agenda.
- Pilot approaches with representative SMEs/companies and then write up the outcomes as case studies.
- Link pilots to existing business services offered to SMEs across UK

Any comments on today's workshop

- Need basic training on this software before workshop
- Thought bubbles / sharing ideas on computer worked well
- Interactive system really useful...
- Useful to group into types i.e. schools SME etc.
- A good collection of well-informed people
- Need to remember to be realistic about what is achievable with SMEs. Understanding and interest levels are often very low.
- Very good session - Thank you
- Great session thanks
- very enjoyable