



Department for
Business, Energy
& Industrial Strategy

SMART METERING NON-DOMESTIC 'EARLY LEARNING' RESEARCH

Technical Report



November 2017

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Acknowledgements

We would like to thank all the organisations and individuals who took part in the research and who shared their experiences of managing their energy with us. We hope we have reflected these fairly and accurately.

We would also like to thank KWIQly GmbH for providing examples of pattern recognition, Ipsum Energy for providing an example of device disaggregation and Carbon Statement for providing examples of presenting energy savings in an engaging way to staff.

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Introduction

This technical report is an annex to the main research report for the Non-Domestic Smart Metering ‘Early Learning’ Research project. It sets out the methodology for case study research and wider interviews with non-domestic sites affected by the national roll-out of smart meters.

Non-domestic Smart Metering ‘Early Learning’ Research

Smart Meters are the next generation of gas and electricity meters. They will offer a range of intelligent functions and provide consumers with more accurate information, bringing an end to estimated billing. Consumers should have access to near-real time information on their energy consumption to help them control and manage their energy use, save money and reduce emissions.

The Government mandate technically defines a smart meter as one that is compliant with the Smart Meter Equipment Technical Specification (SMETS) and has a specified range of functions including being able to transmit meter readings to suppliers and receive data remotely. Energy suppliers are required to install SMETS compliant smart meters in domestic and smaller non-domestic sites by the end of 2020. The exception to this is in smaller non-domestic sites where advanced meters may remain in place for their lifetime if they were installed before April 2017 for larger suppliers and August 2017 for smaller suppliers.

As a minimum, an advanced meter can store half-hourly electricity and hourly gas data, to which the customer can have timely access and to which the supplier can have remote access. However, some advanced meters installed in smaller non-domestic settings may have many of the additional functions found in a smart meter that meets the Government’s technical specification. The vast majority of meters installed at sites included in this research were likely to be ‘advanced meters’ rather than SMETS compliant meters, as at the time the roll-out was still at an early stage and the majority of meters being installed in affected sites were still ‘advanced meters’. These meters would have had many, but not all, of the additional functions found in a smart meter that meets the Government’s technical specification. For ease of reference, the term ‘smart meter’ is used to refer to both ‘advanced’ and SMETS compliant meters in this report unless otherwise specified.

This non-domestic roll-out will cover around two million sites. These sites are very varied; they include private and public sector organisations and range from small shops to chain stores, from small industrial units to schools.

Aims and Objectives

The aim of this research was to improve the evidence base on how and why smart meter data is or is not being used for energy management in relation to non-domestic sites. It also sought evidence of the pathways, enablers and barriers to energy saving using such data.

The objectives of the research were specifically to;

- i. explore how 'smaller non-domestic sites' use energy and make energy related decisions
- ii. understand the ways in which smart meter data is being used for energy management in relation to 'smaller non-domestic sites' , as well as the current types of benefits being realised
- iii. develop an understanding of the (actual or potential) pathways, enablers and barriers to energy saving in smaller non-domestic sites using smart meter data; and what further action may be required to maximise benefits.

The key research questions to be answered were:

- How does the population of smaller non-domestic sites covered by the smart metering mandate use energy and make energy/energy efficiency related decisions? How do these uses and decision-making processes vary according to key characteristics?
- In what ways do different types (i.e. clusters) of smaller non-domestic sites covered by the smart metering mandate interact with:
 - other key influencing actors (e.g. energy suppliers, facilities managers, landlords)?
 - other influences on energy management (e.g. energy prices, reputational / corporate social responsibility)?
- How does data from smart meters contribute to/have the potential to contribute to improved energy management, energy efficiency and reduced energy consumption in smaller non-domestic sites? What are the barriers to improvements? How does this differ for different types of smaller non-domestic sites?
- Based on an understanding of the support, products and services being (or planned to be) provided to help increase awareness, understanding and use of smart meter data within small-non domestic sites; what has been/is likely to be the take-up/response from non-domestic sites?

- What are the implications for maximising the benefits of smart meters (in smaller non-domestic sites)?

The Department of Energy and Climate Change (DECC) commissioned Accent and Creative Research, along with consortium partners Delta-ee and Vivid Economics, to conduct independent primary research with non-domestic organisations to address these objectives and improve the evidence base on the range of non-domestic sites affected by the smart metering roll-out.

Two stages of research were undertaken, each comprising a number of strands of activity:

Stage 1:

- a development phase
- case studies
- follow-up depth interviews

Stage 2:

- fact finder interviews
- case studies.

This report describes the methodology adopted for each stage of research.

Stage 1 – Development Phase

Aims of the Development Phase

The aims of this initial strand of work were to ensure that the research team were familiar with the available smart meter evidence base and that DECC's theoretical framework was built into the research methodology.

Methodology

This strand of the research involved;

- Initial development of a research framework (work conducted by DECC)
- a mini evidence review to ensure the research team were familiar with the available smart meter evidence base for the non-domestic sector
- operationalising an initial typology of non-domestic sites developed by DECC
- complementary depth research
- the production of various research materials including recruitment screening questionnaires, discussion guides, an observational record sheet and stimulus materials. Copies of the research materials are provided in the Annexes to this report.

Research Framework

DECC has been developing components of a framework to help capture and explain how the non-domestic organisations which are/will be affected by the smart metering mandate manage their use of energy, including how they use data from smart meters. DECC commissioned Prof. Elliot Stern & Dr. Avril Blamey to provide expert advice and input into this framework.

Initial versions of three key elements of the framework informed the case study research:

- a typology of smaller, non-domestic sites
- a context map of factors that may have an influence on energy management
- a pathway map template to help illustrate how and why an organisation manages its energy in the way it does.

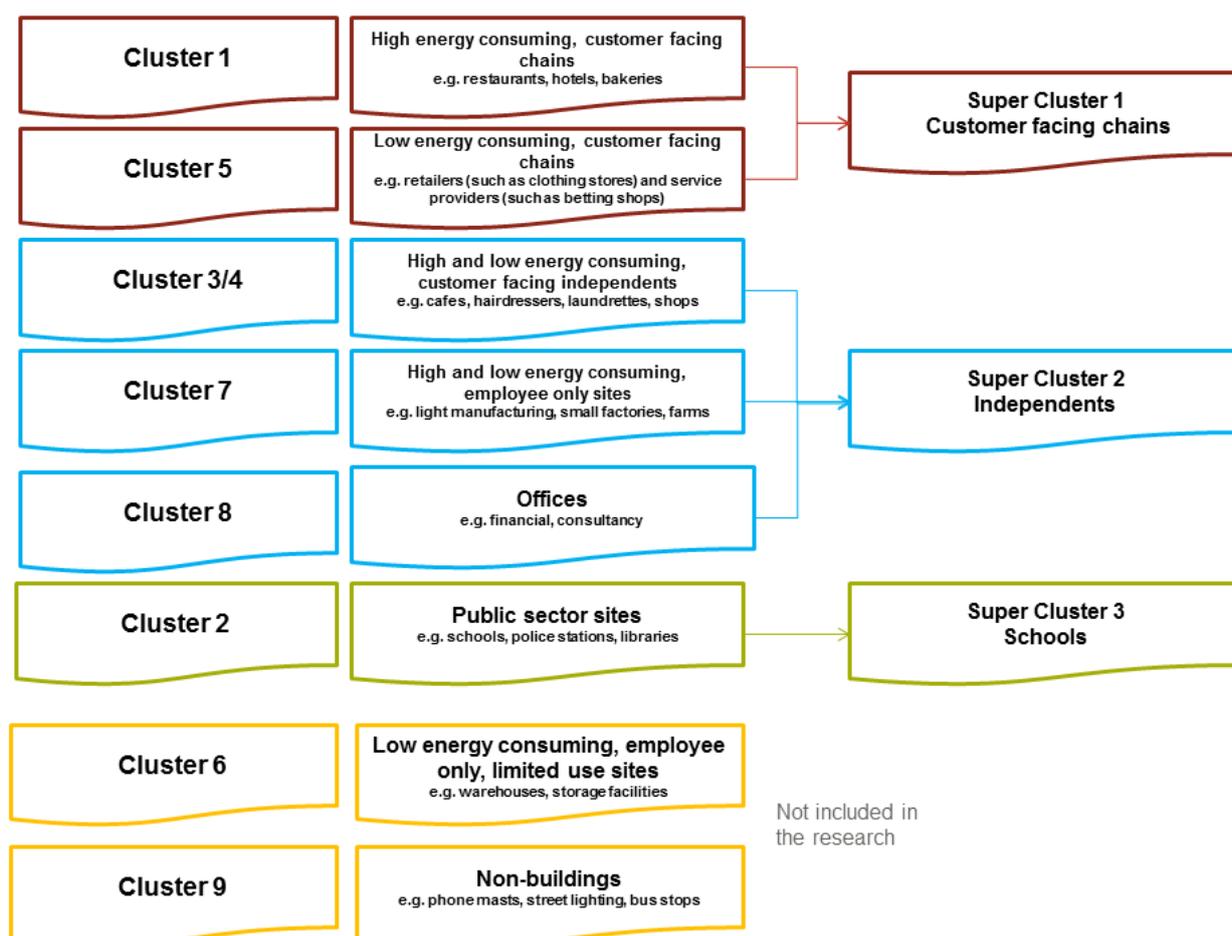
Typology

There will be many factors specific to different organisations which will influence the outcomes of the roll-out, and these are likely to vary by type. For this reason DECC

started to develop a typology for this market using a cluster-based research approach. While there will always be exceptions, if the ‘typical’ attitudes, drivers and barriers of different business types can be identified, this can help inform a possible framework for structuring approaches to benefits realisation and future policy evaluation activity.

The typology is based on nine broad clusters of sites which are defined with respect to a number of key characteristics – those most important characteristics which help to differentiate the clusters. These are: public vs. private sector; relative energy intensity; independent vs. multi-site organisation; whether or not customer facing. These are summarised below in [Figure 1](#).

Figure 1: The six clusters/three ‘super clusters’ included in the research



Context Map

An initial map was developed to represent the wide range of different influencing factors and actors/groups which may affect how different types of organisations use and manage energy, and how they may respond to the introduction of smart meter data. The map was developed using previous evidence, stakeholder consultations and workshops.

Pathway Map

A pathway map template was developed for DECC by Dr. Avril Blamey to help capture and illustrate how/why different types of organisations manage their energy in the way they do. This takes into account each organisation's context, as well as the relevant influences, barriers and enablers. These templates were used prior to the case study research to help capture insight from stakeholders, during the case study research as a data collection aide, and following the case study research to help illustrate findings. An example of a completed pathway map can be found in Figure 2 below. This is taken from users of smart meter data in Cluster 2 Small Public Sector Sites (Schools).

The pathway map contains a number of boxes that group together various factors that are involved in energy management. The four boxes shown within the central red box relate to those things that are internal to the organisation itself and include important organisational factors, the key motivations for trying to manage energy efficiently, the internal actors that have a role in energy management. The fourth box labelled Energy Management summarises how, if at all, the organisations were analysing their energy use, the energy saving actions that had been implemented and the extent to which the organisations had achieved energy savings and reductions in energy costs.

The boxes labelled Other Drivers and Barriers are shown at the top of the map inside a pink box. They include a mix of internal and external factors that influence energy management.

The yellow box at the bottom of the pathway map summarises things that are external to the organisation and is divided into External Actors that played some role in energy management, together with any particular Engagement Strategies that were being adopted. The External Context box outlines external factors, such as government policies, that were relevant to how the organisations managed energy.

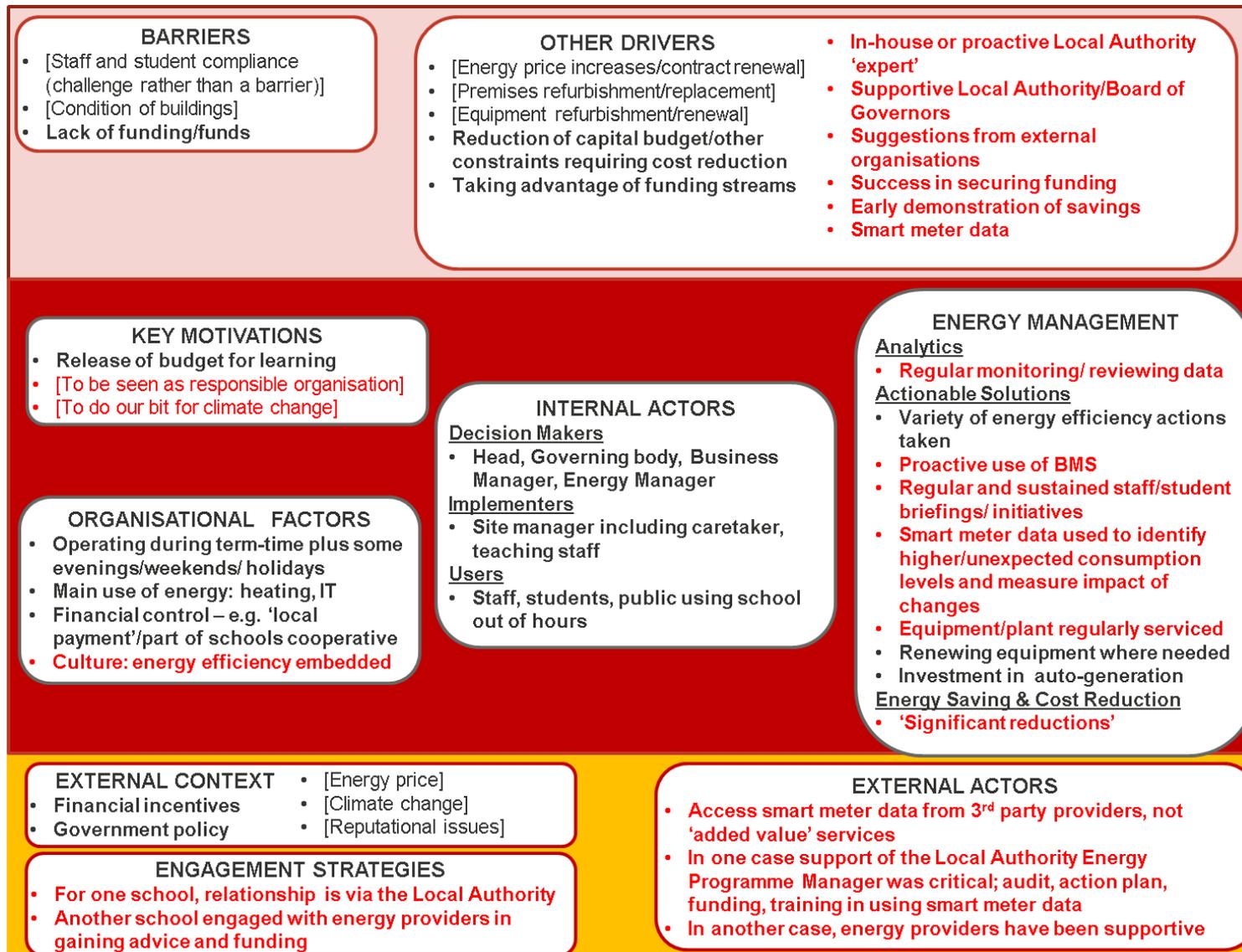


Figure 2: Example of a completed pathway map

Evidence Review

The evidence review involved a full review of the following:

- Carbon Trust (2007): Advanced Metering for SMEs
- Ipsos MORI for DECC (2013): Attitudes Towards And Experiences Of Smart Meters In The Non-Domestic SME Market
- Databuild and Solutions Ltd (for Consumer Futures) (2013): A Smart Business - Small & Micro-Businesses' Experiences Of Smart Meters
- Carbon Trust (for DECC) (2015): Forward Look: Smart Metering Enabled Innovation In Energy Management In The Non-Domestic Sector
- Centre for Sustainable Energy (CSE) and the Environment Change Institute (ECI) (for DECC) (2012): What Are The Factors Influencing Energy Behaviours And Decision Making In The Non-Domestic Sector?

Other documents referenced in the development of the project materials include:

- DECC: DECC Non Domestic Smart Metering Workshop 1: Restaurant, Hotel, Pub Chains¹
- DECC: DECC Non Domestic Smart Metering Workshop 2: Schools
- Databuild Research and Solutions Ltd: DECC Non-Domestic Building Energy Use Project Phase 1 – Pilot Study Of The Food And Mixed Retail Sector
- S.A. Tassou, Y. Ge, A. Hadaway, D. Marriott: Energy Consumption and Conservation In Food Retailing
- DECC: Non-domestic Smart Metering Q&A
- Verco (for DECC) (2015) : Building Energy Efficiency Survey: Interim Education Sector Report
- IFF Research (for BIS) (2011): BIS Small Business Survey 2010
- S.A. Mudie, E.A Essah, A. Grandison and R. Felgate: Benchmarking Energy Use in Licensed Restaurants & Pubs

Operationalisation of the Typology

The typology was operationalised by the development of a recruitment specification and screening questionnaires. Copies of the final Sampling Specification and the Recruitment Screening Questionnaires are provided in Annex A.

¹ DECC ran two workshops with industry and sector representatives to gather background evidence on particular types of organisations, how they used and managed energy, and associated influences. The outputs of these workshops provided background material which was used to help develop lines of inquiry to explore during the case study research.

The screening questionnaires reflect DECC's description of the three clusters and additional agreed criteria to be adopted when recruiting case studies.

Complementary Depth Research

The aims of this element of the developmental phase were to

- a) provide input into the development of materials for the case study research
- b) clarify the types of energy services that are likely to be supplied to the SME sector, both in the absence of smart meters, and once they have been rolled out
- c) help identify potential case studies.

The research comprised the following steps:

- a desktop study into publicly available information and inventory of service providers in the space
- analysis of Delta-ee's existing knowledge base and energy services industry contacts to supplement publicly available contact and service data
- development of promising leads and scheduling of interviews, to cover both smart meter and non-smart meter-based solutions
- completion of five one-to-one depth interviews to explore current and future service possibilities
- interview write-ups
- consolidation and analysis of findings for input to the topic guide design.

A summary of the findings of this stage are included in Annex B.

Report

The development phase culminated in an inception report which summarised our approach to Stage 1, including changes to our original proposal to reflect learnings and discussions with DECC since the proposal was submitted.

Research Methodology: Stages 1 and 2 – Case Studies, Follow-Up Depth Interviews and Fact Finder Interviews

Research Methodology

Scope

Clusters

Over the two phases of the research, participants were drawn from each of the nine clusters included in the typology. Within each of these clusters, specific sub-sets of organisations were identified as the focus of interest. Landlords drawn from each cluster were also a target. The clusters and the sub-sets of organisations were as follows:

- **Cluster 1: higher energy, customer facing chains** (including franchises) focusing on customer facing food and drink businesses such as restaurants, cafes and coffee shops, pubs with restaurants, hotels with restaurants and bakeries with retail outlets
- **Cluster 2: small public sector sites (Schools)** focusing on schools including primary and secondary and schools under local authority control as well as Academies
- **Cluster 3: high energy, small, customer facing independents** to include food and drink businesses similar to those in cluster 1 as well as other high energy consuming sites, such as laundrettes and hairdressers
- **Cluster 4: low and medium energy, small, customer facing organisations** covering a range of different retail outlets such as convenience stores, florists, bike shops, etc.
- **Cluster 5: lower energy, customer facing chains** including chains of small retail premises and bank branches
- **Cluster 7: higher energy, employee only sites** including small factories, industrial park sites and potentially warehouses with high energy consuming equipment
- **Cluster 8: offices** including small professional service firms in multi-occupancy tenanted buildings, small/medium professional service firms in single occupancy tenanted buildings and small/medium professional service firms in single owner occupied buildings

- **Landlords** including landlords of the above categories of businesses to obtain their perspective on the topics investigated in this research.

Stage 1 focused on Clusters 1 to 4. Stage 2 concentrated on a combined Cluster 3/4 (which Stage 1 confirmed was best treated a single cluster) as well as Clusters 5 to 9 and landlords.

The choice of clusters and sub-sets was decided in discussions with DECC. For Stage 1, this was done partly to ensure that it was based on case studies that cover a range of different contexts, where it might be expected that different actors would be involved and where different factors are likely to influence energy management. Moreover, given that Stage 1 involved piloting the methodology, clusters were chosen that were likely to involve relatively straightforward arrangements. For this reason, multi-occupied sites involving a number of different tenants, including those where energy is managed by or on behalf of the landlord, were not included at Stage 1.

Cluster 1 and, some case studies from cluster 3, focused on organisations that were involved in preparing and selling food and drink as these types of organisations are known to use a range of energy intensive processes (cooking, refrigeration, etc.) and it was hypothesised that there would be much to learn about how smart meter data could help reduce consumption in such energy intensive businesses.

In the case of cluster 2, the decision to focus on public sector sites was taken due to the fact that public sector organisations were expected to be subject to different influences on energy use and management compared to private sector organisations. Schools were chosen as the sole focus for this cluster as they were known to fall under the non-domestic smart metering mandate while very little was known about what other types of smaller public sector sites may be affected.

In terms of the typology, clusters 3 and 4 only differ in terms of the level of energy usage and one of the questions explored during Stage 1 was whether they are sufficiently different to warrant being treated as different clusters. For the purposes of the Stage 1 research, the two were grouped together and treated as a single cluster, with the aim of determining at the analysis stage whether energy consumption was a key discriminator in terms of approaches to energy management.

For Stage 2, the choice of clusters and sub-sets was also decided in discussions with DECC and on the basis of wanting to expand the range of clusters explored, whilst also exploring cluster 3/4 in greater detail, in particular endeavouring to identify data users in this cluster to learn from any 'best practice' examples. The clusters chosen allowed for exploration of different contexts including occupancy type (single versus multiple occupancy), tenancy type (many in these sectors being tenants whereas in Stage 1 there was a predominance of owner/manager sites) and

on site presence (customer facing or employee only, whereas all in Stage 1 were partially, or solely, customer facing).

In addition, landlord-led interviews were sought where the landlord was the main, or a key, decision maker for sites included in the four clusters of interest.

Actors

The population of interest for Stage 1 of this research was smaller non-domestic sites which had advanced/smart energy meters already installed. It was the same for Stage 2 with the addition of landlords who had these organisational types within their portfolio or energy consultants who had these types of organisations as customers.

In Stage 2, four firms in cluster 5 (lower energy, customer facing chains) who did not have smart meters were recruited, due to the difficulty of finding suitable participants from this target audience.

For each case study in Stages 1 and 2, the aim was to identify different actors who may have a role to play in the approach to energy management, including, where appropriate, those who were external to the case study organisation. **Internal actors** included;

- the main decision maker as well as others who are involved in decision making including, in the case of chains and multi-site organisations, those with a strategic overview across all their outlets/sites
- individuals who have a role to play in implementing decisions (for example, in encouraging staff to use energy efficiently)
- individuals who were users of energy.

The main **external actors** included;

- landlords/property managers where the case study organisation was a tenant
- energy consultants who had some role in advising or helping case study organisations to manage their energy².

Relevant actors varied depending on the cluster and individual case study site (e.g. landlords were not relevant to owner occupiers, smaller businesses often did not have 'implementers' as well as decision makers).

The Stage 1 follow-up depth interviews and Stage 2 fact finders were undertaken with the main decision maker only, but sought to understand other players who could be included within a case study visit.

² Brokers who were seeking to identify the most appropriate supplier and/or tariff but had no input into how energy was used, and third parties that provided access to smart meter data but were not providing any interpretation of the data, were not included as external actors.

Rationale for Research Instruments Used

The research focus was on gaining an in-depth understanding of individual clusters, and building the evidence base around different pathways to energy saving. As such a qualitative approach is appropriate to establish both the range and detail of factors affecting energy saving behaviour. On site case studies are a very effective means of exploring the topic in real life context. Telephone depth interviews are also appropriate as a means of following up on issues that need to be explored further from each case study or in capturing the views and experience of those unable to devote the time needed for a face to face meeting.

Stage 1 of the study used case study visits followed up by telephone depth interviews. Learning from this stage established that the case study interviews were too long. Consequently, Stage 2 used a slightly different approach, whereby fact finder interviews were conducted by telephone to gather some information. This allowed a shorter case study interview among those who agreed to take part. It also enabled the gathering of relevant information from those who did not agree to a case study visit. The approach to each stage is set out in more detail below.

Stage 1: Case Studies: Four topic guides were developed by the research team, in discussion with DECC, to cover the different actors. They included one for decision makers, one for implementers, one for landlords and one for energy consultants. The interviews, especially those with the main decision makers, were wide ranging in their scope, with the main areas addressed being as follows;

- **the nature of the organisation and its use of energy** including: the types of energy consumed; the amount of energy used; the main activities, facilities and equipment that use energy; patterns of consumption (where known); the proportion of total operating costs that energy accounted for
- **approaches to energy management** including: who is involved and how decisions are made; whether there is any form of facilities or building management; the perceived level of control over energy use; the importance of being energy efficient; triggers and barriers to reviewing energy efficiency; the impact the building's nature, size, age etc. had on energy efficiency; whether an energy audit had been carried out; whether there is an environmental management system in place; the extent to which staff and/or customers are involved in energy efficiency; familiarity with and experiences of using different types of energy service providers; any other individuals or organisations that have played a role in helping the case study organisation manage its energy
- **ways to reduce energy consumption and/or costs** including any steps that have been taken to try and reduce consumption and the effectiveness of these as well as reasons why other steps have not been taken
- **smart meters** including understanding of what a smart meter can do; perceived benefits and disadvantages; why smart meters were installed; any difficulties or challenges experienced; whether smart meter data is being used; if not, why is

this; if yes: how and how often the information is accessed and by whom; perceived value of a form of visual display unit; if data is provided via a third party, whether added value services are provided (e.g. interpretation of the data; suggested energy savings actions, etc.); how the data is used, what actions have been taken and what have been the outcomes; reactions to possible ways of using smart meter data; reactions to services and products intended to help organisations make better use of smart meter information including willingness to pay for such services and products.

Copies of the final topic guides are included in Annex C, with the stimulus material used to support them included at Annex D.

The Stage 1 Follow-Up Depth Interviews: These were designed to support the case study findings by supplementing understanding in key areas, in particular, differing attitudes towards energy management at small independent sites. A shorter version of the case study topic guide for decision makers was consequently used with these interviews and is included in Annex G.

Stage 2 Fact Finder Interviews: The specific aim of the fact finder interviews with respect to the Stage 2 approach was to reduce the duration of the case study interviews which Stage 1 had proven to be too long, especially when interviewing main decision makers where, in some cases, it had taken over two hours. The fact finders were consequently designed to gather factual information by telephone in advance of the case study depths, enabling the research team to achieve more focused case study interviews. The fact finders also had the additional benefit of allowing a wider range of organisations to be covered, providing a broader picture of each cluster targeted.

A two stage recruitment and interviewing process was followed. The initial recruitment screening interviews were carried out by a team of Accent's senior interviewers using recruitment screening questionnaires drafted by Accent and approved by DECC (included in Annex H). Separate recruitment screening questionnaires were developed for each of the four clusters; each was structured to cover;

- introduction to the research and identification of the correct contact and eligibility
- site type and size
- types of energy used, meter profile and type (i.e. smart, advanced or standard)
- attitude towards reducing energy usage
- extent to which smart or advanced meter data was used
- willingness to participate in a fact finder interview.

Once the appropriate target was reached, these recruitment screening interviews took approximately five minutes to complete.

The output from these interviews was a list of eligible organisations willing to participate in a fact finder interview which was either conducted with them immediately or at a more convenient time for them.

Two fact finder scripts were developed by the research team, in discussion with DECC, to cover business decision makers and landlords. Copies of the final fact finders are included in Annex I.

Stage 2 Case Studies: Five topic guides were developed by the research team, in discussion with DECC, to cover the different actors. They included one for decision makers, one for those with a strategic overview, one for other internal actors (e.g. implementers and users), one for landlords and one for energy consultants.

Prior to conducting a case study visit, the researcher reviewed the output from the fact finder interview and identified any issues that needed following up in order to ensure they had a good understanding of how energy was being managed, together with a brief review of any steps that had been taken to reduce energy consumption. The main focus of the case study interviews was to explore whether the organisations concerned were using their smart meter data. Where this was not being done, the reasons behind these were explored. Participants were then shown information about smart meters and how the data could be used to help them reduce their energy consumption and costs and reactions to this information were explored. Reactions to a number of ways of engaging organisations with energy efficiency were also briefly explored.

Where smart meter data were being used, the interview focused on how the data was being accessed and interpreted and what impact it had had on energy management. Where time permitted, reactions to the information about how smart meter data could be used to help organisations reduce their energy consumption and costs was also explored.

Copies of the final topic guides are included in Annex J, with the stimulus material used to support them included at Annex K.

Sampling Strategy

Sampling

As this was a qualitative study, with a small number of case studies per cluster, the recruited sample was not intended to be representative of all possible sites within a cluster, but to comprise a spread of sites of different types, size, tenure, energy use and experiences of using information from advanced or smart meters.

The sample used to recruit the participants was sourced and used as follows;

Stage 1 Case Studies

- **DECC workshop contacts:** DECC ran two workshops in advance of, and during the early stages of, the project; some of the participants at these workshops were

asked to nominate organisations who were ‘leading the way’ in terms of their use of smart or advanced meter data; a total of 3 case studies were recruited in this way

- **Energy supplier contacts:** DECC contacted a small number of suppliers who had installed smart or advanced meters at sites with the required meter profiles (i.e. electricity profile classes 3 or 4) to request contact details for these sites; the majority of sample came from a single supplier; a total of eight case studies were recruited from supplier sample
- **Purchased sample:** Accent also purchased sample from its preferred list supplier, Sample Answers, to supplement the above. This was focused upon business sites in areas known to have been the focus of smart meter installation programmes; one case study was recruited from purchased sample
- **Free found:** four case studies were free found, three via a commercial sample source and the other via referral (i.e. snowballing). Due to the difficulty sourcing businesses with advanced and smart meters, snowballing (i.e. where contacts were asked if they knew anyone who might be in scope for the study) was considered an acceptable approach for this study.

Stage 1 Follow-Up Depth Interviews

The sample used to recruit the depths was drawn from the same sources as that used for the case studies, with the tele-depths sourced as follows;

- **DECC workshop contacts:** two recruits
- **Energy supplier contacts:** 11 recruits
- **Free found:** two recruits via a commercial sample source.

Stage 2: Fact Finder Interviews and Case Studies

The sample used to recruit the fact finders was drawn from four sources;

- **Energy supplier contacts:** DECC contacted a range of suppliers who had installed smart or advanced meters at sites with the required meter profiles (i.e. electricity profile classes 3 or 4) to request contact details for these sites; however, only one supplier was able to provide sample; whilst this was not ideal, as it was not felt that this supplier’s customers would be any different to SME customers as a whole, this was not considered to lend any bias to the achieved sample. Forty eight were recruited from this source
- **Commercial sample source one:** a small amount of cluster 3/4 sample was also supplied by a commercial supplier who was undertaking survey work on behalf of a business representative organisation and sourced participants willing to be contacted for this study. No participants were recruited from this source.
- **Commercial sample source two:** Accent purchased sample of cluster 5 sites from its preferred list supplier, to supplement the energy provider cluster 5 sample; sample of commercial landlords was also purchased to try and set up

landlord-led fact finders and case studies. Thirteen participants were recruited from this source

- **DECC contacts:** DECC sourced some landlord and managing agent contacts, along with one contact for cluster 5. Fifteen were recruited in this way.
- **Free found:** Accent also endeavoured to free find cluster 3/4 sites that might be eligible and have smart meters, or at least see energy management as a high priority and be undertaking measures accordingly. Three were recruited in this way.

Recruitment and Interviewing

For all types of interviews, a two stage recruitment process was followed. The initial recruitment screening interviews were carried out by a team of Accent's senior interviewers using recruitment screening questionnaires drafted by Creative Research and approved by DECC (included in Annex B for the case studies and follow-up depth interviews and in Annex G for the fact finders). Separate recruitment screening questionnaires were developed for each of clusters; each was structured to cover;

- introduction to the research and identification of the correct contact and eligibility
- site type and size
- types of energy used, meter profile and type (i.e. smart, advanced or standard)
- attitude towards reducing energy usage
- extent to which smart or advanced meter data was used
- types of on and off site actors
- willingness to participate in a case study (or, if not, a depth).

The recruitment questionnaire for the follow-up depth interviews only differed from the others in terms of the introduction to the research, the layout, and having no requirement to record other internal or external actors involved in energy management.

Once the appropriate target person for interview was reached, these recruitment screening interviews took an average of 15 minutes for case studies and follow-up depth interviews and 5 minutes to complete for fact finders.

For the Stage 1 and Stage 2 case studies, the output from these recruitment screening interviews was a list of eligible organisations and actors willing to participate; these were allocated to the members of the research team responsible for conducting the face to face interviews who then made contact to agree dates and a programme for the visit. This included which members of staff or external actors they would meet, what information they might wish participants to have to hand, who would be responsible for showing them around the site and any other logistical arrangements.

The Stage 1 follow-up depth interview recruits were passed to a second senior interviewer responsible for undertaking the telephone depths. The output from these recruitment screening interviews was a list of eligible organisations willing to participate and the date and time at which they would be able to do so. This was passed to a second senior interviewer responsible for undertaking the telephone depths.

For the Stage 2 fact finders, interviews were either conducted immediately by the senior recruiters or at a more convenient time for the participants.

Recruitment and interviewing was carried out as follows:

- Stage 1 case study recruitment was undertaken between 29 June and 10 August 2015 and interviews were conducted between 15 July and 24 August 2015
- Stage 1 follow-up depth interviews were conducted between 2 and 16 September 2015
- Stage 2 fact finder recruitment was conducted between 16 November 2015 and 31 March 2016 and interviews were conducted between 15 December 2015 and 1 April 2016
- Stage 2 case studies were carried out between 7 January and 11 April 2016.

All interviewers were briefed face to face to ensure that they had a full understanding of the aims of the research, the approach towards recruiting and undertaking the interviews, including a full run through of the all scripts.

The interviews were conducted as follows:

- For most of the Stage 1 and Stage 2 case studies, a member of the research team visited each of the case study sites and conducted a number of interviews with a mix of internal and external actors. These took anywhere between 30 minutes and two hours to complete, depending on the length of each script which varied according to the function of each participant. In Stage 1, one of the interviews with a landlord was carried out at their offices. Two energy provider interviews were carried out by telephone. In Stage 2 only the interviews with landlords/property manager and energy consultants were conducted by telephone. All of the interviews conducted for each case study were recorded, and transcribed verbatim for use in the analysis. Some photographs were also taken for use in analysis and reporting, again with the participants' prior permission and an observational record sheet was included as part of the topic guides to observe how energy was being used.
- The Stage 1 follow-up depth interviews were recorded and the findings entered into the analysis template after completion.
- The Stage 2 fact finder interviews took between 30 minutes and an hour to complete. They were undertaken using computer assisted telephone interviewing software with the data from each being available as an html file as well as in Excel.

Prior permission was obtained for the recording of all interviews and where photographs were taken.

Incentives

Incentives were given to all participants to thank them for their time as follows:

- Stage 1 and Stage 2 case studies: £150 was given to all internal actors and £100 for all external actors
- Stage 1 follow-up depth interviews: £50 was given to all depth participants
- Stage 2 fact finder interviews: £20 was given to all fact finder participants

Target Sample and Sample Achieved

Targets were set to achieve a spread of participants within and across each cluster in order to seek a range of views and experiences. Flexibility was permitted due to the difficulty of the difficulty in recruiting some clusters (see Table 1).

	Stage 1 and Stage 2 Case Studies		Stage 1 Follow Up Depths		Stage 2 Fact Finder Interviews	
	Target	Achieved	Target	Achieved	Target	Achieved
Cluster 1	5	5	None	3		
Cluster 2	5	5	None	1		
Cluster 3/4	9	10	None	11	12	7
Cluster 5	6	6			18	20
Cluster 7	6	8			18	27
Cluster 8	9	7			27	24
Landlord					0	1

A summary of the sample of achieved across both Stages is provided in Table 2 . 107 organisations took part in the research. 16 took part as a case study only; 25 took part as a case study having also taken part in a depth interview, while 66 took part in a depth interview only. The table displays the total number of organisations taking part in the research broken down by cluster. The number of organisations taking part in a case study is shown in brackets. Most of the information in the table relates to a single case study site (the depth and fact finder interviews focused on a

single site which then became the case study site where the participant agreed to take part in this element of the research). The exceptions are ‘size of organisation’, ‘number of sites’, and ‘the importance of reducing energy use’, which, in the case of chains and multi-site organisations, apply to the chain/organisation as a whole.

Table 2: Sample Summary

No of organisations	Total	C1*	C2	C3/4	C5	C7	C8
	107 (41)	8 (5)	6 (5)	22 (10)	20 (6)	27 (8)	24 (7)
Region							
East	3 (1)	-	-	-	-	2 (1)	1
E Mids	11 (2)	1	-	3 (1)	3	4 (1)	-
London	7 (4)	-	-	2 (1)	1 (1)	2 (1)	2 (1)
N East	5	1	-	-	2	2	-
N West	14 (5)	-	-	2 (1)	2 (1)	3	7 (3)
S East	15 (10)	3 (2)	2 (2)	3 (1)	2 (2)	4 (2)	1 (1)
S West	16 (8)	-	4 (3)	3 (2)	2 (1)	2 (1)	5 (1)
W Mids	9 (1)	-	-	2	2 (1)	3	2
York & Humber	10 (3)	-	-	2 (2)	3	3	2 (1)
Scotland	11 (5)	3 (3)	-	2 (1)	2	1 (1)	3
Wales	6 (2)	-	-	3 (1)	1	1 (1)	1
Size of organisation (total employee number)							
Sole trader	4 (1)	-	-	2	-	-	2 (1)
Micro (<10)	69 (26)	-	-	18 (10)	1 (1)	25 (7)	10 (3)
Small (<50)		2 (2)	1 (1)	2	-		10 (2)
Medium (<250)	13 (7)	-	5 (4)	-	6 (3)	1	1
Large (250+)	21 (7)	6 (3)	-	-	13 (2)	1 (1)	1 (1)
Number of sites							
single	70 (27)		6 (5)	21 (9)		22 (7)	21 (6)
2 or more	9 (3)		-	1 (1)		5 (1)	3 (1)
<100	15 (6)	3 (2)			12 (4)		
>100	13 (5)	5 (3)			8 (2)		

Table 1: Sample summary (cont.)

No of organisations	Total	C1*	C2	C3/4	C5	C7	C8
	107 (41)	8 (5)	6 (5)	22 (10)	20 (6)	27 (8)	24 (7)

Research Methodology: Stages 1 and 2 – Case Studies, Follow-Up Depth Interviews and Fact Finder Interviews

Locus of control							
Individual site/ Local authority	74 (28)	1 (1)	3 (3)	22 (10)	-	27 (8)	21 (6)
Head office/ Academy	30 (11)	5 (2)	3 (2)	-	19 (6)	-	3 (1)
Franchise	3 (2)	2 (2)	n.a.	-	1	-	-
School type							
Primary	1 (1)		1 (1)				
Nursery/lower/ middle	1 (1)		1 (1)				
Secondary	4 (3)		4 (3)				
Tenure							
Owner occupier	45 (16)	5 (4)	n.a.	14 (6)	7 (1)	9 (2)	10 (3)
Tenant	55 (20)	2 (1)	n.a.	8 (4)	13 (5)	18 (6)	14 (4)
Energy bills							
Paid direct	106 (39)	8 (5)	5 (4)	22 (10)	20 (6)	27 (8)	24 (6)
Included in rent/paid by LA	4 (3)	-	1 (1)	1 (1)	1 (1)	-	1
Energy types							
Electricity	107 (41)	8 (5)	6 (5)	22 (10)	20 (6)	27 (8)	24 (7)
Gas	68 (26)	6 (3)	6 (5)	17 (9)	7	14 (4)	18 (5)
Other	12 (8)	-	4 (4)	3 (-)	2 (1)	3 (3)	-
Type of meter							
Smart/advanced electricity	101 (38)	7 (4)	6 (5)	22 (10)	16 (5)	27 (8)	23 (6)
Smart/advanced gas	24 (8)	3 (1)	2 (2)	1 (1)	4	6 (2)	8 (2)
Importance of reducing energy use							
High	70 (28)	6 (4)	5 (4)	17 (9)	14 (3)	18 (5)	10 (3)
Medium	29 (12)	2 (1)	-	3 (1)	6 (3)	9 (3)	9 (4)
Low	8 (1)	-	1 (1)	2 (-)	-	-	5
*One respondent taking part in a depth interview did not nominate a specific site as he was not sufficiently familiar with individual sites.							

Four firms in cluster 5 (lower energy, customer facing chains) who did not have smart meters were recruited, due to the difficulty of finding suitable participants from this target audience.

A breakdown of the sample achieved by each Stage of the project is set out in Annex L.

Analysis & Reporting

Data Analysis

Various steps were adopted in the analysis of the data. First, each member of the research team prepared a detailed set of notes for each case study, follow-up depth interview and fact finder completed. These were structured using an analysis template to ensure a consistent structure was used. The templates used are provided for reference in Annex F for Stage 1 and in Annex L for Stage 2. Findings were expressed in the form of a series of statements, along with supporting evidence. In the majority of cases this was in the form of verbatims, but where appropriate, also took the form of photographs and copies of relevant documents. For each case study, a list of photographs and copies of documents seen or provided was also compiled.

The analysis framework ensured that a thorough and systematic approach to analysis was adopted, although – with a few exceptions – answers were not recorded in the form of tick boxes or head counts since the aim was to explore the range of opinions expressed, and actions taken, rather than to ‘measure’ how many participants had expressed a particular view. This was both because people do not always express their answers in black and white terms and because it was not possible to explore every issue in every interview as some issues only arose in certain interviews.

The views of different actors from the same case studies were used to ‘triangulate’ the findings from individual case studies, for example, by looking for supporting or contradictory evidence from different actors. The notes were colour coded to differentiate the views/answers provided by different actors. A similar triangulation process was used to compare and contrast the findings both within and between the different clusters.

The analysis also sought to identify the extent to which there was a consensus of opinion, or a similar view, on an issue whilst also recognising the importance of looking for the range and variety of opinion expressed.

Once each case study had been written up, the researcher:

- reviewed the Context Map both to identify those factors that were most relevant to their case study as well adding any new factors that may have emerged
- populated the pathway map to show what currently happens as well as any enablers that could help the case study improve their energy efficiency (such as help in interpreting the data from their advanced/smart meter(s)).

The pathway maps were constructed to show how/why the organisation currently managed its energy, taking into account each organisation's context, as well as the relevant influences, barriers and enablers. By comparing the pathway maps of organisations within a cluster that were managing to reduce their energy efficiency with those of organisations that had tried but not succeeded or which had not tried, the researchers were able to identify the enabling factors and the pathways taken that resulted in an improvement in energy efficiency.

The next step involved an internal debrief meeting involving all members of the research team in which findings were shared and reviewed. This included a brainstorming session to further explore ideas for encouraging organisations to engage with the data from their smart meters and to adopt energy efficient practices.

Following this debriefing, the lead researchers used the individual case study notes, supported by the depth interview transcripts, to identify common themes and patterns both with respect to how energy was currently managed and the contextual factors that influenced this, as well as pathways that could result in greater engagement with energy consumption data and methods of reducing levels of consumption. These were summarised in cluster specific reports.

In the final step the overall lead researcher reviewed the three cluster reports to identify themes and issues that differentiated between clusters as well as themes and issues common to just two or all three clusters. Any implications of these for the remaining clusters were reviewed.

Reporting

This is a qualitative study which means the opinions of a relatively small number of people have been explored in considerable depth. Not only is the sample small, it is not representative of the full range of organisations that meet the criteria for each cluster. Pathfinder organisations demonstrate what can be achieved but, by definition, they are not typical. While there are emerging patterns that reinforce the typology approach, there was also considerable variation within each of the clusters.

In analysing the data, one of the things that has been looked for is where there is a consensus of opinion or a similar view on an issue and in the reporting this is expressed using language such as 'all', 'most', 'widespread', 'widely held', 'many people', etc. However, it is also important to look for the range and variety of opinion that is expressed; these might be opinions offered by just 'a few' participants as well as those opinions mentioned by 'some' of the sample (i.e. more than a 'few' but less than 'many'). It is also useful to report things that may only be mentioned by one or two people if these seem to offer relevant and insightful observations. This has been made clear in the reporting with wording such as 'one participant said...'

It should be noted that the use of terms such as 'most' or 'few', etc., relate only to the sample under consideration and should not be taken to imply 'most of members in the total population'.

A number of verbatim quotes have been used to illustrate key findings. Occasionally, quotes have been edited to improve comprehension; this is indicated by the use of square brackets []. Where a quote includes comments from more than one

participant, the start and end of each comment is shown by the use of '...'. Researcher comments are shown in bold. At the end of each quote, an attribution is provided to indicate which part of the sample it is from and the type of actor involved.

Glossary of Terms

Term	Definition
Advanced meter	
Building Management System (BMS)	A Building Management System is a control system that controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems.
CRC Energy Efficiency Scheme (CRC)	The CRC Energy Efficiency Scheme is a mandatory reporting and pricing scheme to improve energy efficiency in large public and private organisations.
Carbon Trust Standard	Carbon Trust awarded certification of an organisation's achievements in taking action on its environmental impact and tackling climate change by managing and reducing greenhouse gas (CO ² e) emissions
Common parts	All those parts of a property and any associated land which the lessee or occupier has a right to use in common with others.
Display Energy Certificate (DEC)	Since 9 July 2015 public buildings in the UK over 250m ² must display a Display Energy Certificate (DEC). They are based upon actual energy usage of a building and are intended to promote the improvement of the energy performance of buildings.
E7 type tariffs	Economy 7 type tariffs provide cheap off-peak electricity during the night.
Electricity profile class	Load Profile represents the pattern of electricity usage of a segment of supply market customers. A load profile gives the Half-Hourly (Settlement Period) pattern or 'shape' of usage across a day (Settlement Day), and the pattern across the Settlement year, for the average customer of each of the eight profile classes. It is the proportion of demand in each settlement period that is of interest to the Settlement System.
Energy Savings Opportunity Scheme (ESOS)	The Energy Savings Opportunity Scheme (ESOS) is a mandatory requirement for all large businesses to undertake regular energy audits.
Feed In Tariff (FIT)	A Government scheme whereby a premises can apply to get payments from the energy supplier if it generates its own electricity, eg with solar panels or a wind turbine.
Full repairing and insuring leases	A lease which imposes full repairing and insuring obligations on the tenant, relieving the landlord from all liability for the cost of insurance and repairs.

Green lease	A green lease is a standard lease with additional clauses which provide for the management and improvement of the Environmental Performance of a building by both owner and occupier(s).
in-home displays (IHDs)	An In-Home Display, or IHD, is a small electrical device that works with a smart meter to provide consumers data about their energy use
ISO 14001	ISO 14000 is a family of standards related to environmental management that help organizations minimize how their operations negatively affect the environment, comply with applicable laws, regulations, and other environmentally oriented requirements, and continually improve in the above.
Large business/organisation	A business/organisation with over 250 employees
Medium size business/organisation	A business/organisation with 51-250 employees
Memoranda of Understanding (MOU)	A similar arrangement as a green lease that is not legally binding
Micro-business/organisation	The European Commission defines a micro-business as one which has fewer than ten employees and a turnover or balance sheet total of less than €2 million.
Minimum Energy Performance Standards (MEPS)	The Energy Act 2011 requires Government to introduce regulations to improve the energy efficiency of buildings in the private rented sector no later than April 2018. These are referred to as Minimum Energy Performance Standards (MEPS).
Small business/organisation	A business/organisation with 10-50 employees
Small or medium-sized enterprise (SME)	A small or medium-sized enterprise, or SME, as defined by the European Commission is a business or company: that has fewer than 250 employees; and has either (a) annual turnover not exceeding €50 million (approximately £40 million) or (b) an annual balance-sheet total not exceeding €43 million (approximately £34 million); and of whose capital or voting rights, 25 per cent or more is not owned by one enterprise, or jointly by several enterprises, that fall outside this definition of an SME.
Smart meter	Smart meters are the next generation of gas and electricity meters and they can offer a range of intelligent functions. Consumers will have near real time information on their energy consumption to help them control and manage their energy use. Smart meters also provide consumers with more accurate information and bring an end to estimated billing. Energy suppliers are required to take all reasonable steps to install SMETS compliant smart meters in domestic and smaller non-domestic sites by the end of 2020.
SMETS compliant	The Government mandate defines a smart meter as one that is compliant with the Smart Meter Equipment Technical Specification (SMETS) and has a specified range of functions

Glossary of Terms

	including being able to transmit meter readings to suppliers and receive data remotely.
Sole trader	In the context of this research, a sole trader is someone who runs a business without any employees

Annex A: Stage 1 Recruitment Questionnaires

Recruitment Screener: Cluster 1

RQ number (ON LOG OR RESP. LIST):

URN:

Interviewer name: Interviewer no: Date: Time: **Checked (SUPERVISOR ONLY – USE RED TO FILL IN)**

Quality controlled by on/...../.....

RECRUIT	<input type="checkbox"/>
RESERVE	<input type="checkbox"/>

Added to resp. list/log on/...../.....byAre you sure? Y / N

Exec informed by email on...../...../.....byAcknowledged by exec? Y / N

Confirmation letter/email (SUPERVISOR ONLY – USE RED TO FILL IN)

Confirmation sent via on/...../.....by (initials).....

IF CONF. SENT BY EMAIL, PHONE & CHECK IF EMAIL RECEIVED A FEW MINS AFTER EMAIL SENT:

Has email been received? Call made on/...../.....by (initials).....

Record sample source		
In-house leads (e.g. Delta EE)	1	<input type="checkbox"/>
Leads from workshops	2	<input type="checkbox"/>
Supplier leads	3	<input type="checkbox"/>
Purchased sample	4	<input type="checkbox"/>
<i>Does sample source confirm the site's electricity meter Class Profile as 3 or 4?</i>		
Yes	1	<input type="checkbox"/>
No	2	<input type="checkbox"/>

Code below organisation type (if necessary, confirm details with respondent)

A chain of hotels with restaurants	C1a	Recruit 2
A chain of restaurants/cafes/coffee shops but excluding any which are predominantly takeaways i.e. food and drink are mainly consumed on the premises	C1b	Recruit 1
A chain of pubs with restaurants	C1c	Recruit 1
A franchised based chain of restaurants/cafes/coffee shops but excluding any which are predominantly takeaways i.e. food and drink are mainly consumed on the premises	C1d	Recruit 1

Code respondent site location

Respondent is based at 'head office'	1	<input type="checkbox"/>
Respondent is based in individual outlet	2	<input type="checkbox"/>

Code below regional location from sample

London/South East	1	Recruit 3	North East	6	Recruit 2
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East	2	Recruit 1	Wales	7	Recruit 2
South West	3	Recruit 1	Scotland (central)	8	Recruit 2
Midlands	4	Recruit 2	Scotland (other)	9	Recruit 1
North West	5	Recruit 2			

Introduction³

IF PURCHASED SAMPLE OR NO CONTACT NAME SAY: Good morning/afternoon/evening. Please can I speak to whoever is responsible for making decisions about how the business uses energy, including the cost of energy and how the business might lower its energy use and/or costs? **(INTERVIEWER: NB When recruiting for Cluster 1: the initial contact might be with the manager of an individual outlet (restaurant/hotel/pub) or with a manager based in ‘head office’.** *If respondent says it is the landlord who is responsible for energy management, check to see if energy bills are paid by the landlord/managing agent – **if yes: close.** If energy bills are paid by the business itself, ask to speak to whoever is involved with energy management from within the business.*

ALL: Good morning/afternoon/evening. My name is calling from Accent, an independent research company. We are conducting some research for the Department of Energy and Climate Change among a number of businesses about their energy meters and energy management needs. I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

This is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence. Can you spare 10 minutes or so to run through some questions to check that you are eligible to take part in this research?

Identifying the appropriate person to speak to

Q1a. We are looking to speak to the person who is responsible for making decisions about how the business uses energy, including the cost of energy and how the business might lower its energy use and/or costs Which of these best describes your role as regards energy management within your business? CODE ALL THAT APPLY		
I am the business owner and/or the main person responsible for making decisions about how the business uses energy	1	<i>Continue</i>
While not the final decision-maker, I am the main person responsible for how the business uses energy. The decision-maker looks to me for advice.	2	<i>Continue</i>
I deal with the energy bills but I don't make or influence decisions about how the business uses	3	<i>Ask to speak to main person who deals with</i>

³ At the time of writing, a revised wording was being tested.

energy		<i>energy management within business</i>
I do not get involved in issues or decisions about how the business uses energy	4	
Other role WRITE IN ROLE	5	<i>Check if acceptable role for interviewing</i>
Q1b Record respondent's name and their role/job title		

Establishing eligibility

We are looking to find a range of different types of businesses to take part in the research which will involve:

- a member of the research team visiting your business at a convenient time and date
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or more members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker based on the site, a senior decision maker based at 'head office', one or two other members of staff who have a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 per person. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.

I need to ask you some questions about your business and its use of energy to help us find the right range of businesses to participate in the research. All the information provided will be treated in confidence.

Recruiter: listed below are some possible roles in terms of who we may wish to include in the research. This is not a definitive list but it may help clarify the types of people we need to include

(Corporate) Energy Manager

Site Manager

Annex A: Stage 1 Recruitment Questionnaires

Facilities Manager

Hotel Manager

Sustainability Manager

Restaurant Manager/Duty Manager

Compliance Manager

Kitchen Porter

Estates Director

Head of Maintenance

Annex A: Stage 1 Recruitment Questionnaires

Q2a First, including the site you are based at, how many sites does your organisation as a whole have?		
1 only	Thank & close	
More than 1	WRITE IN NUMBER:	CONTINUE
Q2b. Are you based at Head Office or another site?		
	Head Office	1
	Another site	2
Q2c. Only ask if Q2b = 1 (ie Head Office), else go to Q2d: Do you have responsibility, or influence on energy management, for Head Office only or for your other site(s) as well?		
Head Office only	1	ASK TO SPEAK TO SOMEONE WITH RESPONSIBILITY OR INFLUENCE AT INDIVIDUAL SITES. IF NO ONE HAS THIS ROLE: THANK & CLOSE.
Other site(s)	2	<p><i>Explain that for the purposes of this research we need to focus on just one of the outlets for which they are responsible, or have an influence on, energy management, and invite them to nominate a specific site based on the following criteria:</i></p> <ul style="list-style-type: none"> <i>• the Class Profile of the electricity meters are 3 or 4 (if known)</i> <i>• has one or more advanced/smart meters (if none installed at any site, choice should be based on sites where trying to reduce the energy costs is a high priority))</i> <p><i>Explain that the following questions relate to the nominated site. Record full name and address of site including postcode</i></p>
Q2d. Only ask if Q2b = 2 (ie another site), else go to Q3a: <i>Explain that the following questions relate to the site they are based at only; record full name and address of site including postcode below.</i>		

Annex A: Stage 1 Recruitment Questionnaires

Q3a What is the size of the business, in terms of employee numbers across all sites?		
2-10 employees	2	<i>Recruit 1-2 if found</i>
11-50 employees	3	<i>Recruit 1-2</i>
51-250 employees	4	<i>Recruit 1-2</i>
over 250 employees	5	<i>Recruit 1-2</i>
Q3b And how many employees work at this site?		
Sole trader	1	CLOSE
2-10 employees	2	<i>Recruit 1-3</i>
11-50 employees	3	<i>Recruit 1-3</i>
51-250 employees	4	CLOSE
over 250 employees	5	

Q4a. Which of the following best describes this site? CODE ALL THAT APPLY		
One of a chain of hotels	1	<i>Check quotas; recruit 2</i>
One of a chain of restaurants/cafes/coffee shops but NOT predominantly a takeaway	2	<i>Check quotas; recruit 1</i>
One of a chain of pubs with restaurants	3	<i>Check quotas; recruit 1</i>
One of a franchise based chain of restaurants /cafes/coffee shops but NOT predominantly a takeaway	4	<i>Check quotas; recruit 1</i>
DO NOT READ: None of the above	5	THANK & CLOSE
Q4b Which of the following best describes the type of business premises?		
It is based in a residential house or flat (there is no separate business premises)	1	THANK AND CLOSE
We rent our premises as tenants	2	<i>Recruit at least 2 and no more than 3</i>
We are owner occupiers of our premises	3	<i>Recruit at least 2 and no more than 3</i>

Annex A: Stage 1 Recruitment Questionnaires

Q5a ASK OWNER Occupiers: How do you pay your energy bills?		
We receive the bill and pay it directly to the energy company/ies	1	<i>As found</i>
We receive the bill and pay it/send it to head office who then pay the bills	2	
The bills go to head office who pay it	3	
Some other arrangement <i>write in</i>	4	
Q5b ASK TENANTS: How do you pay your energy bills?		
We receive the bill and pay it directly to the energy company/ies	1	CLOSE
We receive the bill and pay it to the landlord/managing agent who then pay the bills	2	
The bills go to the landlord/managing agent who pays it and then recovers it via a service charge	3	
Our energy use is included as part of our rent i.e. we pay the same each month/quarter irrespective of how much energy we use	4	
Some other arrangement <i>write in</i>	5	<i>Only continue if business is responsible for paying its energy bills directly</i>

Q6. Which of these types of energy does your business use (at this site)?		
Electricity only	1	<i>Recruit at least 1</i>
Electricity and Gas	2	<i>Recruit at least 2</i>
Other e.g. oil, LPG: <i>write in all other types used</i>	3	<i>As found but all must use electricity as well</i>

Q7. Can I just check, are you on a business or a residential energy tariff at this site?		
Business	1	<i>Continue</i>
Residential	2	CLOSE

If Profile Class of business is confirmed on sample list skip to Q9

Q8a. Explain to respondent that you need to check a detail from their electricity bill. If this is easily available, ask respondent to answer Q8b using their bill. If the bill is not easily available, ask respondent to provide their best estimates and you will send them an email at the end of the interview/phone them back to confirm their answer.

Do you know what profile class your electricity meter is at this site?

Yes	1	Go to Q8b
No but respondent has bill to hand Explain where to find this information	2	Go to Q8b

Your electricity bill will display a small table which has a large letter 'S' followed by two rows of numbers one above the other; each row has 3 sets of numbers. If you look at the first set of numbers in the top row, this corresponds to the profile class. Can you read out these numbers? The example on the left below is for a single meter from profile class 3. The example on the right is for a site with 2 meters, the first one is from profile class 4 and the second is profile class 3. NB profile class 4 relates to an Economy 7 type tariff – cheaper electricity over night

Site details																	
Site number	800256																
Site reference	426008																
Supply number	<table border="1"> <tr> <td>S</td> <td>04</td> <td>576</td> <td>140</td> </tr> <tr> <td></td> <td>20</td> <td>00000886</td> <td>389</td> </tr> <tr> <td>S</td> <td>03</td> <td>501</td> <td>126</td> </tr> <tr> <td></td> <td>20</td> <td>00000886</td> <td>398</td> </tr> </table>	S	04	576	140		20	00000886	389	S	03	501	126		20	00000886	398
S	04	576	140														
	20	00000886	389														
S	03	501	126														
	20	00000886	398														

No and respondent does not have bill to hand	3	Skip to Q9
Q8b. Code Profile Class		
Profile Class 1 or 2	1	CLOSE
Profile Class 3	2	Continue
Profile Class 4	3	Continue
Profile Class 5 to 8	4	CLOSE
Profile Class 00 or 9	5	CLOSE

Q9 Thinking about the overall operating costs of the site in question, would you say that your energy costs represents... (*Ask respondent to provide their best estimate*)

a tiny proportion of the total operating cost	1	As found
a small proportion of the total operating cost	2	
a medium proportion of the total operating cost	3	
a high proportion of the total operating cost	4	
DK	5	

Q10 How important is it to your organisation to try and reduce your energy consumption? Compared to all aspects of your business, would you say it is...

Annex A: Stage 1 Recruitment Questionnaires

A high priority	1	
A medium priority	2	
A low priority	3	
Don't know	4	

Q11a As far as you are aware, do you have a smart or advanced meter for electricity at this site (NB. READ OUT DEFINITION BELOW IF NEED BE)?		
We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
We have at least one 'smart meter'	2	
We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
We have a meter that is neither an advanced nor a smart meter	4	
Don't know	5	
Q11b ASK IF ALSO HAVE GAS AT SITE: As far as you are aware, do you have a smart or advanced meter for gas at this site?		
We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
We have at least one 'smart meter'	2	
We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
We have a meter that is neither an advanced nor a smart meter	4	
Don't know	5	
<p>NB Ideally, all organisations should have at least one advanced or smart meter installed at the site – either electric or gas.</p> <p>If respondent answers DK at Q11a (and at Q11b if has gas supply): you need to find out if there is someone within the organisation who can confirm this information; for example, if you are talking to the site manager, there may be someone at 'head office' who can confirm this, in which case you will need to contact them and confirm the situation. If there is no one who can confirm this, you should thank and close.</p> <p>If no advanced/smart meters installed: If saving energy is a high priority (code 1 @ Q10) – continue (but maximum of 2 per cluster and see instructions at end). All others: CLOSE</p>		

ADVANCED METER – a meter that can provide you with information on your energy usage, so you can see what you have used in each hour or half hour of the day. You have to request this information from your supplier. Advanced meters typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.

SMART METER – this is the next stage on from an advanced meter. Smart meters provide you with near real-time information on energy usage, for example through web based reports that you log onto to see. As well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem).

Q12 Ask all with advanced/smart meter: Do you/does the business use any of the data available from the advanced/smart meter(s) at this site?		
Yes	1	Ask Q13

Annex A: Stage 1 Recruitment Questionnaires

	No	2	<i>Skip to Q16</i>
	DK	3	

Annex A: Stage 1 Recruitment Questionnaires

Q13 Ask all with advanced/smart meter who use the data: How do you/your business access/receive the data from your advanced/smart meter(s)		
We access the data ourselves e.g. via a laptop	1	
The data is provided to us by 'head office'	2	
The data is provided to us by our energy provider	3	
The data is provided to us by a third party: <i>write in the type of third party e.g. a monitoring and targeting business</i>	4	
Some other way: <i>write in brief description</i>		
DK	5	

Q14 Ask all with advanced/smart meter who use the data: How often do you/your business access/receive the data from your advanced/smart meter(s)		
Daily	1	
at least once a week	2	
at least once a fortnight	3	
at least once a month	4	
at least once every 3 months	5	
at least once every 6 months	6	
at least once a year	7	
less often	8	
DK	9	

Q15 Ask all with advanced/smart meter who use the data: Which ONE of the following statements best sums up how you have used the data from your advanced/smart meter(s)?		
It has helped us to significantly reduce our energy consumption and/or our energy bills	1	
We have tried to use the data to help us reduce our energy consumption and/or energy bills but this has proved difficult	2	
We/'head office' use the data to compare the energy consumption across different sites but it is not used to try and reduce our energy consumption and/or our bills	3	
The data is interesting to see but we do not use it to help reduce our consumption and/or our bills	4	
<i>If none of the above apply: write in brief description of how the data is used</i>	5	

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DK	6	

<p>Q16 <i>Use the answers to Q12-15 to code organisation into one of the following. NB if code 5 @ Q15 you will need to use the description of how the data is used to classify appropriately</i></p>		
<p>Champion: using the data (code 1 @ Q12) at least once a month (codes 1-4 @ Q14) and have achieved significant reductions in consumption/bills (code 1 @ Q15)</p>	1	<i>Recruit 1 per cluster</i>
<p>Struggling Aspirer: using the data (code 1 @ Q12) but have found it difficult to achieve reductions in consumption/bills (code 2 @ Q15)</p>	2	<i>Recruit 1-2 per cluster</i>
<p>Passive user: accessing the data (code 1 @ Q12) but not using it to reduce consumption/bills (codes 3-4 @ Q15)</p>	3	<i>Recruit 1 per cluster if possible</i>
<p>Non user: not accessing the data codes 2-3 @ Q12</p>	4	<i>Recruit 2 per cluster</i>

Q17a Apart from yourself, who else **within your organisation** has a role to play managing the organisation's use of energy. This could be in relation to decisions about how the business uses energy or in terms of implementing these decisions (e.g. decisions about what equipment to purchase, staff training, etc.) or in terms of monitoring how energy is being used. Starting off with any staff who are based at the site itself, who else has a role to play? *Record both their names and their job titles/roles*

	Name	job title/role
Staff member 1:		
Staff member 2:		
Staff member 3:		
Staff member 4:		

And now thinking about any staff who are based at 'head office', who else has a role to play? *Record both their names and their job titles/roles*

	Name	job title/role
Staff member 5:		
Staff member 6:		
Staff member 7:		
Staff member 8:		

Recruiter: listed below are some possible roles in terms of who we may wish to include in the research. This is not a definitive list but it may help clarify the types of people we need to include

- | | |
|----------------------------|---------------------------------|
| (Corporate) Energy Manager | Site Manager |
| Facilities Manager | Hotel Manager |
| Sustainability Manager | Restaurant Manager Duty Manager |
| Compliance Manager | Kitchen Porter |
| Estates Director | Head of Maintenance |

Q17b And are there any individuals or organisations **outside of your own**, that have a role to play in terms of how your organisation manages its energy? For example, this might be an energy consultant, or an organisation that provides you with data and/or advice about how to use the data from any advanced/smart meters, or, if you have one, it may be a landlord or managing agent

*NB if a tenant (code 2 @ Q4), ensure you ask for details of landlord
 NB if advanced/smart meter data is provided by a third party (code 4 @ Q13) prompt for details of the organisation concerned
 Record their names, their job titles/roles and the organisation they work for*

	Name	job title/role	organisation
Contact 1:			
Contact 2:			

Annex A: Stage 1 Recruitment Questionnaires

Contact 3:			
Contact 4:			

<p>Q18a If organisation has one or more advanced/smart meters installed and is in quota say (else go to Q21a): Thank you for answering those questions, you are in scope for this project and we would be very grateful if you could spare the time to take part in this important study for the Department of Energy and Climate Change. As I mentioned it would involve:</p> <ul style="list-style-type: none"> • a member of the research team from Accent or Creative Research visiting your business (the site in question) at a convenient time and date in July; he/she will get in touch shortly to make the arrangements; we will try to arrange the visit in such a way as to minimise our impact on normal operations • during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy • the researcher would also like to conduct interviews with one or more members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker based on the site, a senior decision maker based at ‘head office’, one or two other members of staff who have a role to play in either developing the business’ approach to how it uses energy or in putting this into practice • in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 per person. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice. • the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research? 		
Willing to take part in main study in July	1	Go to Q19
Willing to take part in main study but not available in July	2	If not possible to conduct site visit before end of July say that you will place them on a reserve list in case the fieldwork period is extended instead and ask Q18b
Unwilling to take part in main study	3	Ask Q18b
<p>Q18b. If unwilling to take part in main study: (if “2” above begin by saying “If the case study fieldwork period is not extended...”) Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of advanced/smart meters in greater depth at a later date? You would receive £50 as a thank you for your time.</p>		
willing to take part	1	Record contact details below
Refused	2	Thank & Close
Name		
Job title/role		
Address		

Annex A: Stage 1 Recruitment Questionnaires

<i>T/p</i>	
<i>email</i>	

Q19 *If willing to take part in main study:* For both the respondent and each of the individuals identified at Q17a

- record who, if any one, needs to be contacted to confirm that they can take part in a research interview (e.g. line manager)**
- record a contact telephone number for each
- record an email address if possible for each

NB we anticipate involving a maximum of three members of staff in the research (including the respondent); the final choice of who to include will be made by the researcher when they contact the respondent.

Staff Member	name of person who needs to be contacted to get permission (leave blank if not necessary)**	Telephone No	email
Respondent			
1			
2			
3			
4			
5			
6			
7			
8			

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17A BEFORE PROCEEDING

****NB note to recruiter:** you must contact these individuals and seek their agreement for researchers to visit the organisation/interview these people before passing on the details to the research team

NOTE: If it is not the participant's (ie main contact's) tel no. and email recorded above (ie it is for someone you have to speak to to get permission for the main contact to participate) please record the main contact's contact details below.

Main contact tel no.

Main contact email:

If information about electricity meter class profile was not available (code 3 @ Q8a): explain to respondent you will email them instructions on how to find this information on their bill – it should be very straight forward. Make sure you have the correct email address.

INTERVIEWER –VERY IMPORTANT – PLEASE TICK TO CONFIRM YOU HAVE EXPLAINED ALL ABOUT THE POSSIBLE RECORDINGS AND/OR TRANSCRIPTS AND WHETHER PERMISSION WAS GIVEN TO PASS THEM ON.

Yes, told about recording

Yes, happy for recording and/or transcript to be passed on

No, not happy for recording and/or transcript to be passed on

Q20 For the individuals/organisations identified at Q17b

- if only the organisation has been given, record if possible the name of an individual who deals with their business (e.g. an account manager)
- record a contact telephone number
- address
- record an email address if possible

NB check respondent is happy for us to involve these organisations – we will not share information about the respondent’s organisation with them but we want to understand their role in helping businesses manage their energy consumption and how advanced/smart meters can help. Landlords are often key because they may control what can/cannot be done within their buildings.

Contact	name**	Address	Telephone No	Email
1				
2				
3				
4				

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17B BEFORE PROCEEDING

*****NB note to recruiter: you must contact these individuals and seek their agreement for researchers to visit the organisation/interview these people before passing on the details to the research team***

Q21a If organisation does not have any advanced/smart meters installed but trying to reduce energy consumption is a high priority (code 1 @ Q10):

Thank you for answering these questions. We may wish to include you in the main study but this will depend on how many organisations we find that have advanced/smart meters installed. If we do, as I mentioned previously, the research would involve

- a member of the research team from Accent or Creative Research visiting your business (the site in question) at a convenient time and date; he/she will get in touch shortly to make the arrangements; we will try to arrange the visit in such a way as to minimise our impact on normal operations
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or more members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker based on the site, a senior decision maker based at ‘head office’, one or two other members of staff who have a role to play in either developing the business’ approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 per person. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research?

Willing to take part in main study	1	<i>Record respondent's contact details below; explain you will get in touch if we need them to take part</i>
Unwilling to take part in main study	2	<i>Ask Q21b</i>
<p>Q21b. If unwilling to take part in main study: Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of energy management in greater depth? You would receive £50 as a thank you for your time.</p>		
willing to take part	1	<i>Record contact details below</i>
refused	2	<i>Thank & Close</i>
Name		
Job title/role		

Annex A: Stage 1 Recruitment Questionnaires

<i>Address</i>	
<i>T/p</i>	
<i>email</i>	

If respondent is re-contacted to take part, you must complete Q19-20 at that time.

Summary of Quotas for Cluster 1

All to be sites that are part of a chain that are Profile Class 3-4 (elec).

Where a business is eligible to take part but are unwilling to commit to a full case study, we will ask them if they would be willing to take part in a follow-up telephone interview.

Type of outlet	<ul style="list-style-type: none">• 2 hotels with restaurant• 1 restaurant/café/coffee shop• 1 pub with restaurant• 1 franchised restaurant/café/coffee shop
Regional location (tbc) for Clusters 1-2	<ul style="list-style-type: none">• 11 in England (spread across SE/SW/E/Mid/NW/NE)• 2 in Wales• 3 in Scotland
Size of business across all sites	<ul style="list-style-type: none">• 1-2 with up to 10 employees if found• 1-2 with 11-50 employees• 1-2 with 51-250 employees• 1-2 with over 250 employees
Size of business at case study site	<ul style="list-style-type: none">• 1-3 with 2-10 employees• 1-3 with 11-50 employees
Owner occupiers/tenants	<ul style="list-style-type: none">• 2-3 of each
Tenants	<ul style="list-style-type: none">• all to pay energy bills directly to energy company
Energy use	<ul style="list-style-type: none">• At least 1 with electricity only• at least 2 with electricity and gas
Type of meter	<ul style="list-style-type: none">• we will aim to recruit all sites with advanced/smart meters but if we struggle to achieve this, we will recruit a maximum of 2 sites with traditional meters provided reducing their energy consumption is a high priority• initially, we will invite any such sites to be placed on a reserve list; once we have recruited a minimum of 3 sites with advanced/smart meters and we are getting to wards the end of the recruitment period, we will aim to recruit the remaining cases studies

- Use of advanced/smart meter data
- from the reserve list
- 1 champion: using data at least monthly and have achieved significant reductions/savings (NB any nominated 'champions' will be screened in the same way as all other organisations i.e. we will not rely on someone else's opinion of who is 'leading the way')
 - 1-2 'struggling aspirers': are accessing/using the data but have found it difficult to achieve savings/reductions
 - 1 'passive user' if possible: accessing the data but not using it to reduce costs/consumption
 - 2 'non users': not access the data
 - NB these numbers will change if we have to include 1-2 with traditional meters

Recruitment Screener: Cluster 2

RQ number (ON LOG OR RESP. LIST): URN:

Interviewer name:
Time:

Interviewer no:

Date:

Checked (SUPERVISOR ONLY – USE RED TO FILL IN)

Quality controlled by on/...../.....

RECRUIT	
RESERVE	

Added to resp. list/log on/...../.....by **Are you sure?** Y / NExec informed by email on...../...../.....by **Acknowledged by exec?** Y / N**Confirmation letter/email (SUPERVISOR ONLY – USE RED TO FILL IN)**Confirmation sent via on/...../.....by (initials).....
IF CONF. SENT BY EMAIL, PHONE & CHECK IF EMAIL RECEIVED A FEW MINS AFTER EMAIL SENT:

Has email been received? Call made on/...../.....by (initials).....

Record sample source

In-house leads (e.g. Delta EE)	1	
Leads from workshops	2	
Supplier leads	3	
Purchased sample	4	
Does sample source confirm the site's electricity meter Class Profile as 3 or 4?		
Yes	1	
No	2	

Code below organisation type

A primary school under Local Authority control	C2P1	Recruit 1 of each
A primary school that is an Academy	C2P2	
A secondary school under Local Authority control	C2S1	Recruit 2
A secondary school that is an Academy	C2S2	Recruit 1
NB one of the Academies should operate on a 'stand alone' basis and one should be part of a group of schools		
Stand alone Academy	1	Recruit 1 of each
Academy that is part of a group of schools	2	
Record based on sample/contact (ie if school address = 1, if Local Authority or other central address = 2)		

Annex A: Stage 1 Recruitment Questionnaires

Respondent is based at the school		1			
Respondent is based in the LA/Academy central management		2			
<i>Code below regional location from sample</i>					
London/South East	1	<i>Recruit 3</i>	North East	2	<i>Recruit 2</i>
East	2	<i>Recruit 1</i>	Wales	7	<i>Recruit 2</i>
South West	3	<i>Recruit 1</i>	Scotland (central)	8	<i>Recruit 2</i>
Midlands	4	<i>Recruit 2</i>	Scotland (other)	9	<i>Recruit 1</i>
North West	5	<i>Recruit 2</i>			

Introduction

IF PURCHASED SAMPLE OF SCHOOLS SAY: Good morning/afternoon/evening. My name is calling from Accent an independent research company. We are conducting some research for the Department of Energy and Climate Change looking at the energy meters and energy management needs of schools. Please can I speak to whoever is responsible for managing energy use at your school? **(NB** *When recruiting for Cluster 2: initial contact should be with the school, although we may want to include in the main study someone from the Local Authority/Academy central management (where the school is part of a group). If, during this initial contact, it turns out that the main decision maker is based in the Local Authority/Academy central management, you should conduct the initial screening interview with this person but the focus of the interview should be on the specific school. You will then need to contact named people identified at Q18a and b as we will want to visit the school and interview one or more of them)*

IF SUPPLIED SAMPLE & ADDRESS IS “NOT” A SCHOOL (EG MAY BE A LOCAL AUTHORITY): Good morning/afternoon/evening. My name is calling from Accent an independent research company. We are conducting some research for the Department of Energy and Climate Change looking at the energy meters and energy management needs of schools and I understand that you would be the right person to talk to about this. I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

IF SUPPLIED SAMPLE AND ADDRESS IS A SCHOOL: Good morning/afternoon/evening. My name is calling from Accent an independent research company. We are conducting some research for the Department of Energy and Climate Change among a number of schools about their energy meters and energy management needs. I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

ALL: This is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence. Can you spare 5-10 minutes to run through some questions to check that you are eligible to take part in this research?

Identifying the appropriate person to speak to

<p>Q1a. We are looking to speak to the person who is responsible for making decisions about how the school uses energy, including the cost of energy and how the school might lower its energy use and/or costs. Which of these best describes your role as regards energy management within (IF A SCHOOL SAY: your school; IF A LOCAL AUTHORITY (LA) OR OTHER CENTRAL MANAGEMENT LOCATION SAY the schools under your control)? <i>CODE ALL THAT APPLY</i></p>		
I am the main person responsible for making decisions about how the school(s) uses energy	1	<i>Continue</i>
While not the final decision-maker, I am the main person responsible for how the school(s) uses energy. The decision-maker looks to me for advice.	2	<i>Continue</i>
I deal with the energy bills but I don't make or influence decisions about how the school(s) uses energy	3	<i>Ask to speak to main person who deals with energy management within school/ Local Authority/Academy central management</i>
I do not get involved in issues or decisions about how the school(s) uses energy	4	
Other role WRITE IN ROLE	5	<i>Check if acceptable role for interviewing</i>
<p>Q1b. Record respondent's name and their role/job title</p>		
<p> </p>		

Recruiter: listed below are some possible roles in terms of who we may wish to include in the research. This is not a definitive list but it may help clarify the types of people we need to include

- | | |
|--------------------|------------------------------|
| Bursar | Head Teacher/Headmaster/ |
| Site Manager | Principal |
| Facilities Manager | Teacher |
| Financial Manager | Governor |
| Energy Manager | LA Head of Education |
| Business Manager | LA Energy specialist/manager |
| Caretaker | |

Establishing eligibility

We are looking to find a range of different types of school to include in the research which will involve:

- a member of the research team visiting (**IF A SCHOOL SAY:** your school; **IF LA OR OTHER CENTRAL MANAGEMENT LOCATION SAY:** one of the schools) at a convenient time and date
- during the visit, the researcher would like to be shown around so they can understand how the school currently uses and manages its energy
- the researcher would also like to conduct interviews with one or more members of staff/people involved in energy management – the precise number and the people concerned will vary from school to school but is likely to include: the senior decision maker based at the school, a senior decision maker based within the Local Authority/Academy central management team (***NB when recruiting a 'stand alone' Academy, there may not be a separate management team***), one or two other members of staff who have a role to play in either developing the business' energy management policy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 per person. This can be provided either as a payment to the school as a whole, to the individuals concerned or as a donation to a charity of choice.

I need to ask you some questions about (**IF A SCHOOL SAY:** your school; **IF LA OR OTHER CENTRAL MANAGEMENT LOCATION SAY:** one of the schools) and its use of energy to help us find the right range of schools.

IF LA OR OTHER CENTRAL MANAGEMENT LOCATION SAY: For the purposes of this research we need to focus on just one of the schools. ***Either explain which school we wish to focus on (if provided on lists) or invite them to nominate a specific site based on the following criteria:***

- *the Class Profile of the electricity meters are 3 or 4 (if known)*
- *has one or more advanced/smart meters (if none installed at any site, reducing energy consumption should be a high priority)*

Explain that the following questions relate to the nominated school and record details below.

IF A SCHOOL SAY: The following questions relate to the school you are responsible for. ***Confirm that the address is as in your sample; record address (or correct address) below.***

Write in full name and address of school/nominated school including postcode

Annex A: Stage 1 Recruitment Questionnaires

Q2a Which of the following best describes this school?		
A primary school under Local Authority control	C2P1	<i>Recruit 1</i>
A primary school that is an Academy	C2P2	<i>Recruit 1</i>
A secondary school that is under Local Authority control	C2S1	<i>Recruit 2</i>
A secondary school that is an Academy	C2S2	<i>Recruit 1</i>
A primary or secondary diocese school (e.g. C of E)	C2D1	<i>Recruit max 1 if found as an alternative to either C2P1 or one of the two C2S1 schools</i>
Q2b Ask if Academy, else go to Q3a: And which of the following best describes the Academy?		
Stand alone Academy	1	<i>Recruit 1 of each</i>
Academy that is part of a group of schools	2	

Q3a Ask all: What is the size of the school, in terms of the total number of permanent employees/members of staff?			
under 11 employees	1		
11-50 employees	2		
51-250 employees	3		
over 250 employees	4		
Q3b And how many students are there at this school? <i>Write in then code below:</i>			
		Primary	Secondary
under 200	1	<i>Recruit 1 Primary</i>	<i>Recruit 1 Secondary with fewer than 700 pupils</i>
201-400	2	<i>Recruit 1 Primary school with over 200 pupils</i>	
401-700	3		
701-1000	4		<i>Recruit 1 Secondary</i>
over 1000	5		<i>Recruit 1 Secondary</i>

Q4 *There is no Q4*

Q5a Ask all: How does the school pay its energy bills?		
The school receives the bill and pay it directly to the energy company/ies	1	<i>As found</i>
The school receives the bill and pays i/sends itt to the LA/Academy central management who then pay the bills	2	
The bills go to the LA/Academy central management who pay it	3	

Annex A: Stage 1 Recruitment Questionnaires

Some other arrangement <i>write in</i>	4	
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Annex A: Stage 1 Recruitment Questionnaires

Q6. Which of these types of energy does your school use?		
Electricity only	1	<i>Recruit at least 1</i>
Electricity and Gas	2	<i>Recruit at least 1</i>
Other e.g. oil, LPG: write in all other types used	3	<i>As found but all must use electricity as well</i>

Q7. There is no Q7 for Cluster 2

If Profile Class of school is confirmed on sample list skip to Q9

Q8a. *Explain to respondent that you need to check a detail from their electricity bill. If this is easily available, ask respondent to answer Q8b using their bill. If the bill is not easily available, ask respondent to provide their best guestimates and you will send them an email at the end of the interview/phone them back to confirm their answer.*

Do you know what profile class your electricity meter is at this site?

Yes	1	<i>Go to Q8b</i>
No but respondent has bill to hand <i>Explain where to find this information</i>	2	<i>Go to Q8b</i>

Your electricity bill will display a small table which has a large letter 'S' followed by two rows of numbers one above the other; each row has 3 sets of numbers. If you look at the first set of numbers in the top row, this corresponds to the profile class. Can you read out these numbers? The example on the left below is for a single meter from profile class 3. The example on the right is for a site with 2 meters, the first one is from profile class 4 and the second is profile class 3. NB profile class 4 relates to an Economy 7 type tariff – cheaper electricity over night

Site details																			
Site number	800256																		
Site reference	426008																		
Supply number	<table border="1"> <tr> <td>S</td> <td>04</td> <td>576</td> <td>140</td> </tr> <tr> <td>20</td> <td>00000886</td> <td colspan="2">389</td> </tr> <tr> <td>S</td> <td>03</td> <td>501</td> <td>126</td> </tr> <tr> <td>20</td> <td>00000886</td> <td colspan="2">398</td> </tr> </table>			S	04	576	140	20	00000886	389		S	03	501	126	20	00000886	398	
S	04	576	140																
20	00000886	389																	
S	03	501	126																
20	00000886	398																	

S	03	123	456
	23	6789	0123 456

No and respondent does not have bill to hand	3	<i>Skip to Q9</i>
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Q8b. Code Profile Class

Profile Class 1 or 2	1	<i>CLOSE</i>
Profile Class 3	2	<i>Continue</i>
Profile Class 4	3	<i>Continue</i>
Profile Class 5 to 8	4	<i>CLOSE</i>
Profile Class 00 or 9	5	<i>CLOSE</i>

Q9 Thinking about the overall operating costs of the school, would you say that your energy costs represents... *(Ask respondent to provide their best guestimate)*

Annex A: Stage 1 Recruitment Questionnaires

a tiny proportion of the total operating cost	1	<i>As found</i>
a small proportion of the total operating cost	2	
a medium proportion of the total operating cost	3	
a high proportion of the total operating cost	4	
DK	5	

Q10	How important is it to your school to try and reduce your energy consumption? Compared to all aspects of your school, would you say it is...		
	A high priority	1	
	A medium priority	2	
	A low priority	3	
	Don't know	4	

Q11a	As far as you are aware, do you have a smart or advanced meter for electricity at this school? (NB. READ OUT DEFINITION BELOW IF NEED BE)		
	We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
	We have at least one 'smart meter'	2	
	We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
	We have a meter that is neither an advanced nor a smart meter	4	
	Don't know	5	
Q11b	ASK IF ALSO HAVE GAS AT SITE: As far as you are aware, do you have a smart or advanced meter for gas at this school?		
	We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
	We have at least one 'smart meter'	2	
	We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
	We have a meter that is neither an advanced nor a smart meter	4	
	Don't know	5	
<p>NB Ideally, all schools should have at least one advanced or smart meter installed at the site – either electric or gas.</p> <p>If respondent answers DK at Q11a (and at Q11b if has gas supply): you need to find out if there is someone within the organisation who can confirm this information; for example, if you are talking to the site manager, there may be someone at 'head office' who can confirm this, in which case you will need to contact them and confirm the situation. If there is no one who can confirm this, you should thank and close.</p> <p>If no advanced/smart meters installed:</p> <p>If saving energy is a high priority (code 1 @ Q10) – continue (but maximum of 2 per cluster and see instructions at end). All others: CLOSE</p> <p>ADVANCED METER – a meter that can provide you with information on your energy usage, so you can see what you have used in each hour or half hour of the day. You have to request this information from your supplier. Advanced meters typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.</p> <p>SMART METER – this is the next stage on from an advanced meter. Smart meters provide you with near real-time information on energy usage, for example through web based reports that you log onto to see. As well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem).</p>			

Annex A: Stage 1 Recruitment Questionnaires

Q12 Ask all with advanced/smart meter: Do you/does the school use any of the data available from the advanced/smart meter(s)?		
Yes	1	<i>Ask Q13</i>
No	2	<i>Skip to Q16</i>
DK	3	

Q13 Ask all with advanced/smart meter who use the data: How do you/your school access/receive the data from your advanced/smart meter(s)		
We access the data ourselves e.g. via a laptop	1	
The data is provided to us by the LA/Academy central management	2	
The data is provided to us by our energy provider	3	
The data is provided to us by a third party: <i>write in the type of third party e.g. a monitoring and targeting business</i>	4	
Some other way: <i>write in brief description</i>		
DK	5	

Q14 Ask all with advanced/smart meter who use the data: How often do you/your school access/receive the data from your advanced/smart meter(s)		
Daily	1	
at least once a week	2	
at least once a fortnight	3	
at least once a month	4	
at least once every 3 months	5	
at least once every 6 months	6	
at least once a year	7	
less often	8	
DK	9	

<p>Q15 <i>Ask all with advanced/smart meter who use the data:</i> Which ONE of the following statements best sums up how you have used the data from your advanced/smart meter(s)?</p>		
It has helped us to significantly reduce our energy consumption and/or our energy bills	1	
We have tried to use the data to help us reduce our energy consumption and/or energy bills but this has proved difficult	2	
We/the LA/Academy central management use the data to compare the energy consumption across different schools but it is not used to try and reduce our energy consumption and/or our bills	3	
The data is interesting to see but we do not use it to help reduce our consumption and/or our bills	4	
<i>If none of the above apply: write in brief description of how the data is used</i>	5	
DK	6	

<p>Q16 <i>Use the answers to Q12-15 to code organisation into one of the following. NB if code 5 @ Q16 you will need to use the description of how the data is used to classify appropriately</i></p>		
Champion: using the data (code 1 @ Q12) at least once a month (codes 1-4 @ Q14) and have achieved significant reductions in consumption/bills (code 1 @ Q15)	1	<i>Recruit 1 per cluster</i>
Struggling Aspirer: using the data (code 1 @ Q12) but have found it difficult to achieve reductions in consumption/bills (code 2 @ Q15)	2	<i>Recruit 1-2 per cluster</i>
Passive user: accessing the data (code 1 @ Q12) but not using it to reduce consumption/bills (codes 3-4 @ Q15)	3	<i>Recruit 1 per cluster if possible</i>
Non user: not accessing the data codes 2-3 @ Q12	4	<i>Recruit 2 per cluster</i>

Annex A: Stage 1 Recruitment Questionnaires

Q17a Apart from yourself, who else **within the school** (including governors if relevant) has a role to play managing the school's use of energy. This could be in relation to decisions about how the school uses energy or in terms of implementing these decisions (e.g. decisions about what equipment to purchase, staff training, etc.) or in terms of monitoring how energy is being used.

Record both their names and their job titles/roles

	Name	job title/role
Staff member 1:		
Staff member 2:		
Staff member 3:		
Staff member 4:		
And now thinking about any staff who are based <u>within the LA/Academy central management</u> , who else has a role to play? <i>Record both their names and their job titles/roles</i>		
	Name	job title/role
Staff member 5:		
Staff member 6:		
Staff member 7:		
Staff member 8:		

Recruiter: listed below are some possible roles in terms of who we may wish to include in the research. This is not a definitive list but it may help clarify the types of people we need to include

Bursar	Head Teacher/Headmaster/
Site Manager	Principal
Facilities Manager	Teacher
Financial Manager	Governor
Energy Manager	LA Head of Education
Business Manager	LA Energy specialist/manager
Caretaker	

Q17b And are there any individuals or organisations **outside of the school/LA/Academy central management**, that have a role to play in terms of how your school manages its energy? For example, this might be an energy consultant, or an organisation that provides you with data and/or advice about how to use the data from any advanced/smart meters

NB if advanced/smart meter data is provided by a third party (code 4 @ Q13) prompt for details of the organisation concerned

Record their names, their job titles/roles and the organisation they work for

	name	job title/role	organisation
Contact 1:			

Annex A: Stage 1 Recruitment Questionnaires

Contact 2:			
Contact 3:			
Contact 4:			

Q18a **If organisation has one or more advanced/smart meters installed and is in quota say (else go to Q21a):** Thank you for answering those questions, you are in scope for this project and we would be very grateful if you could spare the time to take part in this important study for the Department of Energy and Climate Change. As I mentioned it would involve:

- a member of the research team from Accent or Creative Research visiting the school at a convenient time and date in July; he/she will get in touch shortly to make the arrangements
- during the visit, the researcher would like to be shown around so they can understand how the school currently uses and manages its energy
- he/she would also like to conduct interviews with one or more members of staff/people involved in energy management; each interview may last about 1 hour – the precise number and the people concerned will be discussed with you when the researcher contacts you but is likely to include: the senior decision maker based at the school, a senior decision maker based within the Local Authority/Academy central management team (***NB when recruiting a ‘stand alone’ Academy, there may not be a separate management team***), one or two other members of staff who have a role to play in either developing the business’ approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 **per person**. This can be provided either as a payment to the school as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research?

Willing to take part in main study	1	<i>Go to Q19</i>
Willing to take part in main study but not available in July	2	<i>If not possible to conduct site visit before end of July say that you will place them on a reserve list in case the fieldwork period is extended instead and ask Q18b</i>
Unwilling to take part in main study	3	<i>Ask Q18b</i>

Q18b. *If unwilling to take part in main study:* Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of advanced/smart meters in greater depth at a later date? You would receive £50 as a thank you for your time.

willing to take part	1	<i>Record contact details</i>
refused	2	<i>Thank & Close</i>

Name

Annex A: Stage 1 Recruitment Questionnaires

<i>Job title/role</i>	
<i>Address</i>	
<i>T/p</i>	
<i>email</i>	

Q19 *If willing to take part in main study:* For both the respondent and each of the individuals identified at Q17a

- record who, if any one, needs to be contacted to confirm that they can take part in a research interview (e.g. head teacher)**
- record a contact telephone number for each
- record an email address if possible for each

NB we anticipate involving a maximum of three members of staff in the research; the final choice of who to include will be made by the researcher when they contact the respondent.

Staff Member	name of person who needs to be contacted to get permission (leave blank if not necessary)**	Telephone No	Email
Respondent			
1			
2			
3			
4			
5			
6			
7			
8			

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17A BEFORE PROCEEDING

****NB note to recruiter:** you must contact these individuals and seek their agreement for researchers to visit the school/interview these people before passing on the details to the research team

NOTE: If it is not the participant's (ie main contact's) tel no. and email recorded above (ie it is for someone you have to speak to to get permission for the main contact to participate) please record the main contact's contact details below.

Main contact tel no.

Main contact email:

If information about electricity meter class profile was not available (code 3 @ Q8a): explain to respondent you will email them instructions on how to find this information on their bill – it should be very straight forward. Make sure you have the correct email address. (The person responsible for the bills may be different to the respondent – in which case, check to see who the email should be sent to. (If someone else, ask respondent to alert this individual to expect the email)

INTERVIEWER –VERY IMPORTANT – PLEASE TICK TO CONFIRM YOU HAVE EXPLAINED ALL ABOUT THE POSSIBLE RECORDINGS AND/OR TRANSCRIPTS AND WHETHER PERMISSION WAS GIVEN TO PASS THEM ON.

Yes, told about recording

Yes, happy for recording and/or transcript to be passed on

No, not happy for recording and/or transcript to be passed on

Q20 For the individuals/organisations identified at Q17b

- if only the organisation has been given, record if possible the name of an individual who deals with their school (e.g. an account manager)
- record a contact telephone number
- address
- record an email address if possible

NB check respondent is happy for us to involve these organisations – we will not share information about the school with them but we want to understand their role in helping schools manage their energy consumption and how advanced/smart meters can help.

Contact	name**	address	Telephone No	Email
1				
2				
3				
4				

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17B BEFORE PROCEEDING

*****NB note to recruiter: you must contact these individuals and seek their agreement for researchers to visit the school/interview these people before passing on the details to the research team***

Q21a If organisation does not have any advanced/smart meters installed but trying to reduce energy consumption is a high priority (code 1 @ Q10):

Thank you for answering those questions. We may wish to include you in the main study but this will depend on how many schools we find that have advanced/smart meters installed – If we do, as I mentioned previously, the research would involve:

- a member of the research team from Accent or Creative Research visiting the school at a convenient time and date; he/she will get in touch shortly to make the arrangements
- during the visit, the researcher would like to be shown around so they can understand how the school currently uses and manages its energy
- he/she would also like to conduct interviews with one or more members of staff/people involved in energy management; each interview may last about 1 hour – the precise number and the people concerned will be discussed with you when the researcher contacts you but is likely to include: the senior decision maker based at the school, a senior decision maker based within the Local Authority/Academy central management team (***NB when recruiting a 'stand alone' Academy, there may not be a separate management team***), one or two other members of staff who have a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; the amount will depend on the number of people we interview – we will pay £150 **per person**. This can be provided either as a payment to the school as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research?

Willing to take part in main study	1	<i>Record respondent's contact details below; explain you will get in touch if we need them to take part</i>
Unwilling to take part in main study	2	<i>Ask Q21b</i>
<p>Q21b. <i>If unwilling to take part in main study:</i> Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of energy management in greater depth? You would receive £50 as a thank you for your time.</p>		
willing to take part	1	<i>Record contact details</i>
refused	2	<i>Thank & Close</i>
Name		

Annex A: Stage 1 Recruitment Questionnaires

<i>Job title/role</i>	
<i>Address</i>	
<i>T/p</i>	
<i>email</i>	

If respondent is re-contacted to take part, you must complete Q19-20 at that time.

Summary of Quotas for Cluster 2

All to be sites that are Profile Class 3-4 (elec).

Where a school is eligible to take part but is unwilling to commit to a full case study, we will ask them if they would be willing to take part in a follow-up telephone interview.

Type of school	<ul style="list-style-type: none">• 2 primary (1 Academy)• 3 secondary (1 Academy)• 1 Academy to be 'stand alone' and one to be part of a 'group'• 1 diocese primary or secondary school can be recruited as an alternative to one of the non Academy schools
Regional location (tbc)	ACROSS ALL CASE STUDIES <ul style="list-style-type: none">• 11 in England (spread across SE/SW/E/Mid/NW/NE)• 2 in Wales• 3 in Scotland
Size of school	<ul style="list-style-type: none">• 1 small primary (under 200 pupils)• 1 large primary (Over 200 pupils)• 1 small secondary (under 700 pupils)• 1 medium secondary (701-1000 pupils)• 1 large secondary (>1000 pupils)
Energy use	<ul style="list-style-type: none">• at least 1 with electricity only• at least 1 with electricity and gas
Type of meter	<ul style="list-style-type: none">• we will aim to recruit all sites with advanced/smart meters but if we struggle to achieve this, we will recruit a maximum of 2 sites with traditional meters provided reducing their energy consumption is a high priority• initially, we will invite any such sites to be placed on a reserve list; once we have recruited a minimum of 3 sites with advanced/smart meters and we are getting to wards the end of the recruitment period, we will aim to recruit the remaining cases studies from the reserve list

Use of advanced/smart meter data

- 1 champion: using data at least monthly and have achieved significant reductions/savings (NB any nominated 'champions' will be screened in the same way as all other organisations i.e. we will not rely on someone else's opinion of who is 'leading the way')
- 1-2 'struggling aspirers': are accessing/using the data but have found it difficult to achieve savings/reductions
- 1 'passive user' if possible: accessing the data but not using it to reduce costs/consumption
- 2 'non users': not access the data
- NB these numbers will change if we have to include 1-2 with traditional meters

Annex A: Stage 1 Recruitment Questionnaires

etc.		
<i>Write in below the nature of the business (e.g. baker, CNT, grocers, etc)</i>		

Code below regional location from sample					
London/South East	1	Recruit 3	North East	6	Recruit 2
East	2	Recruit 1	Wales	7	Recruit 2
South West	3	Recruit 1	Scotland (central)	8	Recruit 2
Midlands	4	Recruit 2	Scotland (other)	9	Recruit 1
North West	5	Recruit 2			

Briefing note

This note aims to provide further guidance in relation to Q1a-b, Q2 and Q3a-b.

If you speak to someone who runs more than one business (Q1a), you need to differentiate between different types of business (e.g. a laundrette, a grocers) and focus on just one of these (assuming it is in quota). If two of the businesses are in quota, give precedence to the business that has advanced/smart meters (if any). The recruitment questions relate to just a single business.

*The majority of SMEs (86%) have just one site and most of the remainder (11%) have only 2-3 so we anticipate that all/most businesses will be based at a single site (**code 1 @ Q2**) but you may come across some who operate from several sites.*

*If the business operates from 2-3 sites (**code 2 @ Q2**), give precedence to the site that has advanced/smart meters (if any). The recruitment questions only apply to **this site**.*

*If the business operates from more than 3 sites (**code 3 @ Q2**): **CLOSE**.*

*The only exception to this is where a single business operates from two sites, one that is not public facing and one that is – for example, a bakery might carry out its baking at one site and sell its goods at a second (**code 4 @ Q2**). In this situation, the recruitment questions apply to both sites (and when the researcher visits s/he will want to see both sites).*

*If the business operates from more than 2 sites (mix of public facing and not public facing) (**code 5 @ Q2**): **CLOSE**.*

Q3a applies to a business that operates from 2-3 sites while Q3b applies to the site/both sites that the screening interview is focusing on.

Introduction

IF PURCHASED SAMPLE OR NO CONTACT NAME SAY: Good morning/afternoon/ evening. Please can I speak to whoever is responsible for making decisions about how the business uses energy, including the cost of energy and how the business might lower its energy use and/or costs, or the person who pays the bills? **Interviewer:** *NB When recruiting for Cluster 3: the initial contact should be with the owner or manager of the business. If they say all their energy needs and bills are handled by their landlord – **thank and close.***

ALL: Good morning/afternoon/evening. My name is calling from Accent an independent market research company. We are conducting some research for the Department of Energy and Climate Change among a number of businesses about their energy meters and energy management needs. I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

This is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence. Can you spare 10 minutes or so to run through some questions to check that you are eligible to take part in this research?

Identifying the appropriate person to speak to

Q1a. We are looking to speak to the person who is responsible for paying electricity/gas bills and for decisions about how the business uses energy. Which of these best describes your role within your business? CODE ALL THAT APPLY		
I am the business owner and the main person responsible for paying electricity/gas bills and making decisions about how the business uses energy	1	<i>Continue</i>
While not the final decision-maker or the person responsible for paying electricity/gas bills, I am the main person responsible for how the business uses energy. The decision-maker looks to me for advice.	2	<i>Continue</i>
I deal with the energy bills but I don't make or influence decisions about how the business uses energy	3	<i>Ask to speak to main person who deals with energy management within business</i>
I do not get involved in energy management issues or decisions in this business	4	
All of our energy needs and bills are handled by our landlord	5	Thank & close
Other role WRITE IN ROLE	6	<i>Check if acceptable role for interviewing</i>
Q1b Record respondent's name and their role/job title		

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Establishing eligibility

We are looking to find a range of different types of businesses to take part in the research which will involve:

- a member of the research team visiting your business at a convenient time and date
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or possibly two members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker (presumably yourself) and possibly another member of staff who has a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; we will pay £150 **per person**. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.

I need to ask you some questions about your business and its use of energy to help us do this. All the information provided will be treated in confidence.

Q1c Can I begin by confirming that your business could be described as a small, independent, business that sells directly to the public? <i>(NB. this includes independent restaurants, hotels/guest houses, retailers, hairdressers, laundrettes, corner shops, grocers, CNT, book shops, delis etc)?</i>		
Yes	1	<i>Continue</i>
No	2	THANK & CLOSE
Q1d What, specifically, is the activity at your business premises?		
WRITE IN:		
INTERVIEWER: <i>this must be an activity along the lines of those described above; if not, THANK & CLOSE; if unsure, check & call back. CODE BELOW</i>		
An independent restaurant/café/coffee shop but excluding any which are predominantly takeaways; food and drink must be both prepared and consumed on the premises	C3Hi1	<i>Recruit 1</i>
An independent hotel/guest house with its own kitchen and restaurant	C3Hi2	<i>Recruit 1</i>
An independent high energy customer facing retailer e.g. baker, hairdresser, laundrette, etc	C3Hi3	<i>Recruit 1</i>
A low energy using independent customer facing retailer such as a corner shop, bookshop, deli etc.	C3Lo	<i>Recruit 3</i>

Annex A: Stage 1 Recruitment Questionnaires

Q2 Including this site/shop, how many other sites/shops does your business have?		
WRITE IN NUMBER:	<i>Probe and code as appropriate below</i>	
1 site/shop based at a single site	1	CONTINUE
2-3 sites/shops	2	CONTINUE
more than 3 sites/shops	3	CLOSE
1 site/shop based at 2 sites only one of which is public facing e.g. a baker may bake their goods at one site and sell them at a second site	4	CONTINUE but make it clear that all the questions relate to <u>both</u> sites
1 site/shop but based at 3+ sites not all public facing	5	CLOSE

Write in full name and address of site/both sites including postcode(s)

Q3a ASK if respondent owns more than 1 shop/site (code 2 or 4 @ Q2) What is the size of the business, in terms of employee numbers across all sites ? Please include in this any family members who are involved in running the business.		
Sole trader	1	
2-10 employees	2	
11-50 employees	3	
51-250 employees	4	CLOSE
over 250 employees	5	
Q3b ASK ALL How many employees work at this site/both sites ? Please include in this any family members who are involved in running the business.		
Sole trader	1	CONTINUE
2-10 employees	2	
11-20 employees	3	
21-50 employees	4	CLOSE
51-250 employees	5	
over 250 employees	6	

Q4 Which of the following best describes the type of business premises?		
It is based in a residential house or flat (there is no separate business premises)	1	THANK AND CLOSE
We rent our premises as tenants	2	<i>Recruit at least 2 and no more than 3</i>
We are owner occupiers of our premises	3	<i>Recruit at least 2 and no more than 3</i>

Annex A: Stage 1 Recruitment Questionnaires

Q5a ASK OWNER Occupiers: How do you pay your energy bills?		
We receive the bill and pay it directly to the energy company/ies	1	<i>As found</i>
Some other arrangement <i>write in</i>	4	
Q5b ASK TENANTS: How do you pay your energy bills?		
We receive the bill and pay it directly to the energy company/ies	1	<i>Aim to recruit at least 1</i>
We receive the bill and pay it/send it to the landlord/managing agent who then pay the bills	2	<i>Aim to recruit at least 1 if found</i>
The bills go to the landlord/managing agent who pays it and then recovers it via a service charge	3	Thank & close
Our energy use is included as part of our rent i.e. we pay the same each month/quarter irrespective of how much energy we use	4	
Some other arrangement <i>write in</i>	5	

Q6. Which of these types of energy does your business use (at this site)?		
Electricity only	1	<i>Recruit at least 1</i>
Electricity and Gas	2	<i>Recruit at least 2</i>
Other e.g. oil, LPG: write in all other types used	3	<i>As found but all must use electricity as well</i>

Q7. Can I just check, are you on a business or a residential energy tariff at this site?		
Business	1	<i>Continue</i>
Residential	2	CLOSE

If Profile Class of business is confirmed on sample list skip to Q9

Q8a. Explain to respondent that you need to check a detail from their electricity bill. If this is easily available, ask respondent to answer Q8b using their bill. If the bill is not easily available, ask respondent to provide their best estimates and you will send them an email at the end of the interview/phone them back to confirm their answer.

Do you know what profile class your electricity meter is at this site?

Yes	1	Go to Q8b
No but respondent has bill to hand <i>Explain where to find this information</i>	2	Go to Q8b

Your electricity bill will display a small table which has a large letter 'S' followed by two rows of numbers one above the other; each row has 3 sets of numbers. If you look at the first set of numbers in the top row, this corresponds to the profile class. Can you read out these numbers? The example on the left below is for a single meter from profile class 3. The example on the right is for a site with 2 meters, the first one is from profile class 4 and the second is profile class 3. NB profile class 4 relates to an Economy 7 type tariff – cheaper electricity over night

Site details																	
Site number	800256																
Site reference	426008																
Supply number	<table border="1"> <tr> <td>S</td> <td>04</td> <td>576</td> <td>140</td> </tr> <tr> <td></td> <td>20</td> <td>00000886</td> <td>389</td> </tr> <tr> <td>S</td> <td>03</td> <td>501</td> <td>126</td> </tr> <tr> <td></td> <td>20</td> <td>00000886</td> <td>398</td> </tr> </table>	S	04	576	140		20	00000886	389	S	03	501	126		20	00000886	398
S	04	576	140														
	20	00000886	389														
S	03	501	126														
	20	00000886	398														

No and respondent does not have bill to hand	3	Skip to Q9
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Q8b. Code Profile Class

Profile Class 1 or 2	1	CLOSE
Profile Class 3	2	Continue
Profile Class 4	3	Continue
Profile Class 5 to 8	4	CLOSE
Profile Class 00 or 9	5	CLOSE

Q9 Thinking about the overall operating costs of the business, would you say that your energy costs represents... *(Ask respondent to provide their best estimate)*

a tiny proportion of the total operating cost	1	As found
a small proportion of the total operating cost	2	
a medium proportion of the total operating cost	3	
a high proportion of the total operating cost	4	
DK	5	

Q10 How important is it to your organisation to try and reduce your energy consumption? Compared to all aspects of your business, would you say it is...

A high priority	1
A medium priority	2

Annex A: Stage 1 Recruitment Questionnaires

A low priority	3	
Don't know	4	

Q11a As far as you are aware, do you have a smart or advanced meter for electricity at this site/both sites?		
We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
We have at least one 'smart meter'	2	
We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
We have a meter that is neither an advanced nor a smart meter	4	
Don't know	5	
Q11b ASK IF ALSO HAVE GAS AT SITE: As far as you are aware, do you have a smart or advanced meter for gas at this site/both sites?		
We have at least one 'advanced meter', but we do not have a 'smart meter' as such	1	
We have at least one 'smart meter'	2	
We have either an advanced or a 'smart' meter, but I'm not sure which it is	3	
We have a meter that is neither an advanced nor a smart meter	4	
Don't know	5	
<p>NB Ideally, all organisations should have at least one advanced or smart meter installed at the site/either site – either electric or gas.</p> <p>If respondent answers DK at Q11a (and at Q11b if has gas supply): you need to find out if there is someone within the organisation who can confirm this information; for example, if you are talking to the shop manager, the business owner may be able to confirm this, in which case you will need to contact them and confirm the situation. If there is no one who can confirm this, you should thank and close.</p> <p>If no advanced/smart meters installed:</p> <p>If saving energy is a high priority (code 1 @ Q11) – continue (but maximum of 4 per cluster and see instructions at end). All others: CLOSE</p> <p>ADVANCED METER – a meter that can provide you with information on your energy usage, so you can see what you have used in each hour or half hour of the day. You have to request this information from your supplier. Advanced meters typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.</p> <p>SMART METER – this is the next stage on from an advanced meter. Smart meters provide you with near real-time information on energy usage, for example through web based reports that you log onto to see. As well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem).</p>		

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Q12 Ask all with advanced/smart meter who use the data: How do you/your business access/receive the data from your advanced/smart meter(s)		
We access the data ourselves e.g. via a laptop	1	
The data is provided to us by 'head office'	2	
The data is provided to us by our energy provider	3	
The data is provided to us by a third party: <i>write in the type of third party e.g. a monitoring and targeting business</i>	4	
Some other way: <i>write in brief description</i>		
	DK	5

Q13 Ask all with advanced/smart meter who use the data: How often do you/your business access/receive the data from your advanced/smart meter(s)		
Daily	1	
at least once a week	2	
at least once a fortnight	3	
at least once a month	4	
at least once every 3 months	5	
at least once every 6 months	6	
at least once a year	7	
less often	8	
DK	9	

Q14 Ask all with advanced/smart meter who use the data: Which ONE of the following statements best sums up how you have used the data from your advanced/smart meter(s)?		
It has helped us to significantly reduce our energy consumption and/or our energy bills	1	
We have tried to use the data to help us reduce our energy consumption and/or energy bills but this has proved difficult	2	
We/'head office' use the data to compare the energy consumption across different sites but it is not used to try and reduce our energy consumption and/or our bills	3	
The data is interesting to see but we do not use it to help reduce our consumption and/or our bills	4	
<i>If none of the above apply: write in brief description of how the data is used</i>	5	

Annex A: Stage 1 Recruitment Questionnaires

DK	6	

Q15 Use the answers to Q12-14 to code organisation into one of the following. NB if code 5 @ Q14 you will need to use the description of how the data is used to classify appropriately

Champion: using the data (code 1 @ Q12) at least once a month (codes 1-4 @ Q13) and have achieved significant reductions in consumption/bills (code 1 @ Q14)	1	<i>Recruit 1 per cluster if possible</i>
Struggling Aspirer: using the data (code 1 @ Q12) but have found it difficult to achieve reductions in consumption/bills (code 2 @ Q14)	2	<i>Recruit 1-2 per cluster if possible</i>
Passive user: accessing the data (code 1 @ Q12) but not using it to reduce consumption/bills (codes 3-4 @ Q14)	3	<i>Recruit 1 per cluster if possible</i>
Non user: not accessing the data codes 2-3 @ Q12	4	<i>Recruit 2 per cluster if possible</i>
<i>NB: the priority is to recruit as many businesses with an advanced/smart meter and this should take precedence over the above</i>		

Q17a Apart from yourself, who else **within your business** has a role to play managing the organisation's use of energy. This could be in relation to decisions about how the business uses energy or in terms of implementing these decisions (e.g. decisions about what equipment to purchase, staff training, etc.) or in terms of monitoring how energy is being used or in terms of using energy e.g. kitchen staff
 Starting off with any staff who are based at the site itself, who else has a role to play? *Record both their names and their job titles/roles*
NB in this cluster it may only be the respondent who is involved.

	name	job title/role
Staff member 1:		
Staff member 2:		
Staff member 3:		
Staff member 4:		

Q17b And are there any individuals or organisations **outside of your own**, that have a role to play in terms of how your organisation manages its energy? For example, this might be an energy consultant, or an organisation that provides you with data and/or advice about how to use the data from any advanced/smart meters, or, if you have one, it may be a landlord or managing agent
NB if a tenant (code 2 @ Q4), ensure you ask for details of landlord
NB if advanced/smart meter data is provided by a third party (code 4 @ Q12) prompt for details of the organisation concerned
Record their names, their job titles/roles and the organisation they work for

	name	job title/role	Organisation
Contact 1:			
Contact 2:			
Contact 3:			
Contact 4:			

Q18a **If organisation has one or more advanced/smart meters installed and is in quota say, else go to Q21a:** Thank you for answering those questions, you are in scope for this project and we would be very grateful if you could spare the time to take part in this important study for the Department of Energy and Climate Change. As I mentioned it would involve:

- a member of the research team from Accent or Creative Research will visit your business (the site or sites, where 2, in question) at a convenient time and date in July; he/she will get in touch shortly to make the arrangements; we will try to arrange the visit in such a way as to minimise our impact on the business
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or possibly two members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker (presumably yourself) and possibly another member of staff who has a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; we will pay £150 **per person**. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research?

Willing to take part in main study	1	<i>Go to Q19</i>
Willing to take part in main study but not available in July	2	<i>If not possible to conduct site visit before end of July say that you will place them on a reserve list in case the fieldwork period is extended instead and ask Q18b</i>
Unwilling to take part in main study	3	<i>Ask Q18b</i>

Q18b. ***If unwilling to take part in main study:*** Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of advanced/smart meters in greater depth at a later date? You would receive £50 as a thank you for your time.

willing to take part	1	<i>Record contact details below</i>
refused	2	<i>Thank & Close</i>

Name

Job title/role

Address

Annex A: Stage 1 Recruitment Questionnaires

<i>T/p</i>	
<i>email</i>	

Q19 *If willing to take part in main study:* For both the respondent and each of the individuals identified at Q17a

- record who, if any one, needs to be contacted to confirm that they can take part in a research interview (e.g. line manager)**
- record a contact telephone number for each
- record an email address if possible for each

NB we anticipate involving a maximum of one member of staff in addition to the respondent in the research; the final choice of who to include will be made by the researcher when they contact the respondent.

Staff Member	name of person who needs to be contacted to get permission (leave blank if not necessary)**	Telephone No	Email
Respondent			
1			
2			
3			
4			

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17A BEFORE PROCEEDING

****NB note to recruiter:** you must contact these individuals and seek their agreement for researchers to visit the organisation/interview these people before passing on the details to the research team.

NOTE: If it is not the participant's (ie main contact's) tel no. and email recorded above (ie it is for someone you have to speak to to get permission for the main contact to participate) please record the main contact's contact details below.

Main contact tel no.

Main contact email:

If information about electricity meter class profile was not available (code 3 @ Q8a): explain to respondent you will email them instructions on how to find this information on their bill – it should be very straight forward. Make sure you have the correct email address.

INTERVIEWER –VERY IMPORTANT – PLEASE TICK TO CONFIRM YOU HAVE EXPLAINED ALL ABOUT THE POSSIBLE RECORDINGS AND/OR TRANSCRIPTS AND WHETHER PERMISSION WAS GIVEN TO PASS THEM ON.

Yes, told about recording

Yes, happy for recording and/or transcript to be passed on

No, not happy for recording and/or transcript to be passed on

Q20 For the individuals/organisations identified at Q17b

- if only the organisation has been given, record if possible the name of an individual who deals with their business (e.g. an account manager)
- record a contact telephone number
- address
- record an email address if possible

NB check respondent is happy for us to involve these organisations – we will not share information about the respondent’s organisation with them but we want to understand their role in helping businesses manage their energy consumption and how advanced/smart meters can help. Landlords are often key because they may control what can/cannot be done within their buildings.

Contact	name**	Address	Telephone No	Email
1				
2				
3				
4				

CHECK THE ABOVE DETAILS MATCH THOSE GIVEN AT Q17B BEFORE PROCEEDING

*****NB note to recruiter: you must contact these individuals and seek their agreement for researchers to visit the organisation/interview these people before passing on the details to the research team***

Q21a If organisation does not have any advanced/smart meters installed but trying to reduce energy consumption is a high priority (code 1 @ Q10): Thank you for answering those questions. We may wish to include you in the main study but this will depend on how many organisations we find that have advanced/smart meters installed. If we do, as I mentioned previously, the research would involve

- a member of the research team from Accent or Creative Research will visit your business (the site, or sites, if two, in question) at a convenient time and date; he/she will get in touch shortly to make the arrangements; we will try to arrange the visit in such a way as to minimise our impact on the business
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or possibly two members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker (presumably yourself) and possibly another member of staff who has a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you agree to take part in the main study we would like to offer a financial payment; we will pay £150 **per person**. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally and will only be used in grouped format. Would you be able to take part in our research?

Willing to take part in main study	1	<i>Record respondent's contact details below; explain you will get in touch if we need them to take part</i>
Unwilling to take part in main study	2	<i>Ask Q21b</i>

Q21b. If unwilling to take part in main study: Would you be willing to take part in a further telephone interview of up to 1 hour to explore your experiences of energy management in greater depth? You would receive £50 as a thank you for your time.

willing to take part	1	<i>Record contact details below</i>
refused	2	<i>Thank & Close</i>

Name	
Job title/role	
Address	
T/p	

Annex A: Stage 1 Recruitment Questionnaires

<i>email</i>	
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If respondent is re-contacted to take part, you must complete Q19-20 at that time.

Summary of Quotas for Cluster 3

All to be sites that are small, independent, customer facing businesses that are Profile Class 3-4 (elec).

Where a business is eligible to take part but are unwilling to commit to a full case study, we will ask them if they would be willing to take part in a follow-up telephone interview.

Type of outlet	<ul style="list-style-type: none">• 1 restaurant/café/coffee shop where food and drink are both prepared and consumed on the premises• 1 hotel/guest house with own restaurant and kitchen• 1 other high energy using independent customer facing retailers, such as a baker, hairdresser, laundrette, etc• 3 low energy using independent customer facing retailers, such as a corner shop, bookshop, deli etc.
Regional location (tbc)	FOR CASE STUDIES AS A WHOLE <ul style="list-style-type: none">• 11 in England (spread across SE/SW/E/Mid/NW/NE)• 2 in Wales• 3 in Scotland
Size of business	<ul style="list-style-type: none">• no more than 50 total number of employees (if owns more than 1 business)• no more than 20 employees at business that forms the case study
Owner occupiers/tenants	<ul style="list-style-type: none">• 2-3 of each
Tenants	<ul style="list-style-type: none">• aim to recruit at least 2 that pay energy bills directly to energy company• aim to recruit at least 1 that pay via the managing agent/landlord
Energy use	<ul style="list-style-type: none">• At least 1 with electricity only• at least 2 with electricity and gas
Type of meter	<ul style="list-style-type: none">• we will aim to recruit all sites with advanced/smart meters but without sample (i.e. businesses known to have

advanced/smart meters) we will struggle to achieve this, and we will need to include sites with traditional meters **provided** reducing their energy consumption is a high priority

- initially, we will invite any such sites to be placed on a reserve list; once we have recruited a minimum of 4 sites with advanced/smart meters or we are struggling to find them and we are getting to wards the end of the recruitment period, we will aim to recruit the remaining cases studies from the reserve list

Use of advanced/smart meter data

NB this is the ideal but the first priority will be to recruit businesses with an advanced/smart meter and this may override these quotas

- 1 champion: using data at least monthly and have achieved significant reductions/savings (NB any nominated 'champions' will be screened in the same way as all other organisations i.e. we will not rely on someone else's opinion of who is 'leading the way')
- 1-2 'struggling aspirers': are accessing/using the data but have found it difficult to achieve savings/reductions
- 1 'passive user' if possible: accessing the data but not using it to reduce costs/consumption
- 2 'non users': not access the data
- NB these numbers will change if we have to include businesses with traditional meters

Annex B – Stage 1 Case Study Topic Guides

Recruitment Screener: Cluster 1

NB You should ensure you have a copy of the screener questionnaire with you as this contains key information about the organisation's current use of energy and you may need to refer to it as you go. Cross-references to questions in the screener are indicated by (Qn).

When arranging appointments, researchers should ask the main respondent which of the internal actors are involved in **making decisions about energy management**, which are involved in **implementing energy efficiency policies** and which, if any, are **users of energy** (i.e. not involved in decision making or implementation; this might be a member of kitchen staff, a hair stylist, student, etc).

For C1 and C2, you should aim where possible to include at least one actor involved in decision making and one involved in implementing policies. Where the business/school has facilities which are likely to use large amounts of energy (e.g. a kitchen), you should aim to also include Users of energy (e.g. a chef).

This topic guide should be used for internal actors involved in decision making.

The interview also needs to be tailored according to the number of internal interviews being conducted. The first/main interview will need to cover as many of the issues as possible; subsequent interviews should be used as a cross-check as well as to explore differences in behaviour/attitude/perceptions etc. Items on a pink background would normally only need to be asked once.

When arranging appointments, researchers should ask the main respondent if possible to have recent energy bills to hand at the time of the interview. These can be used both to confirm the Class Profile as well as consumption/spend if necessary. You should also ask them, if possible, to have to hand copies of any relevant documents relating to energy, such as an energy policy document, an environmental policy, guidelines for staff relating to using energy efficiently, etc.

You should check in advance of your visit if the case study site has a DEC (Display Energy Certificate). All schools should have one and it is possible that other sites may. You can find out by entering the address details at <https://www.ndepcregister.com/>. Click on the link Retrieve Report Using Property Address, accept the terms and then enter the postcode. If there is a DEC, you should be able to download it, along with the Advisory Report (AR) if available. The AR will list a number of recommended actions for improving the energy efficiency of the site – you can explore what has been done in relation to these during the interview.

Introduction to research

- *Researcher introduces self and the aim of the research*
 - it is about how businesses/schools use energy
 - **where advanced/smart meters are installed**: it is also about experiences of advanced/smart meters and the extent to which these might make it easier for businesses/schools to manage their use of energy
 - **where traditional meters are installed**: it is also about how businesses/schools might use advanced/smart meters ie how the data provided might influence the way your organisation thinks about energy use

If respondent is unfamiliar with/unsure about advanced/smart meters, explain we will look at this in more detail during the interview

- the research is being carried out for the Department of Energy and Climate Change (*if necessary, give respondent copy of Letter of Authority*)
- **confidentiality**: *reassure participants that they are not being judged and confirm that participants comments will be treated as confidential and will be aggregated with feedback from other participants and will form part of a research report, but comments and any quotations used in this report will not be attributed personally to them or their organisation and will be kept anonymous*
- **permission to record**: *give respondent copy of permission to record/take photographs form; ask to read and sign - reassure that there will be no identifiable attribution of quotes. Explain that every business is different and you would like to take photographs of things such as meters to illustrate what different business are doing – you will only take photographs with the respondent's express permission*
- **focus of the interview**: *explain that the focus of the interview is how energy is used at [name of specific site]*

In most cases, this will be where the interview is conducted but on occasion – e.g. when interviewing someone from 'head office' or by telephone, this might not be the case so make sure the respondent is clear about the site we are talking about. The term 'head office' is being used to refer to any central management which is involved in decision making/company policy etc. either where an outlet is part of a chain or a franchise. In the case of schools, 'head office' may refer to the Local Authority or to a trust or other body that is responsible for managing an Academy.

Introduction to Respondent/Business and its use of Energy

- Can you briefly outline for me the nature of your business/school? (main activities/areas of business/size and type of school). *Probe in terms of*
 - *the different types of staff (roles/grades etc)/students/customers*
 - *when the site is open/in use – in the case of schools, to what extent it is used outside school hours/term and by whom*
- What is your role within the business/school? (main responsibilities – do not prompt for energy management)
- Can I just confirm a few details with you about your use of energy (at this site)?:
 - the business/school uses: electricity/gas/oil/lpg (Q6). Excluding transport fuel, does this cover all energy sources used by the business?
 - does the business/school have any energy from renewable sources, such as solar thermal (hot water) or solar PV panels (electricity)?

Explain that you need to record details of how much electricity and gas (if relevant) the organisation uses at this site. This can be sourced from bills but it might also be possible to source it from advanced/smart meter data or the meter itself.

- **electricity:** *confirm the Profile Class of organisation's electricity meter – see separate instructions on how to do this*
- *record the supplier and how much electricity is used at the site – this should be recorded in kWh along with the period (12/6/3 months etc) and time of year/season if less than 1 year*
- *if the period is for less than 1 year, ask how typical the level of consumption is; if **not** typical, ask respondent to estimate the typical consumption for this period (or at least to say whether higher or lower)*
- **if has gas:**
- *record the supplier and how much gas is used at the site – this should be recorded in kWh along with the period (12/6/3 months etc)*
- *if the period is for less than 1 year, ask how typical the level of consumption is; if **not** typical, ask respondent to estimate the typical consumption for this period (or at least to say whether higher or lower) and time of year/season if less than 1 year*
- **Meters**
 - *explain that all sites will have what is sometimes called the fiscal meter which records the total amount of electricity/gas consumed and is used to calculate bills. Some sites may also have what are called sub-meters to measure the consumption within specific areas (e.g. a kitchen) or of particular items of equipment (e.g. heating boilers)*
 - *how many electricity meters are there at this site – if more than one, explore why this is/how they are used e.g. if sub-metering is used, explore how this is used*
 - *which energy company supplies your electricity?*
 - **where advanced/smart electricity meters are installed:** *check whether have advanced/smart if known (Q11a); if more than one electricity meter installed, which one(s) are advanced/smart? how long has the business/school had advanced/smart electricity meters – when were they first installed?*

- **if has gas:** how many gas meters there are at this site – *if more than one, explore why this is/how they are used e.g. is sub-metering is used, explore how this is used*
- which energy company supplies your gas?
- **where advanced/smart gas meters are installed:** *check whether have advanced/smart if known (Q11b); if more than one gas meter installed, which one(s) are advanced/smart? How long has the business/school had advanced/smart gas meters – when were they first installed?*

NB car park detailed discussion of advanced/smart meters until later

Across all forms of energy used

- can I confirm that you consider the cost of your energy represents a tiny/small/medium/high proportion (Q9) of the total operating cost of the site? *(If recorded as DK on screener, see if respondent is able to provide an estimate)*
- can you sum up for me the main activities (e.g. heating/cooling/lighting/cooking etc.) /facilities (e.g. kitchen/restaurant/swimming pool, etc.) that account for your use of energy at this site?
 - first of all, in terms of electricity; *prompt for any items of equipment/apparatus/activities/facilities that use lots of/most electricity as well as who tends to use/control these activities*
 - **if has gas:** and in terms of gas; *prompt for any items of equipment/apparatus/activities/facilities that use lots of/most gas as well as who tends to use/control these activities*
 - **if has other forms of energy:** and in terms of __; *prompt for any items of equipment/apparatus/activities/facilities that use lots of/most _ as well as who tends to use/control these activities*
- can you outline for me how often and why equipment is replaced?
- can you outline for me how your use of energy varies – over the course of 24 hours as well as at different days of the week and times of year? *Probe to identify any peaks/troughs*

Energy Management

- Thinking about **decision making** about how the business/school manages the energy it uses – this could include paying/authorising energy bills, deciding whether to switch energy supplier, deciding what equipment to purchase, installing energy efficiency measures (e.g. improved insulation), how staff use equipment etc. Is this part of your role/responsibility? Is there a dedicated member(s) of staff: *Probe to explore if is energy management a fulltime role/part-time/occasional role? Who else is involved?*
 - *Explore how senior/high up in the business/school are decisions are made, e.g. board level; senior management; governors etc and whether decision making takes place at different levels within the organisation e.g. strategically by senior management, at a purchasing level e.g. by procurement, at the installation level e.g. by maintenance staff etc*
 - **C1/C2:** *establish what the relationship is between decision making taken at the individual site vs. at 'head office/LA'; to what extent is the desire to standardise processes/methods of managing energy use across different sites a key factor in decision making*
- How are decisions made, what information/data are used to inform the decisions? *If necessary, ask respondent to think about a recent occasion when a decision was made – this could be in terms of acquiring new items of equipment or changes to working practices, etc*
- Is there a member of staff who looks after facilities management or a building or facilities management system in operation? **If yes:** *briefly explore who is responsible and what their role/the management system consists of – for example, is it a manual or an automated system; if this is outsourced, who provides the service and what does it consist of?*

NB An automated Building Management System (BMS) is a computer-based control system that controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems.

NB the focus of the next three questions are to establish if there are other people beyond those already identified either at recruitment or above who have a role to play in **decision making/implementing decisions/using energy** – no need to spend very long on this.

- Does anyone else have a role to play in **decision making**? What about employees/students, etc? Prompt for:
 - other staff based at the site in question/'head office' (Q17a)
 - other people/organisations from outside of the business/school, such as landlords, energy consultants or facilities management companies (Q17b)
- Is there anyone else who is involved in **implementing these decisions and/or promoting energy efficiency**. For example:
 - specifying/purchasing equipment or energy efficiency measures / developing guidelines/delivering training / monitoring and reporting on energy consumption / working with external suppliers/consultants
 - Is this part of your role/responsibility? Does anyone else have a role to play? What about employees/students, etc? Prompt as above.
- And who are the **main users** of energy within your business/school? *The focus here is on people – it could be everyone but there may be particular members of staff etc who because of their role use most/more energy*

- What level of control do you feel you have over how much energy your business/school uses? Why is this?
- If you were thinking about trying to improve your energy efficiency/reduce energy consumption, would you/someone else in the business/school know how to do this?
 - for example, is there someone who knows how to adjust the controls of key items of equipment (especially those that operate remotely)?
- How important is it to your business/school to try to be as energy efficient as possible; compared to all aspects of your business/school, would you say it is a high/medium/low priority (Q10)? Why is that?

Ask unprompted then use S2 to display a range of factors which might play a role – it includes both ‘triggers’ and ‘barriers’

- *Invite respondent to nominate those which relate to their business/school and explore reasons – do not explore every one, only those deemed relevant. NB even where improving energy efficiency/reducing energy consumption is a high priority, some of the barriers may apply e.g. lack of in-house expertise*
- Has/did anything happen that triggered the business/school to think about/review its use of energy? *NB this might have been recently or some time in the past.*

Ask unprompted then use S3/S4 to display a range of factors which might have played a role

- *Invite respondent to nominate those which relate to their business and explore more fully what happened. **NB** car-park detailed discussion of the role of advanced/smart meters until later.*
- To what extent, if at all, does the nature/size/age/fabric of the building your business/school occupies have an impact on your approach to energy efficiency? *Probe to understand what the issues are/how this impacts of energy consumption.*
- Has anyone carried out an energy audit of the site, that is an assessment by an energy expert of the amount of energy your organisation uses, along with ways in which you can reduce your energy consumption/costs? **if yes:** *Explore who did it, what recommendations were made and whether any of the recommendations have been implemented? Why/why not?*
- **if case study site has a DEC:** *check to see whether any of the recommendations have been implemented? Why/why not?*
- Does the business/school have an environmental management system in place (e.g. ISO 14001) or something similar? **if no formal system:** does the business/school have an informal environmental management policy **if has formal/informal system/policy:** What, if anything, does this say about how the business will try to manage/reduce energy use? How is this put into action?
- To what extent are staff/employees involved in energy efficiency?
 - **if staff/employees not involved:** *explore why this is – e.g. perceived to be outside their control, tried but found it difficult to get staff to change their behaviour, etc*
 - **if staff/employees are involved:** *were staff consulted in how they could contribute to using energy more efficiently? How are the staff involved/engaged – e.g. communications (such as posters in the work place, feedback on how much energy is being used), training, incentivisation; are there any ‘energy champions among staff; how effective are these measures – examples of behaviour change? Probe for barriers/problems*
- To what extent are customers/students involved in energy efficiency?

- **if customers/students not involved:** *explore why this is – e.g. perceived to be outside their control, tried but found it difficult to get customers to change their behaviour, etc.*
- **if customers/students are involved:** *were customers/students consulted in how they could contribute to using energy more efficiently? How are they involved/engaged – e.g. communications (such as posters in the restrooms/notice boards, feedback on how much energy is being used); are there any 'energy champions among students? how effective are these measures – examples of behaviour change? Probe for barriers/problems*
- **If a tenant (Q4/4b):** *what role does your landlord have in terms of your energy use/energy efficiency? Probe fully to understand both the ways in which landlords help/encourage/enable the business to manage its use of energy as well as ways in which the landlord might hinder/prevent this. This can include passive factors (e.g. short lease means any investment is unlikely to reap any returns) as well as more proactive factors (e.g. lease prevents tenants from undertaking various types of improvement)*
- There are a number of energy service providers that can help organisations manage their energy consumption and costs. They tend to fall into three broad types as shown here: automatic monitoring and targeting consultancies (aM&T), energy management consultancies, energy brokers

Use S5 to summarise main types of energy service providers

- *Take each type in turn and explore:*
 - are you familiar with this type of energy service provider? **if yes:** what do you understand it might offer organisations like your own?
 - do you currently use this type of consultancy (see Q17b); if so, what services do they provide, what form does it take (e.g. monthly reports) and how useful is it?

If this identifies additional 'actors' not already identified, you should review with respondent the significance of their role with a view to deciding whether they should be included as a respondent.

- are there any of these types of energy service provider your organisation has used in the past but you have stopped doing so; why is this?
- have you considered but rejected the idea of using this type of service; why is this?
- **if never considered using this type of service:** why is this – *what are the key barriers?* Might you consider using this type of service in the future? Why? What might trigger that?
- Are there any other individuals or organisations that have been involved in helping your organisation manage its energy consumption and costs?
 - *Probe for the names/types of organisations and what they have done*
 - *Prompt if necessary:* energy suppliers, trade/professional bodies, charities, local government or other bodies such as the Carbon Trust or the Energy Saving Trust, which promote energy conservation, etc.

Ways to Reduce Energy Costs/Consumption

- Have you/the business/school taken any steps to try and reduce its energy costs and the amount of energy it uses?
 - **If no:** *explore why this is*
 - **If yes:** *use S2-S4 and explore*
 - *what they did*
 - *why they took action – what were the triggers?*
 - *how they went about it*
 - *who within the organisation were key to the delivery?*
 - *whether any external individuals/organisations played a role; who and what did they do?*
 - *how easy/difficult it was*
 - *what was the financial cost involved (if possible, get an idea of the cost)*
 - *what the outcomes have been including whether the expected benefits have been realised, including any financial benefits (if possible, get an idea of the savings and the time period e.g. £x per year – this will provide insights into potential payback periods)*

Display S6 and explain this shows the main ways a business/school could try to reduce its energy consumption/costs/CO₂ emissions – either by making one or more changes or investments.

Explore each option using S2, S3 and S4 as prompts in terms of reasons why/why not certain actions taken

- **if this is something the organisation has done and not covered above:** *get respondent to briefly outline*
 - *what they did*
 - *why they took action – what were the triggers?*
 - *how they went about it*
 - *who within the organisation were key to the delivery?*
 - *whether any external individuals/organisations played a role; who and what did they do?*
 - *how easy/difficult it was*
 - *what was the financial cost involved (if possible, get an idea of the cost)*
 - *what the outcomes have been including whether the expected benefits have been realised, including any financial benefits (if possible, get an idea of the savings and the time period e.g. £x per year – this will provide insights into potential payback periods)*
- **if there is something that the organisation has done to a degree (e.g. introduced some operational measures but not all those it considered):** *explore what they have done using the above prompts **as well as** which things they have not done and reasons for this*
- **if this is something the organisation has considered but rejected/not done:** *explore why they decided not to implement these types of actions*

Advanced/smart meters

- Do you know if the businesses/school's meters are what are known as **advanced meters** or **smart meters**?
 - can you briefly sum up for me your understanding of what your type of meter can do?
 - what would you say are the main benefits, if any, of an advanced/smart meter? *If necessary, prompt in terms of accuracy, no more estimated bills, no need to read the meter*
 - why were the advanced/smart meters installed – were they already installed when you moved into the premises? was it because the energy supplier insisted/offered? was it because the landlord insisted/offered? was it something you/your business/school requested?
 - **if accepted offer of supplier:** why did you decide too accept their offer?
 - **if requested by respondent/business:** why was this?
 - **display S7 and ask:** does this sum up your understanding? Are there any aspects here that are new to you? If you were summing up advanced and smart meters to a colleague, would you add any else to what is shown here

Confirm details of whether and how organisation uses the data from their advanced/smart meters:

- *Whether the data is used (Q12):* **if not used:** probe fully to understand why (e.g. meter was installed at the bequest of supplier/landlord; NB with advanced meters, customers have to request their data and some suppliers only provide it after a delay of days/week/months – make a note if this is the case)
- *How the data is accessed (Q13):*
 - **if accessed by the business/school itself:** how is this done e.g. on a customised display (similar to an IHD), on a laptop
 - **if provided by 'head office'/energy provider/third party:** how is this done?
 - *probe in particular to establish if they receive 'data only' or 'data with advice/interpretation'*
 - **if 'data with advice/interpretation':** is this provided by email/telephone/f2f; how useful is it? Why do you say that? (e.g. is data too generic/abstract etc)
- How often is the data itself accessed (i.e. how often is someone looking at/reviewing the data, not how often the data is collected by the hardware) (Q14): why is this? *Probe in particular for reasons when data is only being accessed relatively infrequently*
- *Check to see if the person responsible for accessing the data is the same as the person who reviews the data.*
- How easy or difficult is the data to interpret and to make use of? *Probe fully to understand things that might make the data difficult to use/interpret as well as what might be done to make the data more useful*
- Have you/your organisation experienced any other difficulties/challenges with your advanced/smart meters? **If yes:** *explore nature of these and how, if at all, they have been overcome*

Annex B – Stage 1 Case Study Topic Guides

- When we first contacted you/your organisation about this research, you/a colleague said that (Q15) *Read out and then fully explore reasons behind this*

the data available from your advanced/smart meters has helped you/your organisation to significantly reduce your energy consumption and/or your energy bills	<ul style="list-style-type: none"> – how has it done this – explore in as much detail as possible including what data in particular prompted the change; any specific investments made; any staff cost or other savings; the levels of savings achieved?
the business/school has tried to use the data to help reduce energy consumption/bills but this has proved difficult	<ul style="list-style-type: none"> – how have they tried to use the data (what for)? – what are the things that have made it difficult to do? – what if anything could be done that might help overcome these difficulties?
the data is used to compare energy consumption across sites but not to try and reduce energy consumption/bills	<ul style="list-style-type: none"> – what does the data show; how useful is this? – why isn't the data being used to try to reduce consumption/costs?
the data is interesting to see but we do not use it to help reduce our consumption/bills	<ul style="list-style-type: none"> – probe to explore if this is because the data is difficult to interpret and/or it is difficult to know what actions to take to reduce consumption
something else	<ul style="list-style-type: none"> – explore reasons

C3 only: Display S9 and explain that information available from smart meters can be accessed in various ways as shown here. Explain that domestic customers will receive an in home display along the lines shown in the bottom right hand image. This shows how much energy is being used at any particular moment and what it is costing; it is also possible to see how much energy they have used over different time periods (daily, weekly, monthly etc).

NB there are no plans for non-domestic customers to be offered an IHD in the same way that domestic customers are but we want to find out if this has potential to engage organisations.

- If they had a similar type of standalone device in the workplace which allowed them to see their consumption instantly, would this be of interest? Would this be of more interest/ore useful compared to accessing the information via something like a mobile phone or an online portal?

Display S10-13: possible ways of using information from smart meters **NB** you should make it clear that in order to take advantage of the ideas shown here, they would probably need to access the smart meter data from something like an online portal – the IHD would not by itself provide this type of information.

- **for each feature:** Are you familiar with this idea? is it something you/your organisation has tried to do?
 - **if familiar and tried to do:**
 - *why they took action – what were the triggers?*
 - *how they went about it?*
 - *who within the organisation were key to the delivery?*

- *whether any external individuals/organisations played a role; who and what did they do?*
- *how easy/difficult it was?*
- *what the outcomes have been including whether the expected benefits have been realised?*
- **If familiar but not tried to do**: why is this (e.g. is it because it is not expected to make any real difference/a lack of expertise/know how etc.)
- **if not familiar**: is this something that you feel could be useful to your organisation? Why is this? Would you know how to go about doing this? **If no**: who might you turn to for advice/help? (explore both internally within the organisation as well as externally)

- **Refer back to earlier discussion of energy service providers** (S5/Q17b)
 - **if business/school already using an energy service provider:** *explore the extent to which the service provider enables/facilitates the use of the data from advanced/smart meters – what if anything does the service provider do/offer? What more could they do which would help the business/school make even better use of the data?*
 - **if business/school not using an energy service provider:** *explore the extent to which these types of service provider might enable/facilitate the use of the data from advanced/smart meters – what if anything would make respondent/business /school(re)consider using this type of service?*

Services/Features that may encourage greater engagement with reducing energy consumption/costs

Explain to respondent that a number of services/products already exist, and others are in the process of being developed, that are intended to help businesses/schools make better use of the information from advanced/smart meters. You are going to outline some of these to get respondent's views/reactions.

Take respondent through S14-S17

- **For each service/product:** what's your reaction to this? Is it something you would be interested in? Why is this? Is it something you are already doing
 - **if interested:** *explore if it something respondent/organisation would consider paying for and, if so, what would be the maximum amount per year/per month they would consider paying. Alternatively, if the product/service resulted in savings which were greater than the cost of the product/service, would this be acceptable?*
 - **ask all:** *who or what type of organisation would you expect to offer a service/product like this? Prompt as necessary: energy supplier, energy service provider, something else*
 - if you were to consider using a service like this which type of provider would you feel most happy dealing with/trust the most? Why is this?
- **Once all suggestions have been explored:** *can you suggest any other type of service or product that you/your organisation would find helpful when it comes to using the information from advanced/smart meters to help you reduce your energy consumption/costs?*

Recruitment Screener: Cluster 1

NB You should ensure you have a copy of the screener questionnaire with you as this contains key information about the organisation's current use of energy and you may need to refer to it as you go. Cross-references to questions in the screener are indicated by (Qn).

When arranging appointments, researchers should ask the main respondent which of the internal actors are involved in **making decisions about energy management**, which are involved in **implementing energy efficiency policies** and which, if any, are **users of energy** (i.e. not involved in decision making or implementation; this might be a member of kitchen staff, a hair stylist, student, etc).

For C1 and C2, you should aim where possible to include at least one actor involved in decision making and one involved in implementing policies. Where the business/school has facilities which are likely to use large amounts of energy (e.g. a kitchen), you should aim to also include a Users of energy (e.g. a chef).

This topic guide should be used for internal actors involved in implementing policy/using energy.

Introduction to research

- *Researcher introduces self and the aim of the research*
 - it is about how businesses/schools use energy
 - **where advanced/smart meters are installed:** it is also about experiences of advanced/smart meters and the extent to which these might make it easier for businesses/schools to manage their use of energy
 - **where traditional meters are installed:** it is also about how businesses/schools might use advanced/smart meters ie how the data provided might influence the way your organisation thinks about energy use

If respondent is unfamiliar with/unsure about advanced/smart meters, explain we will look at this in more detail during the interview

- the research is being carried out for the Department of Energy and Climate Change (*if necessary, give respondent copy of Letter of Authority*)
- **confidentiality:** *reassure participants that they are not being judged and confirm that participants comments will be treated as confidential and will be aggregated with feedback from other participants and will form part of a research report, but comments and any quotations used in this report will not be attributed personally to them or their organisation and will be kept anonymous*
- **permission to record:** *give respondent copy of permission to record/take photographs form; ask to read and sign - reassure that there will be no identifiable attribution of quotes. Explain that every business is different and you would like to take photographs of things such as meters to illustrate what different business are doing – you will only take photographs with the respondent's express permission*
- **focus of the interview:** *explain that the focus of the interview is how energy is used at [name of specific site]*

Energy Management

- What is your role within the business/school? (main responsibilities – do not prompt for energy management)
- And when it comes to how the business/school uses energy, what is your role here? Please explain to me in as much detail as possible, your role in helping the business/school use energy efficiently. *Possible areas to probe*

Implementers	Energy users
<ul style="list-style-type: none"> – <i>specification/purchasing of equipment or other energy efficiency measures</i> – <i>developing guidelines/delivering training to encourage other members of staff/students/customers to use energy efficiently</i> – <i>monitoring and reporting on energy consumption</i> – <i>working with external suppliers/consultants</i> 	<ul style="list-style-type: none"> – <i>respondent's own use of energy i.e. which areas/activities of the business/school they are involved in and which items of equipment etc they use</i> – <i>how their use of energy varies- over 24 hours/a week/different times of year</i>

- What level of control do you feel you have over how much energy your business/school/you use? Why is this?
- How knowledgeable/informed would you say you are in terms of energy and energy efficiency particularly in terms of your role in putting into practice the business's/school's energy policies/ using energy efficiently/?
 - *Explore reasons behind this e.g. experience gained over many years/from previous jobs, on the job training, attending courses, etc.*
 - *Explore if respondent feels s/he could benefit from developing/improving their skills and how this could be achieved; also whether there is a reluctance on the part of the business to invest in training etc*
- To what extent, if at all, does the nature/size/age/fabric of the building your business/school occupies have an impact on your ability to use energy efficiently/ implement the business's/school's energy policies? *Probe to understand what the issues are/how this impacts of energy consumption.*
- **Implementers only:** Does the business/school have an environmental management system in place (e.g. ISO 14001) or something similar? **If no formal system:** does the business/school have an informal environmental management policy? **If has formal/informal system/policy:** What, if anything, does this say about how the business will try to manage/reduce energy use? To what extent does this help/enable you to energy efficiently/implement the business's/school's energy policies?

- To what extent are staff/customers/students involved in energy efficiency?

Implementers	Energy users
<ul style="list-style-type: none"> – does your organisation consult staff/customers/students on energy efficiency initiatives (give examples)? how? why/why not? – do you personally have a role in engaging staff/customers/students on these issues? If yes, explore what it is; how easy or difficult is it to get them involved? – have you done anything different as a result of some comms etc to change your own behaviour; why/why not? What about other staff/customers/students? – are there any ‘energy champions’ among the staff/students – who are they and what makes them a ‘champion’? 	<ul style="list-style-type: none"> – would you describe your organisation as taking energy efficiency seriously? Why do you say that? – are you aware of energy efficiency initiatives that your organisation has put in place to encourage staff/customers/students to become more conscious of how much energy is used? (give examples) – were you/other staff/students consulted about ways in which the organisation could become more energy efficient? If yes: explore what form this took and whether they got involved; why/why not – have you done anything different as a result of some comms etc to change your behaviour? <ul style="list-style-type: none"> – if yes: explore what they have done and why – if no: why not? – overall how successful do you think these initiatives have been? Why do you say that?

If business uses the services of energy suppliers: Use S5 to summarise the types of energy service providers used by the business/school

- **Implementers only:** Take each type in turn and explore:
 - do you have any involvement with _____? **If yes**: Can you outline to me your involvement with _____? To what extent do [energy service provider] help you to implement business/school energy policies? Could [energy service provider] do anything more/different that would help you more? *Explore what else could be done*
- **Implementers only:** Are there any other individuals or organisations that have been involved in helping you to implement business/school energy policies?
 - *Probe for the names/types of organisations and what they have done*
 - *Prompt if necessary:* energy suppliers, trade/professional bodies, charities, local government or other bodies such as the Carbon Trust or the Energy Saving Trust, which promote energy conservation, etc.

Ways to Reduce Energy Costs/Consumption

- *Explain to respondent, we are now going to consider different ways in which their business/school has tried to use energy more efficiently and what role, if any, the respondent has played*

This part of the discussion should focus on exploring any of the methods of reducing energy consumption that the main decision maker(s) have previously highlighted in response to S6. You may wish to display S6 but focus on what actions have been taken and explore

- whether respondent is aware of this (and if so, how)
- and what role implementers/energy users have played/what their response has been

E.g. if the decision maker has described an initiative around encouraging staff to switch off lights when not needed, are respondents aware of this, what was their role/how did they hear about it/how have they (and other staff) responded to it?

Advanced/smart meters

- Are you aware that your business/school has what are called advanced/smart meters
 - can you briefly sum up for me your understanding of what this type of meter can do?
 - what would you say are the main benefits, if any, of an advanced/smart meter?
If necessary, prompt in terms of accuracy, no more estimated bills, no need to read the meter
 - **display S7 and ask:** does this sum up your understanding? Are there any aspects here that are new to you? If you were summing up advanced and smart meters to a colleague, would you add any else to what is shown here

*Establish whether respondent has any involvement in the use of data from advanced/smart meters. **if yes:** use any of the relevant prompts below to explore respondent's involvement and the extent to which the data helps respondent to use energy efficiently/implement business/school energy policies.*

if no – skip to last section

- How the data is accessed (Q13):
 - **if accessed by the respondent:** how is this done e.g. on a customised display (similar to an IHD), on a laptop
 - **if provided by 'head office'/energy provider/third party:** how is this done?
 - *probe in particular to establish if they receive 'data only' or 'data with advice/interpretation'*
 - **if 'data with advice/interpretation':** is this provided by email/telephone/f2f; how useful is it? Why do you say that? (*e.g. is data too generic/too abstract etc*)

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- How often is the data itself accessed by respondent (i.e. how often is someone looking at/reviewing the data, not how often the data is collected by the hardware) (Q14): why is this? *Probe in particular for reasons when data is only being accessed relatively infrequently*
- How easy or difficult is the data to interpret and to make use of? *Probe fully to understand things that might make the data difficult to use/interpret as well as what might be done to make the data more useful*
- Have you/your organisation experienced any other difficulties/challenges with your advanced/smart meters? **If yes:** *explore nature of these and how, if at all, they have been overcome*
- When we first contacted you/your organisation about this research, you/a colleague said that (Q15) *Read out and then fully explore reasons behind this*

the data available from your advanced/smart meters has helped you/your organisation to significantly reduce your energy consumption and/or your energy bills	<ul style="list-style-type: none"> – how has it done this – explore in as much detail as possible including what data in particular prompted the change; any specific investments made; any staff cost or other savings; the levels of savings achieved?
the business/school has tried to use the data to help reduce energy consumption/bills but this has proved difficult	<ul style="list-style-type: none"> – how have they tried to use the data (what for)? – what are the things that have made it difficult to do? – what if anything could be done that might help overcome these difficulties?
the data is used to compare energy consumption across sites but not to try and reduce energy consumption/bills	<ul style="list-style-type: none"> – what does the data show; how useful is this? – why isn't the data being used to try to reduce consumption/costs?
the data is interesting to see but we do not use it to help reduce our consumption/bills	<ul style="list-style-type: none"> – probe to explore if this is because the data is difficult to interpret and/or it is difficult to know what actions to take to reduce consumption
something else	<ul style="list-style-type: none"> – explore reasons

C3 only: Display S9 and explain that information available from smart meters can be accessed in various ways as shown here. Explain that domestic customers will receive an in home display along the lines shown in the bottom right hand image. This shows how much energy is being used at any particular moment and what it is costing; it is also possible to see how much energy they have used over different time periods (daily, weekly, monthly etc).

NB there are no plans for non-domestic customers to be offered an IHD in the same way that domestic customers are but we want to find out if this has potential to engage organisations.

- If they had a similar type of standalone device in the workplace which allowed them to see their consumption instantly, would this be of interest? Would this be of more interest/ore useful compared to accessing the information via something like a mobile phone or an online portal?

Display S10-13: possible ways of using information from smart meters **NB** you should make it clear that in order to take advantage of the ideas shown here, they would probably need to access the smart meter data from something like an online portal – the IHD would not by itself provide this type of information.

Display S10-34: possible ways of using information from smart meters

- **for each feature:** Are you familiar with this idea? is it something you/your organisation has tried to do?
 - **if familiar and tried to do:**
 - *why they took action – what were the triggers? how they went about it?*
 - *who within the organisation were key to the delivery? whether any external individuals/organisations played a role; who and what did they do?*
 - *how easy/difficult it was?*
 - *what the outcomes have been including whether the expected benefits have been realised?*
 - **if familiar but not tried to do:** why is this (e.g. is it because it is not expected to make any real difference/a lack of expertise/know how etc.)
 - **if not familiar:** is this something that you feel could be useful to your organisation? Why is this? Would you know how to go about doing this? **if no:** who might you turn to for advice/help? (explore both internally within the organisation as well as externally)
- **Refer back to earlier discussion of energy service providers** (S5/Q17b)
 - **if business/school already using an energy service provider and respondent is involved with this:** *explore the extent to which the service provider enables/facilitates the use of the data from advanced/smart meters – what if anything does the service provider do/offer? What more could they do which would help the business/school make even better use of the data?*
 - **if business/school not using an energy service provider:** *explore the extent to which these types of service provider might enable/facilitate the use of the data from advanced/smart meters – what if anything would make respondent/business /school(re)consider using this type of service?*

Services/Features that may encourage greater engagement with reducing energy consumption/costs

Explain to respondent that a number of services/products already exist, and others are in the process of being developed, that are intended to help businesses/schools make better use of the information from advanced/smart meters. You are going to outline some of these to get respondent's views/reactions.

Take respondent through S14-S17

- **For each service/product:** what's your reaction to this? Is it something you would be interested in? Why is this? Is it something you are already doing? *Probe to see to what extent the service product could help them in their role of implementing energy management policy/manage how much energy they use*

- **ask all:** who or what type of organisation would you expect to offer a service/product like this? *Prompt as necessary: energy supplier, energy service provider, something else*
- if you were to consider using a service like this which type of provider would you feel most happy dealing with/trust the most? Why is this?
- **Once all suggestions have been explored:** can you suggest any other type of service or product that you/your organisation would find helpful when it comes to using the information from advanced/smart meters to help you/your business/school reduce your energy consumption/costs?

Recruitment Screener: Cluster 1

Introduction to research

- *Researcher introduces self and the aim of the research*
 - it is about how businesses/schools use energy (electricity and, if relevant, gas) and how they might use advanced and smart meters
 - as part of this, we are talking to energy consultants as they have an important role to play in how businesses/schools use energy
 - the research is being carried out for the Department of Energy and Climate Change (*if necessary, give respondent copy of Letter of Authority*)
 - **confidentiality:** *reassure participants that they are not being judged and confirm that participants comments will be treated as confidential and will be aggregated with feedback from other participants and will form part of a research report, but comments and any quotations used in this report will not be attributed personally to them or their organisation and will be kept anonymous*
 - **permission to record:**
 - (f2f) *give respondent copy of permission to record; ask to read and sign*
 - (t/p) *explain you would like to record the interview – this will make it much easier as you won't need to take notes; get respondent's agreement*
 - (all) *reassure that there will be no identifiable attribution of quotes.*
 - **focus of the interview:** *explain that some of your questions will be more general about the range of properties the respondent is responsible for and others will focus on how energy is used at [name of specific site]*

NB *In addition to the topics outlined in this guide, you should follow up any issues arising from interviews with internal actors*

Introduction to Respondent/Organisation

- Can you briefly outline for me the nature of your organisation? *Prompt* what sort of services/products do you provide and what is the range/types of business you have as clients?
- What is your own role within the organisation?

Attitudes towards Energy Efficiency

- *Explain that the focus of the research is currently on (describe in relation to the specific cluster that the case study belongs to)*
 - *smaller businesses such as independent retailers/schools/chains but with the focus on individual outlets which share a number of factors in common with small, independent retailers*
- Based on your experience, what are some of the challenges when it comes to encouraging these types of businesses/schools to become more energy efficient/reduce their energy costs? How do you try and address these challenges? And in terms of [*name of case study – in the case of C1 make it clear we are talking just about the particular site although issues relating to ‘head office’ involvement in energy management are relevant*] – do all of these challenges apply? *Probe for additional challenges and to make sure you understand the challenges at this site.*
- How did your relationship with [*name of case study site*] come about – did they approach you or did you approach them? Was it a hard sell? Why/ Why not? Were there any initial barriers to them using a consultant – what? Were they approached? Why? What was the site’s objective in approaching them?
- Can you sum up for me what services/products/information/advice you provide to [*case study*]? *Explore full range of help offered*
- Would you say [*case study*] considers reducing its energy consumption to be a high/medium/low priority? Why do you say that? *Probe for reasons why {case study} considers reducing their energy consumption to be a high/medium/low priority*
- There are various reasons why a business/school may put a higher or lower priority on reducing energy consumption. For example [*display S2*]
 - which, if any of these, would you say apply to [*case study*]?
 - **for those that apply:** why do you say that/why is that?
 - are there any other reasons not shown here that you feel applies to [*case study*]? *Explore what these are*

NB *If respondent does not know the case study organisation sufficiently well to offer a view, ask them which of these things they think apply more generally to organisation from the relevant cluster*

- There are also various factors that can result in an organisation reviewing its use of energy; as far as you are aware, what triggered [*case study*] to review their use of energy?
- [*display S3 & S4*]: which, if any of these, would you say apply to [*case study*]?
 - **for those that apply:** why do you say that/why is that?
 - are there any other reasons not shown here that you feel applies to [*case study*]? *Explore what these are*

Ways to Reduce Energy Costs/Consumption

- *Explain to respondent, we are now going to consider different ways in which an organisation **could** look to reduce its energy costs and its use of energy.*
- *If I was to ask you to sum up the main ways in which an organisation could look to reduce its energy consumption, what would you say?*

Display S5

- *Explore which of the options [case study] has/has not carried out together with reasons why/why not; in each case check to see what role respondent played – e.g. may have recommended some actions which have not been implemented or may have recommended not to do certain things, if so, why was this?*
- *Check to see if building has a DEC (NB check this beforehand at <https://www.ndepcregister.com/reportSearchAddressByPostcode.html>)*
 - ***If yes:** check to see whether any recommendations have been implemented as far as respondent is aware? Why/Why not? What role, if any, did respondent have in this?*

Views on Advanced/Smart Meters

- *What advantages, if any, do advanced/smart meters offer businesses/schools such as [case study]? Why is this?*
- *Are there any challenges in getting organisations interested in, and making use of, the data?*
- **If advanced/smart meters not installed:**
 - *would you consider advanced/smart meters to be appropriate for this site?
Explore reasons why they are/are not*
- **If advanced/smart meters installed:**
 - *explore what role respondent/respondent's organisation had in the decision to have the meters installed and what role it has in collecting and using data from the meters*
 - *how is the data/information made available to [case study] e.g. via web etc*
 - *how often reports etc are provided (daily/weekly/monthly etc)*
 - *whether the service includes the interpretation of the data or just the data*
 - *if interpretation/advice offered, what form does this take – ask for examples*
 - *explore the extent to which respondent feels [case study] is taking full advantage of their advanced/smart meters; if not doing so, why is this and what more could be done to help them?*

Services/Features that may encourage greater engagement with reducing energy consumption/costs

Explain to respondent that a number of services/products already exist, and others are in the process of being developed, that are intended to help organisations make better use of the information from advanced/smart meters. You are going to outline some of these to get respondent's views/reactions in terms of how appropriate they might be for [case study site] and similar types of organisations.

As far as possible, avoid having a discussion around the technical pros and cons of these ideas and focus on whether it has the potential to help organisations make better use of the data. If they think a service will not deliver what it claims to do, that's fine but we don't need to explore the detailed reasons for this view

Take respondent through S6-9

- **For each service/product:** what's your reaction to this? Is it something you feel could be help organisations like [case study]? Why is this? Is it something you are already doing?
- **Once all suggestions have been explored:**
 - can you suggest any other type of service or product that organisations like [case study] would find helpful when it comes to using the information from advanced/smart meters?
 - One of the aims of this research is to find ways of encouraging smaller businesses to take steps to become more energy efficient:
 - in addition to the things we have been discussing so far, have you come across any other products or services that you think might help smaller businesses become more energy efficient?
 - can you suggest anything else that could be done – either by landlords/ energy companies/government/or anyone else that could encourage smaller businesses to become more energy efficient?

Recruitment Screener: Cluster 1

Introduction to research

- *Researcher introduces self and the aim of the research*
 - it is about how businesses/schools use energy (electricity and, if relevant, gas) and how they might use advanced and smart meters
 - as part of this, we are talking to landlords as they have an important role to play in how businesses/schools use energy

If respondent is unfamiliar with/unsure about advanced/smart meters, explain we will look at this in more detail during the interview

- the research is being carried out for the Department of Energy and Climate Change (*if necessary, give respondent copy of Letter of Authority*)
- **confidentiality:** *reassure participants that they are not being judged and confirm that participants comments will be treated as confidential and will be aggregated with feedback from other participants and will form part of a research report, but comments and any quotations used in this report will not be attributed personally to them or their organisation and will be kept anonymous*
- **permission to record:**
 - (f2f) *give respondent copy of permission to record; ask to read and sign*
 - (t/p) *explain you would like to record the interview – this will make it much easier as you won't need to take notes; get respondent's agreement*
 - (all) *reassure that there will be no identifiable attribution of quotes.*
- **focus of the interview:** *explain that some of your questions will be more general about the range of properties the respondent is responsible for and others will focus on how energy is used at [name of specific site]*

NB *In addition to the topics outlined in this guide, you should follow up any issues arising from interviews with internal actors*

Introduction to Respondent/Organisation

- Can you briefly outline for me the nature of your organisation? *Prompt* what sort of property portfolio do you manage and what is the range/types of business you have as clients?
- What is your own role within the organisation?
- I should like to briefly run through with you a number of aspects of how you manage your properties in general as well as what the situation is with **[name of specific site]**. Can you briefly outline for me:
 - whether your properties typically involve a single client who occupies the entire site or a number of clients who occupy different parts of the same sites? And what is the situation at **[name of specific site]**?
 - the type of leasing arrangements you have with your tenants, for example, short term/long term, full repairing, etc. And what is the situation at **[name of specific site]**?
 - whether any facilities or services are provided as part of the lease; if so, what are these? And what is the situation at **[name of specific site]**?
 - what determines when and how often refurbishments and equipment upgrades are carried out; for example, when leases are renewed, on a rolling programme, in response to tenant requests, as needed, etc. **If as needed:** *explore what might trigger this*. Does the same apply to **[name of specific site]**?
 - who is responsible for paying energy bills – the tenant or the landlord/managing agent? **If paid by the landlord/managing agent:** how are the costs recovered from tenants? *Probe as necessary*
 - are there separate meters/sub-meters for each tenant? If not, how are costs proportioned between tenants?
 - are clients invoiced separately or are the costs included as part of the service charge?
 - And what is the situation at **[name of specific site]**?
 - does it matter or make any difference to you if clients are using more or less energy? Why is this? Does the same apply to **[name of specific site]**?
 - to what extent are you able to control or influence the amount of energy your tenants use? Does this matter? Does the same apply to **[name of specific site]**?

Attitudes towards Energy Efficiency

- How important is it for you/your organisation for your properties to be energy efficient? *Probe for reasons then use S2 and ask respondent to choose any that apply to their own organisation*
- How would you sum up your role in terms of the energy efficiency of the properties that make up your portfolio; can you summarise for me what aspects you feel are your responsibility and which aspects you consider to be the responsibility of tenants (*probe in relation to heating/cooling/lighting, insulation, metering*)
 - and is the situation the same for **[name of specific site]**?
- To what extent do you conduct/have carried out energy efficiency audits of your properties? Why is this?
 - if this results in recommendations for improving the energy efficiency of a property, how would you typically respond? (*Probe: carry out all/some/none of the recommendations and reasons*)
 - and is the situation the same for **[name of specific site]**?
- How frequently/when would you review the energy efficiency of one of your properties (e.g. on a regular cycle tied into on-going maintenance; when the lease is due for renewal, etc). Does the same apply for **[name of specific site]**?
- How would you sum up your role in helping your clients to be as energy efficient as possible (*This may elicit the same response as above or landlords may feel they don't have a role or they may identify additional roles*) Does the same apply to **[name of specific site]**?
- under what circumstances, if any, would you want to try and get tenants to reduce their energy consumption; why is this? How important is it? What steps/actions on your part do you think would help/encourage/enable tenants to reduce their energy consumption?
 - if a client asked for your help to make their premises more energy efficient, how would you respond? (*Probe around to see if the response varies depending on what the client is asking e.g. permission to make alterations to the building vs. asking the landlord to meet the cost of/install new equipment or fittings – try to establish where the boundary is felt to lie between things the landlord would undertake and things the client would be expected to undertake*)

Ways to Reduce Energy Costs/Consumption

- *Explain to respondent, we are now going to consider different ways in which an organisation **could** look to reduce its energy costs and its use of energy.*

Display the Options for reducing energy consumption/costs/CO₂ emissions (S3)

- Which, if any, of these options would you consider to be things you, as the landlord, would be responsible for? Why is this? *Probe to understand reasons why something is/is not perceived to be the landlord's responsibility*
- **For those options considered to be the landlord's responsibility:** *explore the extent to which they have done these across their portfolio and what the outcome has been in terms of energy efficiency/energy consumption. Check to see what things in particular have been carried out at [name of specific site]?*
- *Check to see if building has a DEC (NB check this beforehand at <https://www.ndepcregister.com/reportSearchAddressByPostcode.html>)*
- **If yes:** *check to see whether any recommendations have been implemented? Why/Why not?*

Views on Advanced/Smart Meters

- Are you familiar with **advanced meters** and/or **smart meters**?
 - can you briefly sum up for me your understanding of what each type of meter can do?
 - **display S4 and ask:** does this sum up your understanding? Are there any aspects here that are new to you? If you were summing up advanced and smart meters to a colleague, would you add any else to what is shown here
- What advantages, if any, do advanced/smart meters offer landlords like yourself? Why is this? *Probe to understand any advantages e.g. so they can compare energy efficiency of the different buildings in their portfolio, etc.* And are there any advantages to your tenants? Why is this?
- To what extent have you installed advanced and/or smart meters in your properties? Why is this? *Probe to understand reasons why advanced/smart meters have/have not been installed – e.g. perceived to be client's responsibility*
- *Check to see if advanced/smart meters have been installed at [case study site] and if so whether the answers to the above points apply*
- **If advanced/smart meters installed:** *probe as appropriate – this will depend on the extent to which the landlord was involved in the decision to install the meters and who has access to the data. Ask about what typically happens at sites where advanced/smart meters have been installed and check to see if this also applies to [case study site]*
 - *if client requested/instigated this, what was respondent's reaction to this? Any concerns?*
 - *if respondent instigated this, why was this?*
 - *if someone else instigated it – who was it, why was it done, what is respondent's reaction*
 - *how the installation was arranged e.g. whether the landlord/tenant dealt with the energy/meter provider*
 - *whether any additional services are provided along with the meters, such as automated monitoring and targeting; if so, who provides these*
 - *who has access to the data: landlord/tenant/both*
 - *how easy/difficult the data is to interpret; why is this?*
 - *what the impact has been in terms of energy efficiency/energy consumption*
- **if advanced/smart meters not installed:**
 - *would you consider advanced/smart meters to be appropriate for [case study site]? Explore reasons why they are/are not*
 - *who would you feel would be responsible for having advanced/smart meters installed? Why is this?*

Services/Features that may encourage greater engagement with reducing energy consumption/costs

Explain to respondent that a number of services/products already exist, and others are in the process of being developed, that are intended to help organisations make better use of the information from advanced/smart meters. You are going to outline some of these to get respondent's views/reactions from the point of view of a landlord

Take respondent through S5-8

- **For each service/product:** what's your reaction to this? Is it something you would be interested in as a landlord? Why is this? Is it something you are already doing? Is it something that you feel is more relevant for your clients? Why is this?
 - **if interested:** *explore if it something respondent/organisation would consider paying for and, if so, what would be the maximum amount per year/per month they would consider paying. Alternatively, if the product/service resulted in savings which were greater than the cost of the product/service, would this be acceptable? Also explore if the landlord would absorb the cost or pass it on to their tenants.*
 - **ask all:** who or what type of organisation would you expect to offer a service/product like this? *Prompt as necessary: energy supplier, energy service provider, something else*
 - if you were to consider using a service like this, which type of provider would you feel most happy dealing with/trust the most? Why is this?
- **Once all suggestions have been explored:**
 - can you suggest any other type of service or product that you/your organisation would find helpful when it comes to using the information from advanced/smart meters to help improve the energy efficiency of your properties?
 - can you suggest any other type of service or product that your clients might find helpful when it comes to using the information from advanced/smart meters to help them reduce your energy consumption/costs?
- One of the aims of this research is to find ways of encouraging smaller businesses to take steps to become more energy efficient:
 - in addition to the things we have been discussing so far, have you come across any other products or services that you think might help smaller businesses become more energy efficient/reduce the amount of energy they use?
 - can you suggest anything else that could be done – either by landlords/ energy companies/government/or anyone else that could encourage smaller businesses to become more energy efficient/reduce the amount of energy they use?

Annex C – Stage 1 Case Study Stimulus Material

Energy Consultants



DECC Smart Metering Study (Energy consultants)



Job No. 648 V2 13/07/2013

Reasons why reducing energy consumption/costs may or may not be (more of) a priority

- To reduce their costs
- For strategic reasons e.g. to provide a competitive edge
- To reduce their CO₂ emissions/to do 'their bit' to tackle climate change
- To be seen as a responsible organisation (corporate responsibility)
- To ensure they comply with regulations e.g. requirement for DEC, CRC
- The returns on the investment are not worthwhile
- Their energy costs are too small to make it worth our while
- The assets (e.g. premises, equipment, etc.) are leased, not owned
- They lack the necessary in-house expertise
- The information/expertise will be costly/time consuming to acquire
- They don't have the necessary funds within the business and/or access to the necessary funds (e.g. bank loan)
- They don't have sufficient time to undertake the required changes
- Staff are unlikely to comply with the required changes
- Bureaucracy can make it difficult

Creative Research 2

Reasons why a business/organisation may review its use of energy

- Energy price rises
- Information from advanced/smart meters helped them identify ways of using energy more efficiently
- To take advantage of funding streams, subsidies or award schemes e.g. Renewable Heat Incentive (RHI), Green Deal
- Planning/moving into new premises
- Refurbishing existing premises
- Purchasing new/replacing old items of equipment
- In preparation for being assessed for/implementing an environmental management system
- Head office/local authority/central management set energy targets which they needed to achieve
- Monitoring of other similar sites suggested the site in question is using higher than expected levels of energy
- A Corporate Social Responsibility report/review highlighted weaknesses in how much energy is being used at the site

Creative Research 3

Reasons why a business/organisation may review its use of energy

- **Internal expertise e.g.**
 - A new employee joined who had experience of how to reduce energy consumption/cost from a previous job
 - An existing employee(s) put forward suggestions which were followed up
 - they recognised the need to find ways of reducing its energy consumption and decided to
 - employ someone with the appropriate expertise
 - train an existing member of staff
- **External expertise e.g.**
 - Their energy supplier suggested steps they could take to make our business more energy efficient
 - An energy consultant suggested steps they could take to make their business more energy efficient
 - A trade association/professional body provided them with information and advice
 - Some other source of external expertise
- **In response to:**
 - Climate change
 - Government policy/regulations
 - Pressure from customers/students/staff/competitors

Creative Research 4

Options for reducing energy consumption/costs/CO₂ emissions

Change

- tariff/supplier
- timing e.g. take advantage of Economy 7 type tariffs
- energy source e.g. switch from electricity to gas
- the things you produce/sell
- production processes e.g. change the timings of the heating system
- behaviour e.g. incentivise/train staff/customers to use energy more efficiently

Invest in

- improved building insulation
- new/refurbished equipment
- servicing existing equipment
- improve heating/cooling/lighting systems
- auto-generation e.g. solar panels

Creative Research 5

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Power of Attorney Service

- Cheap Energy Club is an existing 'power of attorney' service for domestic energy customers
- Subscribers enter data including their current supplier, previous consumption, etc
- They are sent an email automatically once a cheaper deal becomes available
- Smart meters means that accurate consumption data could be used



Services/Products intended to help businesses make better use of the information from advanced/smart meters

Automated building performance evaluation

- Smart meter data can be used to compare the current energy use of your business premises with the energy use over time, taking into account weather related fluctuations. This can help identify the extent to which energy is being used efficiently.
- Where this reveals that energy is being used less efficiently, the service could provide ideas and advice on what is causing this as well as suggestions for improvements
- By comparing a building's energy performance against itself overcomes the problems of comparing two different buildings.
- For example, two hotels, one urban and one rural near to a lake, with a similar building fabric and number of rooms may have a large difference in heating requirements in winter and any benchmarking programme would struggle to account for this

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Pattern recognition

- Pattern recognition technology can use smart meter information to identify, for example:
 - Heating or cooling comes on too soon or switches off too late
 - Boilers, or other heating components such as heat exchangers, are the wrong size for a building
 - Building energy management systems have been manually overridden and not re-set
- Insights/recommendations can be sent to building managers and occupants; e.g.
 - “high gas and electricity consumption indicates that heating and cooling systems are working simultaneously”
 - “your building’s lights are on all night”
 - “changing your air conditioning filters will pay back in approximately eight months”
 - “you should change your air-conditioning settings to X today due to the weather forecast”.

Creative Research 5

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Device disaggregation

- A range of technologies that allow you to understand the electricity consumption per device. For example, a smart plug that sits between the plug on the appliance and the socket
- This could inform you about items of equipment that are using the most energy, as well as those using more energy than they should be, such as an air con unit that needs servicing

Landlords



DECC Smart Metering Study (Landlords)



Job No. 648 V2 15/07/2015

Reasons why reducing energy consumption/costs may or may not be (more of) a priority

- To reduce the operating costs of the properties
- For strategic reasons e.g. to differentiate properties from those of competitors/make them more attractive to prospective tenants
- To reduce our CO₂ emissions/to do 'our bit' to tackle climate change
- To be seen as a responsible organisation (corporate responsibility)
- To ensure we comply with regulations e.g. requirement for Display Energy Certificates, CRC
- The returns on the investment are not worthwhile
- The energy costs are too small to make it worth our while
- Energy efficiency of the properties is not valued by tenants
- We lack the necessary in-house expertise
- The information/expertise will be costly/time consuming to acquire
- We don't have the necessary funds within the business and/or access to the necessary funds (e.g. bank loan)
- We don't have sufficient time to undertake the required changes
- Clients are unlikely to comply with any required changes to their behaviour
- Bureaucracy can make it difficult

Creative Research 2

Options for reducing energy consumption/costs/CO₂ emissions

Change

- tariff/supplier
- timing e.g. take advantage of Economy 7 type tariffs
- energy source e.g. switch from electricity to gas
- the things the business produces/sells
- production processes e.g. change the timings of the heating system
- behaviour e.g. incentivise/train staff/customers to use energy more efficiently

Invest in

- improved building insulation
- new/refurbished equipment
- servicing existing equipment
- improve heating/cooling/lighting systems
- auto-generation e.g. solar panels

Creative Research 3

Advanced and Smart Meters

Advanced Meter

- provides information on your energy usage, so you can see what you have used in each hour or half hour of the day
- you have to request this information from your supplier
- typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.

Smart Meter

- the next stage on from an advanced meter.
- provides you with near real-time information on energy usage, for example through web based reports that you log onto to see.
- as well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem)

Creative Research 4

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Power of Attorney Service

- Cheap Energy Club is an existing 'power of attorney' service for domestic energy customers
- Subscribers enter data including their current supplier, previous consumption, etc
- They are sent an email automatically once a cheaper deal becomes available
- Smart meters means that accurate consumption data could be used



Creative Research 5

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Pattern recognition

- Pattern recognition technology can use smart meter information to identify, for example:
 - Heating or cooling comes on too soon or switches off too late
 - Boilers, or other heating components such as heat exchangers, are the wrong size for a building
 - Building energy management systems have been manually overridden and not re-set
- Insights/recommendations can be sent to building managers and occupants; e.g.
 - “high gas and electricity consumption indicates that heating and cooling systems are working simultaneously”
 - “your building’s lights are on all night”
 - “changing your air conditioning filters will pay back in approximately eight months”
 - “you should change your air-conditioning settings to X today due to the weather forecast”.

Creative Research 7

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Device disaggregation

- A range of technologies that allow you to understand the electricity consumption per device. For example, a smart plug that sits between the plug on the appliance and the socket
- This could inform you about items of equipment that are using the most energy, as well as those using more energy than they should be, such as an air con unit that needs servicing

Creative Research 8

Internal Actors



DECC Smart Metering Study (Internal Actors)



Job No. 648 V5 25/07/2015

Reasons why reducing energy consumption/costs may or may not be (more of) a priority

- To reduce our costs
- For strategic reasons e.g. to provide a competitive edge
- To reduce our CO₂ emissions/to do 'our bit' to tackle climate change
- To be seen as a responsible organisation (corporate responsibility)
- To ensure we comply with regulations e.g. requirement for DEC, CRC
- The returns on the investment are not worthwhile
- Our energy costs are too small to make it worthwhile
- We lack reliable information about our current energy consumption
- The assets (e.g. premises, equipment, etc.) are leased, not owned
- We lack the necessary in-house expertise
- The information/expertise will be costly/time consuming to acquire
- We don't have the necessary funds within the business and/or access to the necessary funds (e.g. bank loan)
- We don't have sufficient time to undertake the required changes
- Staff are unlikely to comply with the required changes
- Bureaucracy can make it difficult

Creative Research 2

Reasons why a business/organisation may review its use of energy

- Energy price rises
- Information from advanced/smart meters helped us identify ways of using energy more efficiently
- To take advantage of funding streams, subsidies or award schemes e.g. Renewable Heat Incentive (RHI), Green Deal
- Planning/moving into new premises
- Refurbishing our existing premises
- Purchasing new/replacing old items of equipment
- In preparation for being assessed for/implementing an environmental management system
- Head office/local authority/central management set us energy targets which we needed to achieve
- Monitoring of other similar sites suggested the site in question is using higher than expected levels of energy
- A Corporate Social Responsibility report/review highlighted weaknesses in how much energy is being used at the site

Creative Research 3

Reasons why a business/organisation may review its use of energy

- **Internal expertise e.g.**
 - A new employee joined who had experience of how to reduce energy consumption/cost from a previous job
 - An existing employee(s) put forward suggestions which we followed up
 - We recognised the need to find ways of reducing its energy consumption and decided to
 - employ someone with the appropriate expertise
 - train an existing member of staff
- **External expertise e.g.**
 - Our energy supplier suggested steps we could take to make our business more energy efficient
 - An energy consultant suggested steps we could take to make our business more energy efficient
 - Our trade association/professional body provided us with information and advice
 - Some other source of external expertise
- **In response to:**
 - Climate change
 - Government policy/regulations
 - Pressure from customers/students/staff/competitors

Creative Research 4

Energy Service Providers

Automatic Monitoring and Targeting Consultancies (aM&T)

- Automatically collect energy consumption data
- Analyse the data to ensure that energy use is in line with user's targets

Energy Management Consultancies

- Use smart meters and other technology to improve their clients' energy performance typically through mapping, measuring and analysing consumption
- May be offered in combination with aM&T

Energy Brokers

- Alert clients to opportunities from energy suppliers such as better tariffs
- Fall into 3 groups
 - Those who sell on behalf of the Big 6 energy suppliers
 - Those who just focus on finding the cheapest supply deals
 - Those that offer value-added services, such as energy management

Creative Research 5

Options for reducing energy consumption/costs/CO₂ emissions

Change

- tariff/supplier
- timing e.g. take advantage of Economy 7 type tariffs
- energy source e.g. switch from electricity to gas
- the things you produce/sell
- production processes e.g. change the timings of the heating system
- behaviour e.g. incentivise/train staff/customers to use energy more efficiently

Invest in

- improved building insulation
- new/refurbished equipment
- servicing existing equipment
- improve heating/cooling/lighting systems
- auto-generation e.g. solar panels

Creative Research 6

Advanced and Smart Meters

Advanced Meter

- provides information on your energy usage, so you can see what you have used in each hour or half hour of the day
- you have to request this information from your supplier
- typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.

Smart Meter

- the next stage on from an advanced meter.
- provides you with near real-time information on energy usage, for example through web based reports that you log onto to see.
- as well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem)

Creative Research 7

Smart Meters

- provides you with near real-time information on energy usage, so you can see what you have used, typically, for every half hour
- the information can be displayed/accessed in a number of ways, such as through web based reports that you log onto to see.
- as well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem)

Creative Research

Information from smart meters

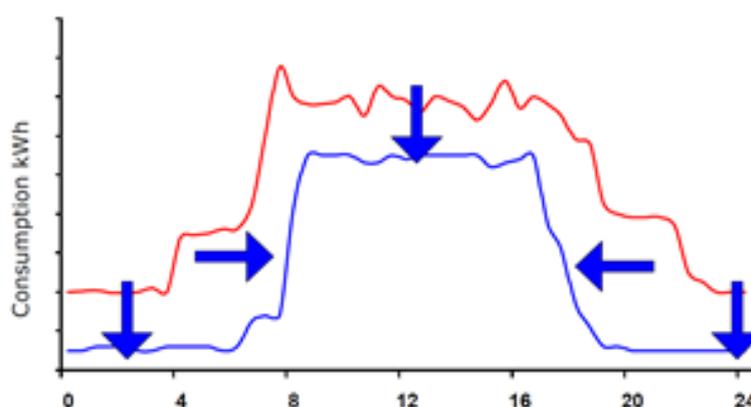
- On a PC/laptop via the web
- Smart phone app
- Consumer Access Device – a visual display that links with the smart meter(s)
- More detailed bills



Creative Research

Possible ways of using information from smart meters

Smart meter data can be collected and be studied to see if consumption can be reduced, e.g. by identifying unnecessary constant energy use such as unoccupied areas that are lighted/heated/cooled or heating coming on earlier than it needs to – research by British Gas suggests that 46% of smaller businesses' energy spend is outside normal office hours

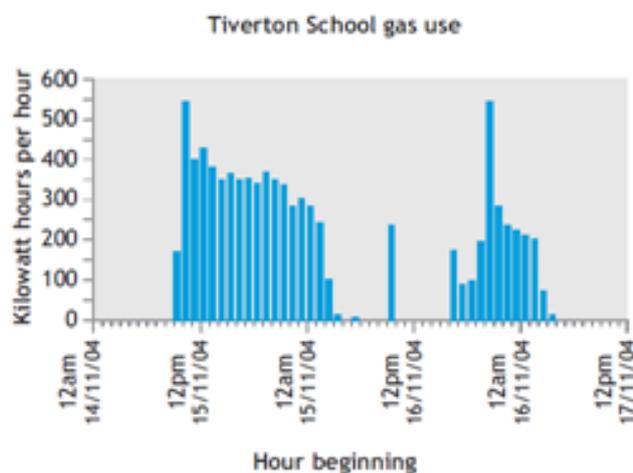


Creative Research 10

Possible ways of using information from smart meters

Advanced/Smart meter data can be used to identify and rectify faults

A school discovered that a faulty control system meant the heating boilers were starting up at midnight to warm the school up for the next day.



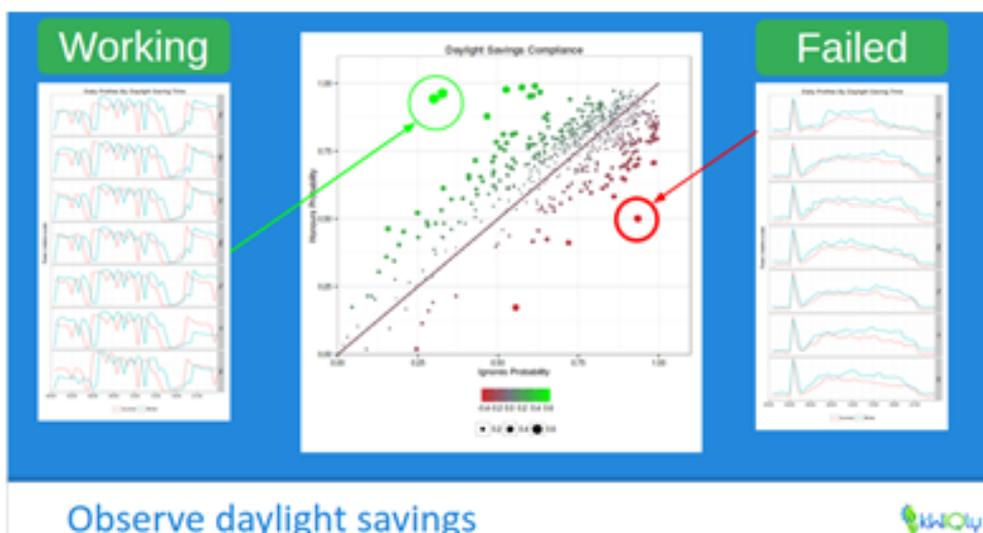
The gas graph shows the immediate effect of shutting down and restarting the heating controller. The operating time is reduced by six hours per day.

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Source: The Carbon Trust's Advanced Metering field trial update

Possible ways of using information from smart meters

Smart meter data can be used to identify other ways of saving energy – for example, helping them realise their heating systems don't take account of daylight saving (British Summer Time)



Source: Kwilo.com

Possible ways of using information from smart meters

Smart meter data can be used to help employees discover ways of changing their behaviour to save energy

The example is taken from a study of domestic customers but the same principle applies in the work place

Switched on to saving energy

By taking part in the Smart Meter Challenge, our households discovered some handy tricks for controlling the amount of gas and electricity they used. Here's their top ten.

1. Choose the right size of burner or ring for the pan, and always put lids on to keep the heat in
2. Use a steamer to cook vegetables, so you can layer vegetables on top of each other and still use one ring
3. Cook two meals at once rather than using the oven when it's half-full
4. Wash clothes at 30°C instead of 40°C
5. Only boil the amount of water you need in the kettle
6. Turn down the thermostat on your hot water by 1-2°C*
7. Dry clothes on a line or clothes horse rather than using a tumble dryer or radiator
8. Wait until you have a full dishwasher before you put it on
9. Don't leave mobile phones charging overnight
10. Turn all appliances off standby

Source: The National Smart Meter Challenge; British Gas and The Futures Company

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Power of Attorney Service

- Cheap Energy Club is an existing 'power of attorney' service for domestic energy customers
- Subscribers enter data including their current supplier, previous consumption, etc
- They are sent an email automatically once a cheaper deal becomes available
- Smart meters means that accurate consumption data could be used



Creative Research 14

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Automated building performance evaluation

- Smart meter data can be used to compare the current energy use of your business premises with the energy use over time, taking into account weather related fluctuations. This can help identify the extent to which energy is being used efficiently.
- Where this reveals that energy is being used less efficiently, the service could provide ideas and advice on what is causing this as well as suggestions for improvements
- By comparing a building's energy performance against itself overcomes the problems of comparing two different buildings.
- For example, two hotels, one urban and one rural near to a lake, with a similar building fabric and number of rooms may have a large difference in heating requirements in winter and any benchmarking programme would struggle to account for this

Creative Research 15

Services/Products intended to help businesses make better use of the information from advanced/smart meters

Pattern recognition

- Pattern recognition technology can use smart meter information to identify, for example:
 - Heating or cooling comes on too soon or switches off too late
 - Boilers, or other heating components such as heat exchangers, are the wrong size for a building
 - Building energy management systems have been manually overridden and not re-set
- Insights/recommendations can be sent to building managers and occupants; e.g.
 - “high gas and electricity consumption indicates that heating and cooling systems are working simultaneously”
 - “your building’s lights are on all night”
 - “changing your air conditioning filters will pay back in approximately eight months”
 - “you should change your air-conditioning settings to X today due to the weather forecast”.

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Services/Products intended to help businesses make better use of the information from advanced/smart meters

Device disaggregation

- A range of technologies that allow you to understand the electricity consumption per device. For example, a smart plug that sits between the plug on the appliance and the socket
- This could inform you about items of equipment that are using the most energy, as well as those using more energy than they should be, such as an air con unit that needs servicing

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Annex D – Observational Record Sheet

Recruitment Screener: Cluster 1

Name and address of Case Study	Cluster
	1
	2
	3

Building: make notes on nature/age of building/whether well maintained/signs of damp, etc e.g. new build/Victorian school with portacabin class rooms, etc. especially anything likely to impact on energy efficiency 🏠

Make a note and add any relevant comments about the presence of any of the following	
Food preparation (full-service kitchens vs. fast-food vs. limited use)	
IT installation (server room)	
Swimming pools (seasonal outdoor pools; year round internal pools; heated/unheated)	
Workshops (E.g. school workshops with machine tools)	
Air conditioning	

Manufacturing (Assembly, packaging, manufacturing or other energy intensive use)	
--	--

Electricity bills 📄 or ask for copy						
Supplier:						
	Meter 1	Meter 2	Meter 3	Meter 4	Meter 5	Meter 6
Profile Class No						
meter registration number (MPAN) [fiscal meter(s) only]						
Consumption: record kWh and period/time of year it relates to:						
If less than 1 year, calculate approx. annual consumption						
If not typical, estimated annual consumption (if possible)						
Gas bills 📄 or ask for copy						
Supplier:						
Meter registration number(s) (MPRN) [fiscal meter(s) only]						
Consumption: record kWh and period/time of year it relates to:						
If less than 1 year, calculate approx. annual consumption						
If not typical, estimated annual consumption						

Meters (incl sub-meters where relevant/possible) 📷 From the serial number it should be possible to find out the make/model of the meter. There should also be symbols displayed on the meter which should indicate its functionality. Try to capture a sharp image of the meter(s) so this can be checked out.

Make a note of location and accessibility. For each meter, note if Advanced/Smart

Ask respondent taking you around if s/he can demonstrate what information (if any) can be displayed on the meter. Make a note of whether s/he can do this i.e. how knowledgeable they appear to be about meter functionality

Energy Management

Make a note of any documents and/or supporting evidence of business's/school's energy management. If possible, ask for copy/📄. This might include management/policy documents, documents aimed at staff.

If business/school is accredited to ISO 14001 for environmental management or something similar, ask to see supporting evidence.

Schools (and possibly C1): ask to see DEC (display energy certificate)

Make a note of any communications used to encourage staff/customers/students to use energy wisely.

Record below all items of evidence seen

--

Advanced/smart meter data 📷 (might be possible for respondent to take a screen shot and send it to you)

Method(s) of accessing data e.g. laptop

Form/appearance of data – ask to see a ‘typical’ screen/spread sheet page or the information used most often.

If some data/information is difficult to use/interpret try to capture this

If Reports/advice is provided by ‘head office/energy provider/third party try to capture this

<p>Reasons why reducing energy consumption/costs may or may not be (more of) a priority (S2)</p> <p>Record below all that apply with comments as necessary</p>		
To reduce our costs		
For strategic reasons e.g. to provide a competitive edge		
To reduce our CO ₂ emissions/to do 'our bit' to tackle climate change		
To be seen as a responsible organisation (corporate responsibility)		
To ensure we comply with regulations e.g. requirement for DEC, CRC		
The returns on the investment are not worth while		
Our energy costs are too small to make it worth our while		
We lack reliable information about our current energy consumption		
The assets (e.g. premises, equipment, etc.) are leased, not owned		
We lack the necessary in-house		

Annex D – Observational Record Sheet

expertise		
The information/expertise will be costly/time consuming to acquire		
We don't have the necessary funds within the business and/or access to the necessary funds (e.g. bank loan)		
We don't have sufficient time to undertake the required changes		
Staff are unlikely to comply with the required changes		
Bureaucracy can make it difficult		

Reasons why a business/organisation may review its use of energy S3/4)		
Record below all that apply with comments as necessary		
Energy price rises		
Information from advanced/smart meters helped us identify ways of using energy more efficiently		
To take advantage of a business opportunity e.g. Renewable Heat Incentive (RHI), Green Deal		
Planning/moving into new premises		
Refurbishing our existing premises		

Annex D – Observational Record Sheet

Purchasing new/replacing old items of equipment		
In preparation for being assessed for/implementing an environmental management system		
Head office/local authority/central management set us energy targets which we needed to achieve		
Monitoring of other similar sites suggested the site in question is using higher than expected levels of energy		
A Corporate Social Responsibility report/review highlighted weaknesses in how much energy is being used at the site		
A new employee joined who had experience of how to reduce energy consumption/cost from a previous job		
An existing employee(s) put forward suggestions which we followed up		
<p>We recognised the need to find ways of reducing its energy consumption and decided to</p> <ul style="list-style-type: none"> • employ someone with the appropriate expertise • train an existing member of staff 		
<p>In response to:</p> <ul style="list-style-type: none"> • Climate change • Government policy/regulations • Pressure from customers/students/staff/competitors 		
Our energy supplier suggested steps we could take to make our business more energy efficient		

Annex D – Observational Record Sheet

An energy consultant suggested steps we could take to make our business more energy efficient		
Our trade association/professional body provided us with information and advice		
Some other source of external expertise		

Annex D – Observational Record Sheet

Options for reducing energy consumption/costs CO ₂ emissions		
Change tariff/supplier		
Change timing e.g. take advantage of Economy 7 type tariffs		
Change energy source e.g. switch from electricity to gas		
Change the things you produce/sell		
Change production processes e.g. change the timings of the heating system		
Change behaviour e.g. incentivise/train staff/customers to use energy more efficiently		
Invest in improved building insulation		
Invest in new/refurbished equipment		
Invest in servicing existing equipment		
Invest in improve heating/cooling/lighting systems		
Invest in auto-generation e.g. solar panels		

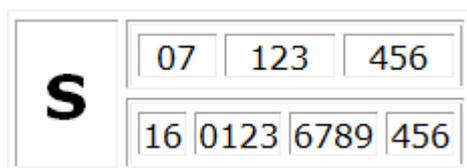
MPAS (Meter Point Administration Service): How to find your MPAN and MPRN meter reference numbers

Sometimes when you try to switch your electricity supplier, you are asked for the 'Meter Point Access Number', which is also called the MPAN or S Number. This number is 21 digits long, consists only of numbers and uniquely identifies your supply point to the supplier. This identifying reference is important because the energy supplier can be sure to take over the correct property and bill the right meter if the MPAN is there.

The MPAN will not be on the meter itself. There is of course a serial number stamped or printed onto the meter, but this does not help. The MPAN should also not be mistaken with the customer reference number your electricity supplier has assigned to you, which is printed on your bill and serves as a reference to you as a person, but not to your supply point.

But the bill is generally a great place to look for the MPAN, because by law this number must be printed there. Trust us it is there! If you struggle to find it then that is because there are no firm rules on how the number is formatted and presented. For example, some suppliers will print the number in small letters on the back of the bill. Some will only display 13 digits, and not the whole 21 digits.

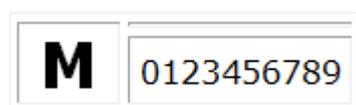
Here is an example of what the number should look like.



The top half of the MPAN tells the supplier what kind of electricity you need. The bottom half identifies the location, and it is that section - digits 9 to 21 - that is sometimes needed when you switch supplier.

How to I find my gas MPRN meter point reference number?

Your gas Meter Point Reference Number (MPRN) does the same job as the MPAN, for your gas supply, and finding it is also quite the same job. The MPRN helps the supplier locate your meter. Note, however, that this number (again, no letters, number only!) will only be between eight to ten digits long. The supplier may have tried to hide it away again but the MPRN number will be printed somewhere on your bill. It is typically shown in one row of numbers and prefaced with the letter M. So you should expect to see something that looks like this:



We only need to record MPAN/MPRN numbers for fiscal meters – they meters which are used to calculate the bill

Annex E – Stage 1 Analysis Matrix

Analysis Template

You should produce a single, detailed set of notes for each Case Study. This should be structured by using this template. If your case study raises issues which do not appear to fit under any of the sub-headings, you should create some new headings at the end of the relevant section. If it doesn't appear to fit under any of the main headings, please add it under 9 Other Issues. Please email other members of the research team with details so if appropriate, we can all follow suit.

You should identify each actor using a different font colour and provide a key to show which colour relates to each actor (see example below and grid over page). You should include any feedback from implementers/energy users under the relevant sections. This will enable us to see where different actors are providing different parts of the overall picture.

You should set out the findings as a series of statements/bullet points. Where possible, findings should be 'triangulated' - where the same point has been made by two or more actors, this should be indicated by the use of 'ditto' in the appropriate colour. In the example below the first actor had stated that reducing energy consumption is a low priority and this was then confirmed by one further actor. Similarly, where there are discrepancies in terms of what different actors report, this should also be noted. In the example below, the third actor offered a different perspective.

Findings need to be supported wherever possible with evidence. This will principally take the form of verbatims which should be shown in italics within speech marks and colour coded.

- reducing energy consumption is a low priority; ditto; rated as a high priority

“Reducing our energy consumption is a low priority for us.”

“From my perspective, trying to lower our energy consumption is a high priority.”

Where it is not possible to provide a verbatim (e.g. if the only relevant examples are too long or convoluted) then a simple statement of the finding should be provided.

Wherever possible, other supporting evidence should be cited e.g. in the form of researcher observations, photographs, copies of documents, etc.

Please provide a list of all supporting evidence (photographs, copies of documents) in the appendix, along with a unique ID (e.g. Cn.nP1, Cn.n.P2, Cn.n.D1 where Cn.n indicates the Case Study and P1/D1 indicates either a photograph or a document. Where it is appropriate to do so, you can insert images into the body of the write-up. Please ensure you send me electronic copies of all such material. In the case of paper documents, either scan or copy these then send me the originals via Special Delivery.

Once you have written up the case study, you should

- use the Context Map list of factors to illustrate which factors appear to be relevant to your case study
- populate the pathway map.

Annex E – Stage 1 Analysis Matrix

Case Study site and Actors

List below all the name and address of the case study site and the actors who have taken part

ID	Name	Title	D (decision maker) I (implementer) E (user)	Organisation (if not employee of case study site)
A1				
A2				
A3				
A4				
A5				
A6				
ID	Outline the role of each actor in terms of energy management/implementation/energy use			
A1				
A2				
A3				
A4				
A5				
A6				

Annex E – Stage 1 Analysis Matrix

Nature of Site

Briefly outline the nature of the site drawing on your observations as well as information from actors and any other relevant sources, eg DEC, factors that make energy efficiency difficult, etc.

Use of Energy

Consumption

- The business/school uses: electricity / gas / oil / lpg / autogenerated / other

	Electricity	Gas
Profile Class :		
Supplier:		
Annual consumption:	kWh (actual/estimate)	kWh (actual/estimate)

- Add any comments necessary about consumption e.g. if an estimate, how this was arrived at

Across all forms of energy used

- Cost of energy represents a tiny/small/medium/high proportion (Q9) of the total operating cost of the site
- Use of energy
 - main activities that account for use of **electricity** including any items of equipment/apparatus that use lots of/most electricity
 - main activities that account for use of **gas** including any items of equipment/apparatus that use lots of/most gas
 - main activities that account for use of **other forms of electricity** including any items of equipment/apparatus that use lots of/most electricity
 - details of any energy from renewable sources

Meters

- Number of electricity meters – if more than one, why is this/how they are used (e.g. sub-metering)
- Where advanced/smart electricity meters are installed: check whether have advanced/smart if known (Q11a); if more than one electricity meter installed, which one(s) are advanced/smart? how long has the business/school had advanced/smart electricity meters? when were they first installed?
- if has gas: how many gas meters there are at this site – if more than one, why is this /how they are used
- where advanced/smart gas meters are installed: check whether have advanced/smart if known (Q11b); if more than one gas meter installed, which

one(s) are advanced/smart? How long has the business/school had advanced/smart gas meters? when were they first installed?

- where advanced/smart meters of any sort are installed: why were the advanced/smart meters installed and by whom?

Energy Management

Decision making

- Outline how the business/school goes about making decisions about its use of energy, including who is involved, how decisions are made and whether there is expertise in-house in terms of energy efficiency. Include details of all decision makers and implementers (including any you have not interviewed).

Reducing Consumption

- Importance of reducing energy consumption: high/medium/low priority (Q10)? Why is that?
- Factors that trigger the need for energy reduction/barriers that get in the way
- Factors that triggered the business/school to think about/review its use of energy
- **NB** if energy consultant interviewed, incorporate their responses to the above points here by way of triangulation

DEC

- **if case study site has a DEC⁴**: have recommendations been implemented? Why/why not?
- **NB** if energy consultant interviewed include their responses to this here

Environmental Management System

- Environmental management system in place (e.g. ISO 14001) or something similar? **If no formal system:** does the business/school adhere to the broad principles of environmental management? Is there an environmental policy in place? What, if anything, does this say about how the business will try to manage/reduce energy use?

Encouraging staff/customers etc

- To what extent/how are staff/customers etc encouraged to use energy wisely? Why is this?

Landlords (see section 8 as well)

- Role or impact of landlord on ability to implement actions related to energy use

Energy Service Providers

- Familiarity and use

⁴ Attach DEC and AR as evidence

Other influencers

- Other individuals or organisations that have been involved in helping organisation manage its energy consumption and costs

Ways to Reduce Energy Costs/Consumption

Actions taken

- Summarise actions taken: why/how done/who was involved (internal and external)/ease/difficulty/outcomes
- Indicate if actions fully implemented or partially done
- Include feedback from implementers/energy users/energy consultants here
- If landlord has been responsible for certain actions, include them here

Actions not taken

- Summarise any that were considered and rejected with reasons as well as those not considered with reasons
- **NB** if energy consultant interviewed, include their response to this issue here as a form of triangulation

Advanced/smart meters

Understanding

- Summarise understanding of advanced/smart meters
- **for those with advanced/smart meters:**
 - do they know if it is advanced/smart
 - perceived benefits/disadvantages
 - was respondent able to explain what information is available from the meter when you were shown it
- **for those without advanced/smart meters:**
 - perceived benefits/disadvantages including anything it might enable them to do that they currently can't do
 - perceived ease/difficulty of using the data
 - awareness of/reactions to having existing meters replaced with smart meters
 - preferences for how the information can be accessed
 - likelihood of using smart meter information with reasons

Use of advanced/smart meter data

- **if not used:** why is this / **if used:** summarise how it is accessed, how often and how easy/difficult it is to interpret
- Indicate which category case study falls into and response to prompts

	<p>the data available from your advanced/smart meters has helped you/your organisation to significantly reduce your energy consumption and/or your energy bills</p>	<ul style="list-style-type: none"> – how has it done this – explore in as much detail as possible including what data in particular prompted the change; any specific investments made; any staff cost or other savings; the levels of savings achieved?
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Annex E – Stage 1 Analysis Matrix

	the business/school has tried to use the data to help reduce energy consumption/bills but this has proved difficult	<ul style="list-style-type: none"> – how have they tried to use the data (what for)? – what are the things that have made it difficult to do? – what if anything could be done that might help overcome these difficulties?
	the data is used to compare energy consumption across sites but not to try and reduce energy consumption/bills	<ul style="list-style-type: none"> – what does the data show; how useful is this?
	the data is interesting to see but we do not use it to help reduce our consumption/bills	<ul style="list-style-type: none"> – why isn't the data being used to try to reduce consumption/costs? – probe to explore if this is because the data is difficult to interpret and/or it is difficult to know what actions to take to reduce consumption
	something else	<ul style="list-style-type: none"> – explore reasons

Ways of using information from smart meters

- **for each feature:** summarise familiarity
 - **if familiar:** is it something organisation has tried to do?
 - **yes** why/how/who (internal/external)/ease/ outcomes
 - **no:** why is this
 - **if not familiar:** is this something that could be useful? Why is this? Would they know how to go about doing this? **If no:** who might they turn to for advice/help? (both internally within the organisation as well as externally)

Energy service providers in relation to advanced/smart meters

- **if business/school already using an energy service provider:** to what extent/how does the service provider enable/facilitate the use of the data from advanced/smart meters. Could they do more?
- **if business/school not using an energy service provider:** to what extent might these types of service provider enable/facilitate the use of the data from advanced/smart meters. What might trigger the use of the service?
- **NB** where energy consultant interviewed, incorporate their views on advanced/smart meters here as a form of triangulation

Encouraging Engagement with Reducing Energy Consumption

- **For each service/product:** summarise reactions/interest including whether would consider paying for the service, expectations in terms of providers and preferred/most trusted provider
- Suggestions for any other type of service or product that would be helpful in using the information from advanced/smart meters.

Landlords

Introduction

- Nature of organisation/property portfolio and respondent's role
- Summarise how properties are managed and highlight any differences/aspects that apply to case study

Attitudes towards Energy Efficiency

- Importance of having energy efficient properties
- Perceived role of landlord/tenant in terms of ensuring properties are energy efficient Include whether or not energy efficiency audits are carried out and how frequently energy efficiency reviews are conducted. Record anything that is different/applies in particular to case study
- Perceived role of landlord in terms of helping client/tenants be energy efficient

Ways to reduce energy consumption

- Which actions are considered to be the responsibility of the landlord and why; Summarise all energy efficiency measures undertaken at case study
- If building has a DEC: have the recommendations been implemented

Views on advanced/smart meters

- Familiarity/understanding
- Perceived advantages/disadvantages
- Extent to which has installed advanced/smart meters in properties
- **if advanced/smart meters installed**: if instigated by landlord, why was this. If requested/instigated by someone else, who was it, why and what was landlord's reaction. How was installation arranged? Are any additional services provided, if so what are they and who provides them. Who has access to the data; issues around interpretation. What impact have they had?
- **if advanced/smart meters not installed**: would landlord consider them appropriate for the case study site / who would be responsible for having them installed

Encouraging Greater Engagement with Reducing Consumption

- Summarise reactions to each service/product including reactions to paying for it and if costs would be absorbed/passed on, types of provider/preferred provider
- Suggestions for other services aimed at landlords/clients
- Suggestions for other ways of encouraging smaller businesses to become more energy efficient

Energy Consultants

Attitudes towards Energy Efficiency

- Challenges in encouraging smaller businesses/schools etc to become more energy efficient and the extent to which these apply to case study site
- Briefly outline how relationship with case study site came about

Annex E – Stage 1 Analysis Matrix

- Summarise services/products provided to case study site
- Suggestions for other ways of encouraging smaller businesses to be more energy efficient
- **NB** much of the findings from energy consultants should be incorporated in the earlier sections

Other ISSUES

Contextual Factors

For each factor, 'score' as '✓ ✓' if a major factor, '✓' if a factor that appears to have some impact, 'x' if a factor that appears to have no impact and '??' if it is not clear if the factor has any impact. The factors are described in greater detail in the spreadsheet 'DECC Context Map Definitions.

Under the Comments col. please summarise the source of the evidence i.e. the ID(s) of the Actors who made reference to it (e.g. A1, A4) as well as any supporting evidence (e.g. Cn.nP1)

	Score	Comments
External context		
Technological innovation		
Reputational drivers		
Financial incentives or commitments to reduce consumption e.g. environmental awards		

Annex E – Stage 1 Analysis Matrix

<p>Govt Policy drivers e.g. CRC Energy Efficiency Scheme, Climate Change Agreements (CCAs), Climate change levy, Energy Savings Opportunity Scheme (ESOS)</p> <p>As well as their influence on the org, we would also be interested in whether such policies have influenced the decision to have smart meters/whether SM has influenced how easy it is to comply with some form of regulatory requirement etc</p>		
<p>Time of use tariffs and load shifting</p>		<p>not currently available</p>
<p>Competition and profit margins</p>		
<p>Energy price</p>		
<p>Climate change</p>		
<p>Other external contextual factors (write in)</p>		

Annex E – Stage 1 Analysis Matrix

Organisational Context		
legal arrangement e.g. building lease (tenants only) which impact on tenant's ability to manage their energy		
energy intensity of operations & premises		
Building management incentives and structure e.g. organisational arrangements/incentives to reduce consumption		
Occupancy patterns (one vs. multiple building occupants) & who occupies the building including public access (C1-C3 will all have public access)		
Basis on which energy leases/costs are recovered e.g. where tenant pays energy as part of rent/service charge		Not applicable
Process standardisation/ QA e.g. extent to which energy management systems are standardised		
HR/culture/organisational structure e.g. extent to which energy efficiency is systematised		
Active building facilities management		
Budgeting & financial control arrangement		

Annex E – Stage 1 Analysis Matrix

Socio technical organisational issues – how people’s interactions may be influenced by the type of equipment/technology on site		
Operations and premises – types of business/activities taking place, hour of operation, etc; main uses of energy		
Business site composition and control e.g. where energy efficiency driven by central management		
Size of organisation (large: 250+/medium: 51-249/small: 11-50/micro: <11 employees		
Other organisational contextual factors		
Non-domestic smart meter context, products and services		
Price comparison sites – could include energy company websites which allow organisations to compare different tariffs		
Display Energy Certificates		
Benchmarking e.g. comparing energy efficiency across sites		
Building performance analysis and data analytics		

Annex E – Stage 1 Analysis Matrix

DCC/Utility data management and access – ease in which smart meter data are presented/ disseminated to third parties/mediators and businesses		
Sub-metering		
Meter functionality – traditional/advanced/smart		
Utility engagement strategy		
Installation process		
Other NDSM contextual factors (write in)		

Annex E – Stage 1 Analysis Matrix

Mediator/information provider/ analyst		
Trade association		
Aggregated/collective e.g. retail groupings such as LONDIS/SPAR		
Equipment supplier		
Site/portfolio energy manager		
Site/portfolio facilities manager		
Energy Management service provider e.g. aM&T		
Energy broker		
Utilities e.g. may provide energy management services		
Other mediator/information provider/analyst contextual factors (write in)		

Annex E – Stage 1 Analysis Matrix

Business triggers		
Energy contract renewal		
supply chain access – may need to demonstrate energy efficiency in order to become a supplier		
Asset renewal e.g. equipment		
Lease renewal		
Refurbishment		
New build/start-up		
Other business triggers		

Annex E – Stage 1 Analysis Matrix

Motivation		
cross site learning		
motivated facilities mgr		
public/stakeholder feedback – desire to be seen as ‘green’ as seen as important in terms of customers/stakeholders		
CSR		
Compliance with regs		
Carbon targets – has set itself carbon targets		
Cost/cost-benefit/payback – energy is high % of costs/specific actions result in sufficient payback to make worthwhile		
Efficiency – wants to be seen as an efficient enterprise		
Other motivation triggers		

Pathway Map

Populate a copy of the pathway map. Start off by describing what currently happens then add in in a second font colour things that could help the case study improve their energy efficiency (e.g. the services of an energy consultant, reactions to new services/help in interpreting data)

Triggers and problems
Energy Decision Maker(s)
Drivers/Motivation
Organisational Factors

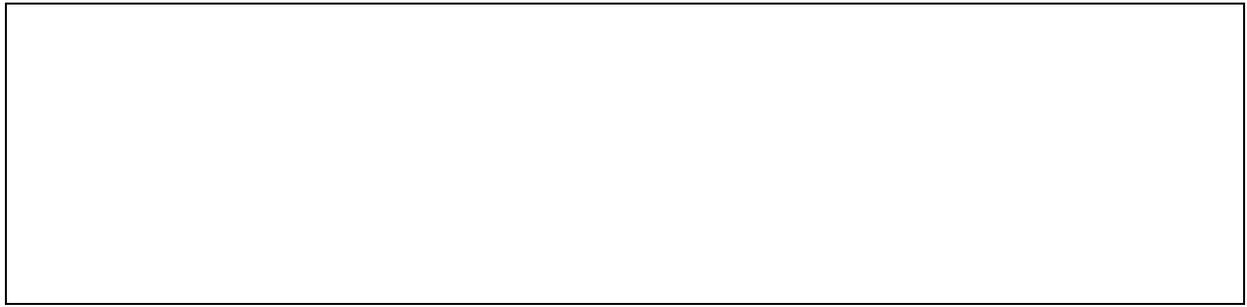
Analytics - include what steps have been taken to identify ways of reducing consumption (e.g. an energy audit, review of production processes as well as advanced/smart meter data and how it is interpreted)

Actionable solutions

Energy saving and cost reduction/benefits

Mediator/Information provider/Analysts

External Contexts



Appendices

Please provide a list of all supporting evidence you have in the way of photographs and documents and assign a code to each. Use this code when referring to the evidence in the body of the write-up.

Annex F – Stage 1 Follow-Up Depth Topic Guide

Follow-up Contact for Other Actors

RQ number (ON LOG OR RESP. LIST): URN:

Interviewer name: Interviewer no: Date: Time:

Checked (SUPERVISOR ONLY – USE RED TO FILL IN)

Quality controlled by on/...../.....

Added to resp. list/log on/...../.....byAre you sure? Y / N

RECRUIT	<input type="checkbox"/>
RESERVE	<input type="checkbox"/>

Exec informed by email on...../...../.....byAcknowledged by exec? Y / N

Confirmation letter/email (SUPERVISOR ONLY – USE RED TO FILL IN)

Confirmation sent via on/...../.....by (initials).....

IF CONF. SENT BY EMAIL, PHONE & CHECK IF EMAIL RECEIVED A FEW MINS AFTER EMAIL SENT:

Has email been received? Call made on/...../.....by (initials).....

Table 1:
Record details of lead contact (the individual who took part in the main screening interview and provided details of other actors)

Name of organisation	
Address of organisation (the site for the case study visit)	
Name	
Title/role	
T/p	
For internal actors: record details of individual you are contacting	
Name of organisation (if different to above)	
Address respondent is based at (if different to above; e.g. head office)	
Name	
Title/role	
T/p (if different to above)	
Email	

Is this individual a potential respondent or are you contacting them to get permission for another member of staff to participate in the research?		
contacting to get permission for another member of staff to take part	1	<i>Complete details of this member of staff in Table 2</i>
contacting them as a potential respondent	2	<i>Tick here if permission to interview them is given</i>

Table 2: For internal actors: record details of member(s) of staff for whom we would like permission for them to take part in the research – you should record details of each member of staff that contact is responsible for		<i>Tick if permission given</i>	<i>Circle as applicable</i>
Staff Member 1			<i>Direct contact</i> <i>Arranged by member of staff</i>
Name of organisation (if different to above)			
Address respondent is based at (if different to above; e.g. head office)			
Name			
Title/role			
T/p (if different to above)			
email			
Staff Member 2			<i>Direct contact</i> <i>Arranged by member of staff</i>
Name of organisation (if different to above)			
Address respondent is based at (if different to above; e.g. head office)			
Name			
Title/role			
T/p (if different to above)			
email			
Staff Member 3			<i>Direct contact</i> <i>Arranged by member of staff</i>
Name of organisation (if different to above)			
Address respondent is based at (if different to above; e.g. head office)			
Name			
Title/role			
T/p (if different to above)			
email			

Table 3:
For external actors: record details of individual you are contacting (you should complete a separate version of this form for each external actor you contact)

		Tick if permission given	Circle as applicable
Name of organisation			Interview at main contact address
Address respondent is based at			Interview at address shown here
Name			
Title/role			
T/p			
Email			Interview by phone

Table 4:

CLUSTER 1 Code below organisation type

A chain of hotels with restaurants	C1a	
A chain of restaurants/cafes/coffee shops but excluding any which are predominantly takeaways i.e. food and drink are mainly consumed on the premises	C1b	
A chain of pubs with restaurants	C1c	
A franchised based chain of restaurants/cafes/coffee shops but excluding any which are predominantly takeaways i.e. food and drink are mainly consumed on the premises	C1d	

Code respondent site location

Respondent is based at 'head office'	1	
Respondent is based in individual outlet	2	

CLUSTER 2 Code below organisation type

A primary school under Local Authority control	C2P1	
A primary school that is an Academy	C2P2	
A secondary school under Local Authority control	C2S1	
A secondary school that is an Academy	C2S2	

CLUSTER 3 Code below organisation type

Code below regional location from sample

London/South East	1	Recruit 3	North East	2	Recruit 2
East	2	Recruit 1	South Wales	7	Recruit 1
South West	3	Recruit 1	North Wales	8	Recruit 1
Midlands	4	Recruit 2	Scotland (central)	9	Recruit 2
North West	5	Recruit 2	Scotland (other)	10	Recruit 1

WHEN CONTACTING INTERNAL ACTORS

Good morning/afternoon/evening. My name is calling from Accent, an independent research company. We are conducting some research for the Department of Energy and Climate Change among a number of businesses about their energy meters and energy management needs. I have been speaking with [name of contact] from [name of organisation] who has agreed to take part in the research.

ASK WHEN CONTACTING INTERNAL ACTORS WE WOULD LIKE TO TAKE PART IN THE RESEARCH: For the research, we need to speak to a small number of people from the business who are involved in some way with either developing the business' approach to how it uses energy or in putting this into practice and [name of contact] has suggested we should speak to you about taking part in the study.

ASK WHEN CONTACTING INTERNAL ACTORS TO GET PERMISSION FOR OTHER MEMBERS OF STAFF WE WOULD LIKE TO TAKE PART IN THE RESEARCH: For the research, we need to speak to a small number of people from the business who are involved in some way with either developing the business' approach to how it uses energy or in putting this into practice. [Name of contact] have suggested we should include [name(s) of staff members for whom we need permission] in the study and that we should speak with you in the first instance to get your agreement for them to take part.

ASK ALL: Just before I explain what we are doing in more detail, I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

Also, I should like to confirm that this is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence.

The research involves:

- a member of the research team visiting [name and address of business/school – the site of the case study visit] at a convenient time and date – it will be sometime in July
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- the researcher would also like to conduct interviews with one or more members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker based on the site, a senior decision maker based at 'head office'/within the Local Authority, one or two other members of staff who have a role to play in either developing the business' approach to how it uses energy or in putting this into practice
- in appreciation of your help, if you/members of staff agree to take part in the main study we would like to offer a financial payment of £150 per person. This

can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.

ASK WHEN CONTACTING INTERNAL ACTORS WE WOULD LIKE TO TAKE PART IN THE RESEARCH:

- check that contact is willing to take part in the research (**RECORD IN TABLE 1**)
- check you have the correct contact details (**CONFIRM IN TABLE 1**)
- explain that a member of the research team will be in touch shortly to make the detailed arrangements

ASK WHEN CONTACTING INTERNAL ACTORS TO GET PERMISSION FOR OTHER MEMBERS OF STAFF WE WOULD LIKE TO TAKE PART IN THE RESEARCH:

- check that contact is willing for the suggested members of staff to take part in the research (**RECORD IN TABLE 2**)
- check if the researchers should contact this/these members of staff directly or whether they should speak to him/herself
- check you have the correct contact details (**CONFIRM IN TABLE 2**)
- explain that a member of the research team will be in touch shortly to make the detailed arrangements

Recruiter: listed below are some possible roles in terms of who we may wish to include in the research. This is not a definitive list but it may help clarify the types of people we need to include

Cluster 1

(Corporate) Energy Manager
Facilities Manager
Sustainability Manager
Compliance Manager
Estates Director

Site Manager
Hotel Manager
Restaurant Manager/Duty Manager
Kitchen Porter
Head of Maintenance

Cluster 2

Bursar
Site Manager
Facilities Manager
Financial Manager
Energy Manager
Business Manager
Caretaker

Head Teacher/Headmaster/
Principal
Teacher
Governor
LA Head of Education
LA Energy specialist/manager

Cluster 3

It is very unlikely that there will be other members of staff in these organisations

WHEN CONTACTING EXTERNAL ACTORS

Good morning/afternoon/evening. My name is calling from Accent, an independent research company. We are conducting some research for the Department of Energy and Climate Change among a number of businesses about their energy meters and energy management needs. I have been speaking with [name of contact] from [name of organisation] who has agreed to take part in the research.

For the research, in addition to interviewing members of staff, we need to speak to people from other organisations who have a role to play in terms of how the business manages its use of energy and [name of contact] has suggested we should speak to you about taking part in the study.

Just before I explain what we are doing in more detail, I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

Also, I should like to confirm that this is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence.

The research involves:

- a member of the research team visiting [name and address of business/school – the site of the case study visit] at a convenient time and date – it will be sometime in July
- either during the course of this visit or on another occasion, a researcher would like to interview yourself (or a suitable colleague) about your role
 - **when approaching landlord/managing agent* (see note below):** landlords can have an influential role in terms of how their tenants manage their energy consumption
 - **when approaching energy consultants/organisations that provide data/advice about how to use data from advanced/smart meters:** we would like to discuss with you your organisation's role in helping the business/school manage its energy consumption
- the interview will last approximately 30-45 minutes and it can either be conducted face-to-face at [name and address of business/school – the site of the case study visit] or at a your own offices or by telephone
- in appreciation of your help, if you/another member of staff agrees to take part in we would like to offer a financial payment of £100. This can be provided either as a payment to the business as a whole, to the individual concerned or as a donation to a charity of choice.

CHECK

- that contact is the most appropriate person to take part and is willing to take part in the research (**RECORD IN TABLE 3**)
- you have the correct contact details (**CONFIRM IN TABLE 3**)

- whether the respondent is willing to be seen at [name and address of business/school – the site of the case study visit] / another address / by telephone
- explain that a member of the research team will be in touch shortly to make the detailed arrangements

***NB** when speaking to managing agents it is important to check that they either make decisions to make recommendation to the landlord in terms of various energy management initiatives – such as decisions about improvements/alterations that can be made to the premises such as heating/cooling/lighting etc. If the managing agent does not have this role, you should aim to recruit the landlord directly. In the case of a large landlord, this may well be the individual responsible for the site in question

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Interviewer name: Interviewer no: Date: Time:

Checked (SUPERVISOR ONLY – USE RED TO FILL IN)

Quality controlled by on/...../.....

Added to resp. list/log on/...../.....byAre you sure? Y / N

If depth, exec informed by email on...../...../.....byAcknowledged by exec? Y / N

RECRUIT	
RESERVE	

Contact details for Fact Finder – INTERVIEWER SECTION

RESPONDENT NAME		JOB TITLE	
COMPANY NAME		EMAIL	
TELEPHONE NUMBER		MOBILE	
RESP PREFERRED INT.DATE		TIME	
SECOND PREFERENCE INT.DATE		TIME	
EXTRA COMMENTS			

RECRUIT	
RESERVE	

→ If reserve, do not put through as “1. continue” on Accis – explain why in reserve below please:

.....
Call back by/...../15 @(time)

IF RESERVE TO BE CALLED BACK BY A CERTAIN TIME, PLEASE SCHEDULE AS DEFINITE APPOINTMENT ON ACCIS

Record sample source

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Supplier sample	1	
Leads from workshops/other DECC sources	2	
In-house leads (e.g. Accent, Delta-ee, Creative Research)	3	
Purchased sample	4	
<i>Does sample source confirm the site's electricity meter Class Profile as 3 or 4? (NOTE: If supplier sample the answer is always 'yes')</i>		
Yes	1	
No	2	
<i>Does the sample confirm the electricity consumption?</i>		

IF YES, RECORD **ELECTRICITY** CONSUMPTION AS SHOWN ON SAMPLE

--	--	--	--	--	--	--	--	--	--

Overarching quotas (ie across all clusters) on:

	FF Target	FF Achieved
Location (record from sample)		
London/South East	75 - Spread	
East		
South West		
Midlands		
North West		
North East		
Wales		
Scotland		
TOTAL		
Type (record from sample)		
Landlord	No quota, but aim to include where possible	
Energy Broker/Consultant	No quota	
Importance of Reducing Energy Usage		
High	No quota	
Medium	No quota	
Low	Min. 6/ Max. 20	
TOTAL		
Tenancy 1		
Owner/occupier	Min 35; max 45	

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Tenants	Min. 30; max 40	
TOTAL		
Tenancy 2		
Tenant pays bills directly	No quota	
Bills paid via landlord	No quota; highlight when this occurs	
TOTAL		

Cluster Specific Quotas – No Quotas, But Spread needed

	Target	Achieved
Business Type (Q4)		
A spread	12 - A spread	
Size (Q14)		
Sole trader	Min 9 Max 3	
2-10 employees		
11-50 employees		
51-250 employees		
250+ employees		
Type (record from sample or Q21)		
Pathfinder (or Q21 = yes, but the latter to be checked with client)	Ideally 12 (all)	
Other	?	Record types in summary sheet
TOTAL		

Introduction

IF PURCHASED SAMPLE OR NO CONTACT NAME SAY: Good

morning/afternoon/ evening. I am calling from a company called Accent about the national roll out of smart energy meters which will be taking place over the next few years. The Government’s Department of Energy and Climate Change is looking at how to ensure that small businesses benefit fully from this roll-out, so would it be possible to talk to the person responsible for making decisions about how your business uses energy at your [read out address of site from sample], so the business owner or the person who pays your energy bills? **Interviewer:** *the initial contact should be with the owner or manager of the business. If they say all their energy needs and bills are handled by their landlord ask for the landlord’s contact details, say you may be back in touch, then **thank and close.***

Landlord’s name (if applicable):	
Tel no.	

IF CONTACT NAME SUPPLIED: “Good morning/afternoon/evening. Please can I speak to...”
(IF ASKED WHY REVERT TO THE ABOVE).

ALL: Good morning/afternoon/evening. I am calling from a company called Accent about the national roll out of smart energy meters which will be taking place over the next few years. The Government’s Department of Energy and Climate Change is looking at how to ensure that small businesses benefit fully from this roll-out and we are conducting some research for them among a number of businesses. I have a letter from DECC which confirms we are working on their behalf which I can email, fax or post to you if you would like me to.

This is a bona fide market research exercise. It is being conducted under the Market Research Society Code of Conduct which means that any answers you give will be treated in confidence.

Can you spare 5 minutes **[ADJUST AS NECESSARY AFTER FIRST FEW INTERVIEWS]** to answer some questions to see if you are eligible to take part in this research? The call will be recorded for quality control purposes.

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

IF "NO" TRY AND PERSUADE, ELSE THANK & CLOSE

IF "CALL BACK" PLEASE RECORD DATE AND TIME OF APPOINTMENT ON ACCIS, THANK AND CLOSE

IF "YES" PLEASE PROCEED TO SCREENING SECTION

Screening

Q1. Thank you. We are looking to speak to the person who is responsible for paying electricity/gas bills and for decisions about how the business uses energy. Which of these best describes your role within your business? **CODE ALL THAT APPLY**

I am the main person responsible for paying electricity/gas bills and making decisions about how the business uses energy	1	<i>Continue</i>
While not the final decision-maker or the person responsible for paying electricity/gas bills, I am the main person responsible for how the business uses energy. The decision-maker looks to me for advice.	2	<i>Continue</i>
I deal with the energy bills but I don't make or influence decisions about how the business uses energy	3	<i>Ask to speak to main person who deals with energy management within business</i>
I do not get involved in energy management issues or decisions in this business	4	
All of our energy needs and bills are handled by our landlord	5	ASK FOR LANDLORD'S CONTACT DETAILS Name: Tel No. SAY YOU MAY BE BACK IN TOUCH, THEN THANK AND CLOSE
Other role WRITE IN ROLE	6	<i>Check if acceptable role for interviewing</i>

Q2. Please can I confirm your name and job title?

Name:

Job title:

Q3. Can you confirm that your business could be described as a small, independent, business that sells – or provides a service – directly to the public from your business premises? (**NOTE: this includes independent restaurants, hotels/guest houses, retailers, hairdressers, laundrettes, corner shops, grocers, confectioners, newsagents, tobacconists, book shops, delis etc**)?

Yes	1	<i>Continue</i>
No	2	THANK & CLOSE

Q4. **RECORD SIC CODE FROM SAMPLE (IF SHOWN) AND ASK:** What, specifically, is the activity at your business premises?

SIC CODE:

--	--	--	--	--

--	--	--	--	--

WRITE IN:

INTERVIEWER: this must be an activity along the lines of those described above (or shown in the full list in your briefing notes); if not, **THANK & CLOSE**; if unsure, check & call back.

Q5. Including this site/shop, how many sites/shops does your business have?

1 site/shop based at a single site	1	CONTINUE TO Q6
more than 1 site/shop	2	THANK AND CLOSE

Q6. IF USING SUPPLIER SAMPLE, OR ELECTRICITY METER PROFILE CLASS IS CONFIRMED ON SAMPLE LIST, RECORD PROFILE CLASS 3 OR 4 AT Q7 AND SKIP TO Q9: Do you know what profile class your electricity meter is at this site? **NOTE:** Explain to respondent that you need to check a detail from their electricity bill. If this is easily available, ask respondent to answer Q7 using their bill. If the bill is not easily available, ask respondent to provide their best estimates and you will send them an email at the end of the interview/phone them back to confirm their answer. **ALSO NOTE:** If we start losing too many from our non-supplier sample because they don't know or don't get back to you please let us know and we can discuss with DECC whether to revert to a cost proxy for non-supplier sample.

Yes	1	GO TO Q7																				
No but respondent has bill to hand <i>Explain where to find this information</i>	2	GO TO Q7																				
<p>Your electricity bill will display a small table which has a large letter 'S' followed by two rows of numbers one above the other; each row has 3 sets of numbers. If you look at the first set of numbers in the top row, this corresponds to the profile class. Can you read out these numbers? The example on the left below is for a single meter from profile class 3. The example on the right is for a site with 2 meters, the first one is from profile class 4 and the second is profile class 3. NB profile class 4 relates to an Economy 7 type tariff – cheaper electricity over night</p> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;">S</div> <table border="1" style="font-size: small;"> <tr> <td style="text-align: center;">03</td> <td style="text-align: center;">123</td> <td style="text-align: center;">456</td> </tr> <tr> <td style="text-align: center;">23</td> <td style="text-align: center;">6789</td> <td style="text-align: center;">0123 456</td> </tr> </table> </div> <p>Site details</p> <p>Site number 800256</p> <p>Site reference 426008</p> <p>Supply number</p> <table border="1" style="font-size: x-small; margin-left: 20px;"> <tr> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">S</td> <td style="text-align: center;">04</td> <td style="text-align: center;">576</td> <td style="text-align: center;">140</td> </tr> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">00000886</td> <td style="text-align: center;">389</td> </tr> <tr> <td rowspan="2" style="font-size: 2em; vertical-align: middle;">S</td> <td style="text-align: center;">03</td> <td style="text-align: center;">501</td> <td style="text-align: center;">126</td> </tr> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">00000886</td> <td style="text-align: center;">398</td> </tr> </table>			03	123	456	23	6789	0123 456	S	04	576	140	20	00000886	389	S	03	501	126	20	00000886	398
03	123	456																				
23	6789	0123 456																				
S	04	576	140																			
	20	00000886	389																			
S	03	501	126																			
	20	00000886	398																			
No and respondent does not	3	EXPLAIN YOU WILL SEND AN																				

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

have bill to hand		EMAIL REQUESTING THIS INFORMATION THEN GO TO 0
-------------------	--	---

Q7. A) RECORD ELECTRICITY METER PROFILE CLASS

Profile Class 1 or 2	1	THANK & CLOSE
Profile Class 3	2	CONTINUE TO Q9
Profile Class 4	3	CONTINUE TO Q9
Profile Class 5 to 8	4	THANK & CLOSE
Profile Class 00 or 9	5	THANK & CLOSE

Q8. **IF GAS CONSUMPTION SHOWN ON SAMPLE DO NOT ASK, RECORD FROM SAMPLE IN (A), CODE ACCORDINGLY IN (B) & FOLLOW ROUTINGS, ELSE ASK:** Do you know whether your gas bill is higher or lower than £25,000 per annum? **RECORD at (C)**

A) ACTUAL CONSUMPTION FROM SAMPLE:

--	--	--	--	--	--	--	--	--	--

B)

Over 732Mwh	1	IF Q7 = 1, 4 OR 5 THANK & CLOSE
Under 732Mwh	2	CONTINUE TO Q9

C)

Higher	1	IF Q7 = 1, 4 OR 5 THANK & CLOSE
Lower	2	CONTINUE TO Q9
Don't know	3	IF Q7 = 1, 4 OR 5 THANK & CLOSE
No gas at site	4	IF Q7 = 1, 4 OR 5 THANK & CLOSE

Q9. **ASK ALL:** As far as you are aware, do you have a smart or advanced meter for **electricity** at this site?

NOTE, WHERE SAMPLE IS NOT SUPPLIER SAMPLE: you need to find out if there is someone within the organisation who can confirm this information; for example, if you are talking to the shop manager, the business owner may be able to confirm this, in which case you will need to contact them and confirm the situation. If there is no one who can confirm this, follow routings.

DEFINITIONS:

ADVANCED METER – a meter that can provide you with information on your energy usage, so you can see what you have used in each hour or half hour of the day. You have to request this information from your supplier. Advanced meters typically send information one-way only (sending your energy usage data back to energy supplier). The energy company cannot access the meter remotely, for example if there is a problem.

SMART METER – this is the next stage on from an advanced meter. Smart meters provide you with near real-time information on energy usage, for example through web based reports that you log onto to see. As well as sending data to your energy supplier, smart meters also allow your energy supplier to access the meter remotely, for example, if there is a problem).

We have at least one 'advanced electricity meter', but we do not have a 'smart meter' as such	1	CONTINUE
We have at least one electricity 'smart meter'	2	CONTINUE
We have either an advanced or a 'smart' electricity meter, but I'm not sure which it is	3	CONTINUE
We do not have an advanced or smart electricity meter	4	CONTINUE

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Don't know	5	CONTINUE
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Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Q10. **SKIP IF Q8C = 4 (IE NO GAS):** As far as you are aware, do you have a smart or advanced meter for **gas** at this site?

We have at least one 'advanced gas meter', but we do not have a 'smart meter' as such	1	CONTINUE
We have at least one gas 'smart meter'	2	CONTINUE
We have either an advanced or a 'smart' gas meter, but I'm not sure which it is	3	CONTINUE
We do not have an advanced or smart gas meter	4	CONTINUE
Don't know	5	CONTINUE
No gas at site	6	CONTINUE

Q11. A) **IF USING SUPPLIER SAMPLE DO NOT ASK, GO TO Q11B:** Who is your current supplier of electricity...

Q11. B) **IF Q8C NE TO 'NO GAS AT SITE' SAY, ELSE GO TO Q12:** Who is your current supplier of gas?

Electricity supplier WRITE IN	
Gas supplier WRITE IN	

Q12. How important is it to your organisation to try and reduce your energy consumption? Compared to all aspects of your business, would you say it is...

A high priority	1	IF Q9 = 1, 2 OR 3 CONTINUE TO Q13
A medium priority	2	
A low priority	3	
		IF Q9 = 4 OR 5 SAY "You are not in scope for this current phase of the research but may be for the next phase. Would it be OK for me to re-contact you at that stage should I need to do so? (circle as appropriate)
		YES NO
		THANK & CLOSE
Don't know	4	IF Q9 = 1, 2 OR 3 CONTINUE TO Q13 ELSE THANK & CLOSE

Q13. IF SHOWN ON SAMPLE RECORD FROM SAMPLE AND SKIP TO Q14: What date, roughly, did you have your earliest smart or advanced meter installed?

Month:

Year:

Q14. What is the size of the business, in terms of employee numbers? Please include in this any family members who are involved in running the business.

Sole trader	1	CONTINUE
2-10 employees	2	CONTINUE
11-50 employees	3	CONTINUE
51-250 employees	4	CONTINUE
over 250 employees	5	CONTINUE

Q15. Which of the following best describes the business premises?

It is based in a residential house or flat (there is no separate business premises)	1	THANK AND CLOSE
We rent our premises as tenants	2	CONTINUE
We are owner occupiers of our premises	3	CONTINUE

Q16. ASK IF Q15 = 2 (TENANT) ELSE GO TO Q17: How do you pay your energy bills?

We receive the bill and pay it directly to the energy company/ies	1	CONTINUE
The bills go to the landlord/managing agent who pays it and then recovers it via a service charge	2	ASK FOR LANDLORD'S DETAILS
Our energy use is included as part of our rent i.e. we pay the same each month/quarter irrespective of how much energy we use	3	<p>Name:</p> <p>Tel No.</p> <p>AND SAY:</p> <p>“You are not in scope for this current phase of the research but may be for the next phase. Would it be OK for me to re-contact you at that stage should I need to do so? (circle as appropriate)</p> <p>YES NO</p> <p>THANK & CLOSE</p>
Some other arrangement <i>write in</i>	4	CONTINUE

Q17. Are you on a business or a residential energy tariff at this site?

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

Business	1	CONTINUE
Residential	2	THANK & CLOSE

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

- Q18. Do you have any equipment, tools or IT on site which you would say are particularly high users of energy (this might include large or intensive food preparation areas or equipment, chilling equipment, machinery etc)?

Yes SPECIFY:	1	CONTINUE
No	2	CONTINUE

- Q19. Apart from information relating to bills, do you/does the business use any of the data available from the smart meter(s) at this site to help you manage your energy?

Yes	1	CONTINUE
No	2	<p>“You are not in scope for this current phase of the research but may be for the next phase. Would it be OK for me to re-contact you at that stage should I need to do so? (circle as appropriate)</p> <p>YES NO</p> <p>THANK & CLOSE</p>
Don't know	3	

- Q20. And have you signed up for, or been provided with, an energy data service or data analytics using data from the meter? An energy data service might include access to a web portal that displays your use of energy over different time periods (and allows you to compare usage across different sites). Data analytics might include information about unusual/unexpected peaks in energy consumption and/or advice about ways of saving energy

Yes, energy data service	1	CONTINUE
Yes, data analytics	2	CONTINUE
Yes, other SPECIFY	3	CONTINUE
No	4	<p>“You are not in scope for this current phase of the research but may be for the next phase. Would it be OK for me to re-contact you at that stage should I need to do so? (circle as appropriate)</p>

Annex G – Example Stage 2 Fact Finder Recruitment Screeners

		YES NO THANK & CLOSE
--	--	--

Q21. IF YES AT Q20 (IE CODE 1, 2 OR 3) ASK, ELSE GO TO INVITATION: And are you regularly using the energy data service or data analytics?

Yes	1	CONTINUE
No	2	<p>"You are not in scope for this current phase of the research but may be for the next phase. Would it be OK for me to re-contact you at that stage should I need to do so? (circle as appropriate)</p> <p>YES NO</p> <p>THANK & CLOSE</p>

Invitation: Fact Finder

Thank you for answering those questions. You are in scope for this research so we would be very grateful if you could spare a further 30 minutes, either now or later, at a more convenient time for you, to take part in a telephone interview. The Interview may be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with your consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report, and any quotations or comments used in this report will not be attributed personally to you or your organisation. Would you be able to take part in our research? Would you be able to take part in our research?

PERSUADE AND REASSURE.

1. yes, now – **ONLY A POSSIBLE OPTION FROM W/C ... TAKE CONTACT DETAILS (PAGE 1), CONFIRM ACCEPTANCE BELOW AND PROCEED TO INTERVIEW**
2. yes, at a later time **TAKE CONTACT DETAILS (PAGE 1) AND MAKE APPOINTMENT; CONFIRM ACCEPTANCE BELOW**
3. no **THANK AND CLOSE**

INTERVIEWER –VERY IMPORTANT – PLEASE TICK TO CONFIRM YOU HAVE EXPLAINED ALL ABOUT THE RECORDINGS AND WHETHER PERMISSION WAS GIVEN TO PASS THEM ON.

Yes, happy for recording to be passed on

No, not happy for recording to be passed on

MRS DECLARATION

I confirm that this interview was conducted under the terms of the MRS Code of Conduct and is completely confidential

Interviewer's signature:

THANK RESPONDENT FOR THEIR HELP IN THIS RESEARCH

Annex H – Example Stage 2 Fact Finder Scripts

Recruitment Screener: Cluster 1

1. Screener Summary

- Respondent ID
- Name and job title
- Name and address of site
- Business type (respondent description)
- Chain with head office/Multi-site/Single site; if chain/multi-site, where person taking part in FF is based
- Business size and Site size
- Tenure (owner occupier/tenant; how bills paid; single occupancy/multiple occupancy building)
- Energy and meter types: elec (advanced/smart/traditional) / gas (advanced/smart/traditional)
- Date of installation of earliest advanced/smart meter
- Energy usage (Hi/low)
- Importance of reducing energy usage
- Use of SM data: not being used; signed up for energy management service/data analytics; regularly using energy management service/data analytics
- Pathfinder (i.e. nominated by lead as 'leading the way')

2. Introduction to research

- *Interviewer introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (*if necessary, refer/send respondent copy of Letter of Authority*)
 - it is about how businesses use energy
 - it is also about experiences of smart meters and the extent to which these might make it easier for businesses to manage their use of energy
 - **confidentiality**: *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with their consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation.*
 - **permission to record**: *check respondent is happy for the interview to be recorded – if necessary reassure that there will be no identifiable attribution of comments and that, by recording the interview, it will take less time to complete.*
 - **focus of the interview**: *remind respondent that the focus of the interview is how energy is used at **[name of specific site]**; where the business is based in a multi-occupancy site (e.g. a shopping mall or an office block with a number of occupants), the focus is on the part occupied by the business and not the whole building*
 - **duration of interview**: *explain that it will take about 30-40 minutes*

Note to interviewer

When interviewing a respondent who is not based at the specific site (e.g. someone from the head office of a chain (C5) or a multi-site business (C8), if they are unable to answer/unsure of the answer, make a note of this so it can be followed up if the business becomes a case study.

If respondent can only answer for the business as a whole – for example, they may know what proportion of the business operating costs are taken up by the cost of energy for the overall business but not the specific site - record their answer and make a note that it is not site specific.

3. Introduction to Respondent/Business and its use of Energy

<ul style="list-style-type: none"> • Can you briefly outline for me the nature of your business? <ul style="list-style-type: none"> – <i>If necessary; prompt:</i> what are the main activities or areas of business 	
<ul style="list-style-type: none"> • When is the site open/in use/what are the hours of business? 	
<ul style="list-style-type: none"> • What is your role within the business? (<i>main responsibilities – do not prompt for energy management</i>) 	
<ul style="list-style-type: none"> • Can I just confirm a few details with you about your use of energy (at this site)? What types of energy are used at this site? <i>PROMPT IF NECESSARY</i> 	<input type="checkbox"/> Electricity <input type="checkbox"/> Gas <input type="checkbox"/> Other e.g. oil, LPG (<i>write in</i>) <input type="checkbox"/> energy from renewable sources, such as solar thermal or biomass boilers (hot water) or solar PV panels (electricity) (<i>write in</i>) <input type="checkbox"/> DK
<ul style="list-style-type: none"> • In terms of your electricity <ul style="list-style-type: none"> – how many electricity meters are there at this site? <i>If more than one: How many are traditional meters, how many are advanced meters and how many are smart meters?</i> – can you sum up for me the main ways in which electricity is used at this site? <i>Prompt in terms of: heating / cooling / refrigeration / air conditioning /cooking /machinery and plant / IT and office equipment</i> – <i>Prompt in terms of: facilities/processes (e.g. kitchen restaurant / workshops</i> – <i>Prompt for type of light fittings: incandescent / halogen / LED bulbs / standard or low energy fluorescent tubes</i> 	Number of traditional meters: Number of advanced meters: Number of smart meters: <i>if unsure if meters are advanced or smart</i> Number of advanced/smart meters: <input type="checkbox"/> DK

<ul style="list-style-type: none"> • if has gas: in terms of your gas <ul style="list-style-type: none"> – how many gas meters are there at this site? <i>If more than one: How many are traditional meters, how many are advanced meters and how many are smart meters?</i> – can you sum up for me the main ways in which gas is used at this site? <i>Prompt in terms of heating and hot water and facilities (e.g. kitchen / restaurant / workshops, etc.)</i> 	<p>Number of traditional meters:</p> <p>Number of advanced meters:</p> <p>Number of smart meters:</p> <p><i>if unsure if meters are advanced or smart</i></p> <p>Number of advanced/smart meters:</p> <p><input type="checkbox"/> DK</p>
<ul style="list-style-type: none"> • if has other forms of energy: in terms of _____ <ul style="list-style-type: none"> – can you sum up for me the main ways in which _____ is used at this site? <i>Prompt in terms of heating and hot water and facilities (e.g. kitchen / restaurant / workshops, etc.)</i> 	
<ul style="list-style-type: none"> • Across all forms of energy used <ul style="list-style-type: none"> – can you outline for me how your use of energy at this site varies – over the course of 24 hours as well as at different days of the week and times of year? For example, do you get any peaks or troughs in the amount of energy being used? 	
<ul style="list-style-type: none"> • What proportion of the total operating costs of this site are taken up by the cost of your energy? <ul style="list-style-type: none"> – <i>encourage participant to provide an estimate if possible (e.g. 5 %); write this in</i> – <u>ask all</u> to choose one of the options shown 	<p>Estimated %:</p> <p><input type="checkbox"/> Tiny proportion of operating costs</p> <p><input type="checkbox"/> Small proportion of operating costs</p> <p><input type="checkbox"/> Medium proportion of operating costs</p> <p><input type="checkbox"/> Large proportion of operating costs</p> <p><input type="checkbox"/> DK</p>

4. Energy Management

I want to discuss with you how your business makes decisions about the energy it uses – this could include paying/authorising energy bills, deciding whether to switch energy supplier, deciding what equipment to purchase, installing energy efficiency measures, how staff use equipment, and so on.

<ul style="list-style-type: none"> • Who is involved in making these types of decisions? <ul style="list-style-type: none"> – who is/are the main decision maker(s) and who else might be involved (e.g. board of directors, procurement, facilities managers, etc.) – Skip if interviewing C3/4 Is/are the main decisions maker(s) a full-time, dedicated energy manager or is this is just a part of their/your role? 	
<ul style="list-style-type: none"> • if have a full-time energy manager <ul style="list-style-type: none"> – Why has the business decided to employ a dedicated energy manager? 	
<ul style="list-style-type: none"> • if not a full-time role: <ul style="list-style-type: none"> – approximately what proportion of their/your time is spent on looking after energy related issues? 	
<ul style="list-style-type: none"> • Chains/multi-site organisations: <ul style="list-style-type: none"> – which decisions are taken at the individual site level? – which are taken at 'head office' level? – to what extent is the desire to standardise processes/methods of managing energy use across different sites a key factor in decision making – are individual sites set any targets in terms of energy consumption? – are there any rewards/incentives for achieving targets? 	

<ul style="list-style-type: none"> Thinking about how the building at this site is looked after which of the following best sums up what happens? 	<ul style="list-style-type: none"> <input type="checkbox"/> there is a member of staff who is a full time facilities manager <input type="checkbox"/> there is a member of staff who is responsible for facilities management along with other responsibilities <input type="checkbox"/> facilities management is undertaken by the landlord or by a third party on their behalf <input type="checkbox"/> there is no facilities management at this site <input type="checkbox"/> something else:
<ul style="list-style-type: none"> Is there a building management system in operation? <ul style="list-style-type: none"> If yes: what does this consist of? Is it a manual or an automated system? is this is outsourced or managed in-house if outsourced: who provides the service and what does it consist of? <p>NB An automated Building Management System (BMS) is a computer-based control system that controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> There is no BMS in operation <input type="checkbox"/> Yes, there is an automated BMS in operation <input type="checkbox"/> Yes, there is a manual BMS in operation <input type="checkbox"/> BMS is managed in-house <input type="checkbox"/> BMS is outsourced <p>Brief description of BMS:</p>
<ul style="list-style-type: none"> Does the business have an environmental policy? <ul style="list-style-type: none"> If yes: what if anything does this say about the use of energy? 	
<ul style="list-style-type: none"> Has any form of energy audit been carried out? By this, I mean an evaluation of how energy is used to determine ways in which it can be used more efficiently <ul style="list-style-type: none"> If yes: when was this? What did this reveal? What actions, if any, were taken as a result? 	

Annex H – Example Stage 2 Fact Finder Scripts

<ul style="list-style-type: none"> • How important is it to your business to try to be as energy efficient as possible; would you say it is a READ OUT? • Why is that? 	<input type="checkbox"/> low priority <input type="checkbox"/> medium priority <input type="checkbox"/> high priority <input type="checkbox"/> something else (write in) Reasons why:	
<p>I'm going to read you some of the things other organisations have said about why reducing energy consumption is important to them. In each case, I would like you to tell me if it also applies to your own organisation. <i>Read out list below. Record those which apply to respondent's organisation</i></p>		
	✓	
To reduce our costs		
For strategic reasons e.g. to provide us with a competitive edge		
To reduce our CO ₂ emissions/to do 'our bit' to tackle climate change		
To be seen as a responsible organisation (corporate responsibility)		
To comply with any supply chain requirements (e.g. a supermarket might only purchase goods/services from suppliers that can demonstrate they are an energy efficient business)		
<p><u>Large businesses only i.e. where the total no of employees >250</u></p> <p>To ensure we comply with government regulations e.g. CRC, ESOS</p>		

Annex H – Example Stage 2 Fact Finder Scripts

<ul style="list-style-type: none"> Even where reducing energy consumption is a priority, businesses may feel it is difficult to achieve reductions in the amount of energy they use. Is there anything that you think makes it difficult for your organisation? 		
<ul style="list-style-type: none"> I'm going to read you some of the things that other organisations have said make it difficult to reduce their energy consumption and costs. I would like you to tell me which ones <u>in particular</u> apply to your organisation. READ OUT 		
	✓	
The returns on the investment in energy saving measures are not worthwhile (i.e. too small)		
The payback period is too long		
Our energy costs are too small to make it worth our while		
We lack reliable information about our current energy consumption		
The assets (e.g. premises, equipment, etc.) are leased, not owned		
We lack the necessary in-house expertise		
The information/expertise will be costly/time consuming to acquire		
We don't have the necessary funds within the business and/or access to the necessary funds (e.g. bank loan)		
We don't have sufficient time to undertake the required changes		
Staff are unlikely to comply with the required changes		
Those members of staff best placed to know how to reduce energy consumption do not have the responsibility and/or authority to make the changes		
Planning restrictions limit some of the things we can do e.g. our building is list/is in a conservation area, etc		

Annex H – Example Stage 2 Fact Finder Scripts

<ul style="list-style-type: none"> Has anything happened that has triggered the business to think about/review its use of energy? NB this might have been recently or some time in the past. 		
<ul style="list-style-type: none"> I'm going to read you some of the reasons other organisations have said caused them to review their use of energy. In each case, I would like you to tell me if it also applies to your own organisation. <i>Read out list below. Record those which apply to respondent's organisation. NB only record things that did cause them to review their use of energy and not things they think might cause them to do so in the future.</i> 		
	✓	
In response to energy price rises		
Information from our smart meters helped us identify ways of using energy more efficiently		
To take advantage of funding streams, subsidies or award schemes e.g. Renewable Heat Incentive (RHI), Green Deal		
We were moving premises/refurbishing our existing premises		
We were purchasing new or replacing existing items of equipment		
A member of staff suggested ways we could save energy or a new member of staff was appointed specifically to help us reduce our consumption		
In response to pressure from our customers/employees/things our competitors were doing		
Following suggestions from an outside organisation such as our energy supplier, an energy consultant or a trade or professional body		
<p><u>Only if organisation has an environmental management policy or has had an energy audit carried out</u> We reviewed our energy use as part of developing/being assessed for our environmental management policy or as a result of having an energy audit carried out</p>		
<p><u>Chains/multi-sites only</u> Head office/central management set us energy targets which we needed to achieve</p>		
<p><u>Chains/multi-sites only</u> Monitoring of other similar sites suggested the site in question is using higher than expected levels of energy</p>		

5. The Role of External Actors

<p>Ask the following questions of <u>tenants</u> only</p> <p>I'm now going to ask you some questions about your lease/rental agreement and whether this may influence how your business makes decisions about its use of energy</p>	
<ul style="list-style-type: none"> • What is the length of your lease/rental agreement (i.e. total length)? • How many more years are there until it expires/is due for renewal? <p>If not known: record as DK</p>	<p>Total length:</p> <p>Years remaining:</p>
<p>Some leases are what are called full repairing and insuring leases. This means the tenant will normally arrange insurance and pay the premium, and arrange and pay for all repairs to be carried out to the property.</p> <p>In other cases, the landlord may arrange and pay for the insurance and some or all of the repairs and recover the cost of these from tenants through a service charge.</p> <p>A 'green lease' is one which includes an agreement between the landlord and tenant as to how a building is to be managed in a sustainable way including the use of energy.</p>	
<ul style="list-style-type: none"> • Can you outline for me the type of lease you have and which aspects you/your business is responsible for and pays for, and which things your landlord is responsible for 	
<ul style="list-style-type: none"> • Refer to screener Can I confirm that when it comes to your energy bills, excluding any energy that relates to common parts, these are paid... <i>Read out and code</i> 	<ul style="list-style-type: none"> <input type="checkbox"/> when respondent is from a chain/multi-site business: by your head office directly to the energy provider <input type="checkbox"/> by you/your business directly to the energy provider <input type="checkbox"/> by your landlord/managing agent who reclaims the amount from you/your business in the form of a service charge <input type="checkbox"/> by your landlord/managing agent who reclaims the amount from you/your business as part of your rent <input type="checkbox"/> some other arrangement (<i>write in</i>)

<ul style="list-style-type: none"> • <u>Where energy bills are paid by the landlord:</u> how does your landlord calculate how much to charge you for your use of energy or is it a flat rate irrespective of how much you use? <i>For example: the landlord may have separate meters for each tenant or may charge an amount based on the size of each tenant’s premises or in some other way</i> 	
<ul style="list-style-type: none"> • And how are the energy bills paid that relate to any common parts of your building? 	<input type="checkbox"/> there are no common parts <input type="checkbox"/> by your landlord/managing agent who reclaims the amount from you/your business in the form of <u>a service charge</u> <input type="checkbox"/> by your landlord/managing agent who reclaims the amount from you/your business <u>as part of your rent</u> <input type="checkbox"/> something else (write in)
<ul style="list-style-type: none"> • <u>Where energy bills for common parts are paid by the landlord:</u> how does your landlord calculate how much to charge you for the energy bills that relate to the common parts? 	
<ul style="list-style-type: none"> • Do the terms of your lease have an impact on how the business uses energy or makes energy related decisions at this site? <ul style="list-style-type: none"> – <i>If yes: ask respondent to outline how their lease has an impact on their energy use</i> – <u>Where energy bills are paid by the landlord and recovered via a service charge/rent:</u> you mentioned just now that your landlord or managing agent pays the energy bills and then reclaims this through a service charge/rent. What impact does this have on how you manage your use of energy? For example; does it mean you have less of an incentive to reduce the amount of energy you use? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> DK

Ask all	
<ul style="list-style-type: none"> • What role, if any, does your energy supplier play in terms of helping you/your business manage its use of energy? For example, does it offer advice on how to make the business more energy efficient? 	<input type="checkbox"/> Do not offer advice on energy efficiency <input type="checkbox"/> Do offer advice on energy efficiency Advice offered/how they have helped:
<ul style="list-style-type: none"> • Do you/your business use/have you used the services of an energy consultant? • If yes: what role do they/have they played in helping make the business more energy efficient? 	<input type="checkbox"/> Do not use Energy Consultant <input type="checkbox"/> Use an Energy Consultant but they do not offer advice on energy efficiency <input type="checkbox"/> Use an Energy Consultant and they do offer advice on energy efficiency Advice offered/how they have helped:
<ul style="list-style-type: none"> • Are you/is your business a member of a trade association/ professional body? • If yes: record name of trade body/professional association • have they played any role in helping make the business more energy efficient? In what way? 	<input type="checkbox"/> Not a member of any trade/professional association <input type="checkbox"/> member of any trade/professional association Write in name: <input type="checkbox"/> They have not helped with energy efficiency <input type="checkbox"/> They have helped with energy efficiency How they have helped:
<ul style="list-style-type: none"> • Are there any other organisations or individuals that you/your business have relied on for advice and guidance in relation to how you use energy? This could be trades people such as electricians or shop fitters, for example, or equipment manufacturers, or local traders associations, etc • If yes: how have they helped make the business more energy efficient? 	

6. Ways to Reduce Energy Costs/Consumption

There are various ways in which an organisation can try to reduce energy consumption. Some of these relate to the way in which energy is used, such as when equipment is switched on and off, while others involve investing in improvements, such as in more efficient heating or lighting. Some of these things might be the tenant's responsibility while others might be done by the landlord.

- Have you put any energy efficiency measures in place at the site in question?
- **If yes:** Please outline the main things you have done/put in place
- **if yes:** Have any of these been prompted in any way by information from your smart meter? **if yes:** which actions and what was it that you discovered from your smart meter data that prompted it/them?

7. Smart meters

I would like to finish up by asking you some questions about your smart meter(s)									
<ul style="list-style-type: none"> Why were your smart meters installed (Read out) 	<input type="checkbox"/> they were already installed when you moved into the premises <input type="checkbox"/> the energy supplier insisted/offered <input type="checkbox"/> the landlord insisted/offered <input type="checkbox"/> you/your business asked for them to be installed								
<ul style="list-style-type: none"> Apart from information relating to bills, do you/does the business use any of the data available from the smart meter(s) at this site to help you manage your energy? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <u>Skip to Section 8</u>								
<ul style="list-style-type: none"> Who provides you/your business with the Smart Meter data? 	<input type="checkbox"/> The data is provided to us by 'head office' <input type="checkbox"/> The data is provided to us by our energy provider <input type="checkbox"/> The data is provided to us by a third party: write in the name of third party <input type="checkbox"/> Some other way: write in brief description								
<ul style="list-style-type: none"> How do you access the Smart Meter data? NB: this could be e.g. a spread sheet of raw data, a web portal, a smartphone app etc. 									
<ul style="list-style-type: none"> How often do you/your business access the Smart Meter data? 	<table border="0"> <tr> <td><input type="checkbox"/> Daily</td> <td><input type="checkbox"/> at least once every 3 months</td> </tr> <tr> <td><input type="checkbox"/> at least once a week</td> <td><input type="checkbox"/> at least once every 6 months</td> </tr> <tr> <td><input type="checkbox"/> at least once a fortnight</td> <td><input type="checkbox"/> at least once a year</td> </tr> <tr> <td><input type="checkbox"/> at least once a month</td> <td><input type="checkbox"/> less often</td> </tr> </table>	<input type="checkbox"/> Daily	<input type="checkbox"/> at least once every 3 months	<input type="checkbox"/> at least once a week	<input type="checkbox"/> at least once every 6 months	<input type="checkbox"/> at least once a fortnight	<input type="checkbox"/> at least once a year	<input type="checkbox"/> at least once a month	<input type="checkbox"/> less often
<input type="checkbox"/> Daily	<input type="checkbox"/> at least once every 3 months								
<input type="checkbox"/> at least once a week	<input type="checkbox"/> at least once every 6 months								
<input type="checkbox"/> at least once a fortnight	<input type="checkbox"/> at least once a year								
<input type="checkbox"/> at least once a month	<input type="checkbox"/> less often								
<ul style="list-style-type: none"> Which ONE of the following statements best sums up how you have used the data from your smart meter(s)? 	<input type="checkbox"/> It has helped us to significantly reduce our energy consumption and/or our energy bills <input type="checkbox"/> We have tried to use the data to help us reduce our energy consumption and/or energy bills but this has proved difficult <input type="checkbox"/> It is interesting to see the data but we do not use it to help reduce our consumption and/or our bills <input type="checkbox"/> If none of the above apply: write in brief description of how the data is used								

<ul style="list-style-type: none"> • ASK IF SM data has helped reduce energy consumption/costs • Has your smart meter data enabled your organisation to do things which you previously were unable to do? <ul style="list-style-type: none"> – If Yes: what are you/your business now able to do that you couldn't do before you had access to your smart meter data? 	<input type="checkbox"/> No <input type="checkbox"/> Yes: <i>write in description</i>
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8. How typical site is

<ul style="list-style-type: none"> • When interviewing someone from a chain or multi-site business, ask: We have been focusing on what happens at [name of specific site]. I would like to check if there are any aspects of what we have discussed in relation to this site which would be very different compared to what happens in the majority of your sites? • If yes ask participant to briefly outline these differences 	<input type="checkbox"/> No, this site is typical of most sites <input type="checkbox"/> Yes, there are some differences between this site and most other sites <i>write in description</i>
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9. Case Study

Thank you for answering those questions. The next stage of the research involves inviting some businesses to become case studies. This will involve a member of our research team visiting the business to see how energy is used and to explore how smart meters might help them better manage their energy use. As well as being shown around the business, it would involve talking in more detail to yourself and possibly other employees. What you have told me today is very interesting and DECC may wish us to contact you again to invite your business to be a case study.

Explain the financial incentive that can be offered and check if respondent is willing to be a case study if selected.

<input type="radio"/> Yes, willing to be contacted for case study		<i>Explain that you need to check who our researchers should try to talk to on the visit and continue</i>	
<input type="radio"/> No, not willing to be contacted for case study		<i>Skip to Section 10</i>	
<ul style="list-style-type: none"> When interviewing someone from a chain or multi-site, ask: is there someone who can provide a strategic overview of energy management across all your sites? This might be yourself or someone else? 		<input type="checkbox"/> Respondent is the best person to offer the strategic overview <input type="checkbox"/> Someone else is the best person to offer the strategic overview Record their name and, job title/role	
<ul style="list-style-type: none"> <i>If participant stated someone else was involved in decision-making ask:</i> You said earlier that others had a role to play in decision-making. Please can you tell me who else within your business has a role to play in this? <ul style="list-style-type: none"> And is there anyone who might be involved in implementing these decisions (e.g. decisions about what equipment to purchase, encouraging staff/customers to use energy efficiently etc.)? Finally, is there anyone who works in an area of your business which uses reasonably large amounts of energy? Record both their names and their job titles/roles 			
	name	job title/role	Role – strategic view (S), decision maker (D)/ implementer (I) or energy user (U)
Staff member 1:			
Staff member 2:			
Staff member 3:			
Staff member 4:			

Annex H – Example Stage 2 Fact Finder Scripts

Please can you tell me whether we would need to contact anyone else, in addition to the names you have given me (for example, line manager), to seek permission for them to take part?

If yes:

- record a contact telephone number for each
- record an email address if possible for each

Staff Member	name of person who needs to be contacted to get permission (leave blank if not necessary)	Telephone No	Email	
Respondent				
1				
2				
3				
4				

- ***If they are a tenant, say:*** as part of the research, we want to interview landlords to find out their views about energy management. We would like to include your landlord in the research – we will not share any of the information you have provided us with the landlord. Please can I have your landlord’s name and contact details?
- ***If they said they use an energy broker, or consultant, or that a trade association/professional body has a role to play in the way they manage their energy, say:*** We also want to talk to other individuals or organisations that have played a role in helping businesses manage their energy. You mentioned that [read out as applicable] had played a role in helping your business.. Please can I have their names and contact details?

Record their names, their job titles/roles, the organisation they work for and contact details

	name	job title/role	Organisation	Contact details
Contact 1:				
Contact 2:				
Contact 3:				
Contact 4:				

Thank you. As I mentioned, the next stage of the research will involve:

- a member of the research team from Accent or Creative Research visiting your business at a convenient time and date in December, January or February; he/she will get in touch shortly to make the arrangements; we will try to arrange the visit in such a way as to minimise our impact on the business
- during the visit, the researcher would like to be shown around so they can understand how the business currently uses and manages its energy
- as well as yourself, the researcher would also like to conduct interviews with one or possibly two, members of staff/people involved in energy management – the precise number and the people concerned will depend on the nature of your business but is likely to include: the senior decision maker (presumably yourself) and possibly 1-2 members of staff who have a role to play in either developing the business’ approach to how it uses energy or in putting this into practice
- in appreciation of your help we provide a financial payment of £150 **per person** who participates within your business. This can be provided either as a payment to the business as a whole, to the individuals concerned or as a donation to a charity of choice.
- the interview will be audio recorded to ensure accuracy but would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only if you have given your permission and it will only be used for research purposes. In our reporting of the findings from this research none of your comments will be attributed to you personally or your organisation.

10. Permission to Re-contact: only ask if not willing to be a case study

The Department of Energy and Climate Change (DECC) may also wish to conduct follow-up research on this topic in the next couple of years with people who have participated in this research. This follow-up research may be conducted for DECC by Accent, Creative Research or by another research organisation. Should you agree to this, your contact details and survey responses would be held securely by Accent. They would be passed on securely to another research organisation if they are contracted by DECC to conduct the follow-up research. Your contact details would be used for no other purpose than to invite you to participate in this future research for DECC. You would be under no obligation to take part. Your participation in any future research would also remain confidential to the appropriate research organisation (unless you agree otherwise).

Are you willing for your details to be stored so that you can be invited to take part in any further research on this topic?

- Yes, for further research
- No

Thank and close

Annex I – Stage 2 Case Study Topic Guides

Recruitment Screener: Cluster 1

When arranging appointments, researchers should ask the main respondent which of the internal actors are involved in **making decisions about energy management**, which are involved in **implementing energy efficiency policies** and which, if any, are **users of energy** (i.e. not involved in decision making or implementation). You should aim, where possible, to include at least one actor involved in decision making, one involved in implementing policies and one involved in using energy. You also need someone to show you around the site so you can see the meters and how energy is used.

This topic guide should be used for internal actors involved in decision making.

In the event of timing issues, areas highlighted can be omitted or only very briefly covered

When arranging appointments, researchers should ask the main respondent if possible to have to hand copies of any relevant documents relating to energy, such as an energy policy document, an environmental policy, guidelines for staff relating to using energy efficiently, etc. and, if possible, to have a copy that you can take away.

If the business is using its SM data, explain it would be helpful if they can show you some examples of the data they use e.g. on a laptop

1. Introduction to research

- *Researcher introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (if necessary, give respondent copy of Letter of Authority)
 - it is about how businesses use energy
 - it is also about experiences of advanced/smart meters and the extent to which these might make it easier for businesses to manage their use of energy
 - **confidentiality:** *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with their consent and it would only be used for research purposes. All of your comments*

will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation.

- **permission to record**: *give respondent copy of permission to record/take photographs form; ask to read and sign - reassure that there will be no identifiable attribution of quotes. Explain that every business is different and you may like to take photographs to illustrate what different business are doing – you will only take photographs with the respondent's express permission*
- **focus of the interview**: *explain that the focus of the interview is how energy is used at [name of specific site]*

2. Review of Fact Finder Interview (approx. 30 minutes)

Before conducting the case study visit, researchers should review the screening data and Fact Finder Interview and highlight any issues that need following up to ensure you have a good understanding of how energy is being managed and the role of external actors. See the Fact Finder (business) case study review notes.

<ul style="list-style-type: none"> • Review any issues arising from FF in relation to <ul style="list-style-type: none"> – the business and its use of energy – energy management – the role of external actors 	<ul style="list-style-type: none"> – check out where expertise for energy efficiency lies: is there any expertise? Is there internal expertise? does the business use external expertise?
<ul style="list-style-type: none"> • Skip in the case of C3/4 and small/micro businesses in C7/8 Explore organisational culture – not specifically in relation to energy management but more generally 	<ul style="list-style-type: none"> – Most organisations have their ‘style’ or culture’ i.e. a preferred way of doing things. For example some organisations like operations to be tightly managed and controlled from ‘head office’/senior management . Other organisations try to involve staff in a wider range of decisions to achieve company goals often allowing them considerable discretion about how things are done. How would you describe your organisation?
<ul style="list-style-type: none"> • Review ways of reducing energy costs/consumption Use S2 	<ul style="list-style-type: none"> • If short of time – do not show S2 but focus on actions mentioned in Fact Finder
<ul style="list-style-type: none"> – actions taken: in each case review 	<ul style="list-style-type: none"> – what triggered the action – were any external actors involved; if yes: who and in what way – the financial cost, if any and if known, of taking the action – the extent to which this resulted in any savings (if known) – what role, if any, smart meter data has played – if they know the cost and the savings, what is the expected payback period
<ul style="list-style-type: none"> – actions not taken 	<ul style="list-style-type: none"> – reasons why other actions have not been taken – no need to ask for every option but seek an understanding of why further actions have not been undertaken
<ul style="list-style-type: none"> – return on investment 	<ul style="list-style-type: none"> – check response in FF interview to ROI and payback period as possible barriers to investing in energy savings measures – explore what payback period is considered acceptable
<ul style="list-style-type: none"> – role of government ‘messages’ with respect to energy savings 	<ul style="list-style-type: none"> – explore what respondent sees as the main message coming from government and aimed at business in relation to energy efficiency – how does this impact on the priority the business attaches to energy efficiency

<p><i>In Stage 1 most organisations claimed that they tried to encourage staff to use energy efficiently but the extent to which this was being done was a key differentiator so this should be explored in some detail. When you are shown around the site, look out for any evidence of this in action e.g. take photos of posters/energy saving guidelines</i></p>	
<ul style="list-style-type: none"> • <i>If staff are not being encouraged to use energy more efficiently</i> 	<ul style="list-style-type: none"> – <i>explore reasons why</i>
<ul style="list-style-type: none"> • <i>If staff are being encouraged to use energy more efficiently</i> 	<ul style="list-style-type: none"> – <i>probe in some detail to find out just what this entails e.g.</i> – <i>is it little more than occasional verbal reminders?</i> – <i>are staff given any training or instruction in how to save energy?</i> – <i>are there documented procedures e.g. around start and end of day in terms of when things are turned on/off?</i> – <i>are there notices and stickers reminding staff of how to use energy?</i> – <i>are staff encouraged to suggest how energy could be saved?</i> – <i>do they have members of staff acting as 'energy champions'?</i>
<p><i>In the case of chains/multi-sites</i></p> <ul style="list-style-type: none"> • <i>some organisations had a policy of setting/managing controls at 'head office' to minimise the ability of staff at the local level to change settings vs. giving local staff the freedom to determine when/how energy is used</i> 	<ul style="list-style-type: none"> – <i>explore the issue of centralised control vs. local autonomy – which approach is being adopted and why is this</i>
<ul style="list-style-type: none"> • <i>if the level of staff involvement is limited</i> 	<ul style="list-style-type: none"> – <i>explore why this is e.g. why haven't they considered involving staff in identifying energy saving measures</i>

3. Users of Advanced/smart meter data (30 mins)

THIS SECTION IS FOR ORGANISATIONS THAT ARE USING THEIR SM DATA	
<ul style="list-style-type: none"> Do you know if the meters at this site are what are known as <u>advanced meters</u> or <u>smart meters</u>? 	<ul style="list-style-type: none"> – can you briefly sum up for me what your type of meter can do? – what would you say are the main benefits, if any, of an advanced/smart meter over a traditional meter?
<ul style="list-style-type: none"> (Refer to Fact Finder and explore reasons for installing smart meters) Why were the advanced/smart meters installed – were they already installed when you moved into the premises? Was it because the energy supplier insisted/offered? Was it because the landlord insisted/offered? Was it something you/your business requested? 	<ul style="list-style-type: none"> – <u>if accepted offer of supplier/landlord</u>: why did you decide to accept their offer? – <u>if requested by respondent/business</u>: why was this?
<ul style="list-style-type: none"> What information/guidance/help about advanced/smart meters. was provided? 	<ul style="list-style-type: none"> • <i>check for information etc provided pre-installation/during installation/post-installation</i> • who provided this; who received it? • what did they find helpful? what more/else could have been done that would have been helpful?
<ul style="list-style-type: none"> <i>If business has a mix of advanced/smart and traditional meters – this could be a mix of different types of electricity meters or a mix of electricity and gas meters</i> 	<ul style="list-style-type: none"> • <i>explore why only some are advanced/smart, which aspects of energy use are linked to advanced/smart meters and what proportion of energy usage is accounted for by advanced/smart meters?</i>
<ul style="list-style-type: none"> Have you/your organisation experienced any difficulties/challenges with your advanced/smart meters such as problems with the signal? 	<ul style="list-style-type: none"> – <u>If yes</u>: <i>explore nature of these and how, if at all, they have been overcome</i>

<ul style="list-style-type: none"> • What difference have advanced/smart meter data made to your business? NB one of the things to establish is whether smart meters allows them to do what they were already doing but more effectively or whether they are now able to do things which they couldn't do before they had smart meters or has been triggered by SM data Use prompts as necessary/time permits NB only omit prompts if absolutely necessary 	<ul style="list-style-type: none"> – Explore in detail to find out what impact advanced/smart meters data have had on how energy is managed and used – if relevant, refer back to earlier discussion about any changes/investments they have made in relation to reducing their energy consumption – Has it enabled them to do things that they were unable to do before? Has it revealed things about how they use energy that they were previously unaware of (e.g. how much energy was being used outside business hours) – Has it enabled them to see which items of equipment use most energy? How has it done this? Has this led to any changes in equipment or to the way equipment is used? – Has it helped them evaluate the impact of any changes to the way they use energy? If it has enabled them to save energy/money, are they able to say what the level of savings has been? – Has it enabled them to set targets and monitor how well they are doing against these? – Has it enabled them to engage their staff more effectively with energy saving? How successful has this been? How has it done this?
<p>Using the screener and FF interview as a starting point, explore how they access and use their SM data and who else is involved. Where possible: take photos to illustrate use of SM data e.g. screen shots or ask if copies of any reports they tend to use most often can be emailed to you</p>	
<ul style="list-style-type: none"> • Who is involved in collecting and providing you with your SM data? 	<ul style="list-style-type: none"> – if they have signed up to an energy management service, who provides this and what form does it take? this might include their energy provider or another third party organisation, that collates and presents the data in a particular way – they might have their own bespoke software which does this – who provided/designed this? – do they know what the costs are of having their data collected and presented in this way? Does it represents VFM?
<ul style="list-style-type: none"> • How do you access your SM data? 	<ul style="list-style-type: none"> – ask them to show you e.g. on a laptop (ask if you can take photographs) – if they can access/create different reports/ways of presenting the data, ask them to outline the ones they use most often/find the most helpful e.g. comparing consumption over particular time periods (which) – show S3 and explore interest in alternative methods of accessing the data (e.g. via a smart phone) as well as a real time display of energy use.is this something they would find helpful? How might they use it?
<ul style="list-style-type: none"> • Who else gets to see the SM data? In what form (e.g. on a screen, in hard copy form)? What do they use it for? 	<ul style="list-style-type: none"> – if the data is converted into a format for use by other people, ask if you can see an example and if you can take a photograph. Who converts it? Why is it converted?
<ul style="list-style-type: none"> • How easy is the data to interpret? Do you do anything 	<ul style="list-style-type: none"> – what are the issues/difficulties?

<p>with it to make it easier to use/interpret?</p>	<ul style="list-style-type: none"> – <i>what have they done to try to address these?</i>
<ul style="list-style-type: none"> • How do you go about working out from your SM data whether there are ways in which you can save energy? 	<ul style="list-style-type: none"> – <i>explore how respondent goes from ‘seeing how they are using energy’ to ‘deciding how they could use less energy’</i> – <i>explore if they use any external service providers to help; if so, who is used and what do they provide? What is the cost of this service?</i>
<p>If time permits, go through some of the stimulus – choose stimulus that relates to things they might not be doing e.g. if SM data are not shared with staff, you might show S12 & 13 (single sites)/S12 & 14 (chains and multi-sites). Show them S11 to see if device disaggregation is of potential interest. Then SKIP to Section 5</p>	

4. Non-users of Advanced/smart meter data (30 mins)

THIS SECTION IS FOR ORGANISATIONS THAT ARE NOT USING THEIR SM DATA	
<ul style="list-style-type: none"> If business only has traditional meters: explore awareness of SM then skip to displaying S3 below 	<ul style="list-style-type: none"> – explore awareness of smart meters and what benefits they might offer a business such as their own, along with any concerns / downsides – explain that smart meters automatically record and store information about your energy usage and send it back to your energy company. The energy company can also access the meter remotely, for example to update your tariff remotely. Amongst other things, this means there is no need for estimated bills or for meters to be read manually
<ul style="list-style-type: none"> Do you know if the meters at this site are what are known as advanced meters or smart meters? 	<ul style="list-style-type: none"> – can you briefly sum up for me what your type of meter can do? – what would you say are the main benefits, if any, of an advanced/smart meter over a traditional meter?
<ul style="list-style-type: none"> (Refer to Fact Finder and explore reasons for installing smart meters) Why were the advanced/smart meters installed – were they already installed when you moved into the premises? Was it because the energy supplier insisted/offered? Was it because the landlord insisted/offered? Was it something you/your business requested? 	<ul style="list-style-type: none"> – if accepted offer of supplier/landlord: why did you decide to accept their offer? – if requested by respondent/business: why was this?
<ul style="list-style-type: none"> What information/guidance/help about advanced/smart meters. was provided? 	<ul style="list-style-type: none"> • check for information etc provided pre-installation/during installation/post-installation • who provided this; who received it? • what did they find helpful? what more/else could have been done that would have been helpful?
<ul style="list-style-type: none"> <i>If business has a mix of advanced/smart and traditional meters – this could be a mix of different types of electricity meters or a mix of electricity and gas meters</i> 	<ul style="list-style-type: none"> • explore why only some are advanced/smart, which aspects of energy use are linked to advanced/smart meters and what proportion of energy usage is accounted for by advanced/smart meters
<ul style="list-style-type: none"> Have you/your organisation experienced any difficulties/challenges with your advanced/smart meters such as problems with the signal? 	<ul style="list-style-type: none"> – if yes: explore nature of these and how, if at all, they have been overcome
<ul style="list-style-type: none"> What difference, if any, have advanced/smart meters made to your business? 	<ul style="list-style-type: none"> • Explore as appropriate
<ul style="list-style-type: none"> Confirm with respondent that 	<ul style="list-style-type: none"> • Explore the reasons for this. Possible reasons include

<p><i>they are not using their smart meter data (other than for billing purposes).</i></p>	<ul style="list-style-type: none"> - Lack of awareness they can get data - Cost of data packages - Presentation of data being an issue (and whether some formats are better than others) - No time/incentive to use data - Lack of knowledge about how to use the data to apply to their own circumstances <ul style="list-style-type: none"> • <i>Can they suggest anything that would encourage them to use their SM data?</i>
<p><i>Explain you are going to take them through some information about how smart meter data could be used to help them reduce their energy consumption and costs</i></p> <p>NB make note of any barriers to using SM data including those listed above (cost, presentation of data, no time/incentive, lack of know how, etc)</p>	
<ul style="list-style-type: none"> • Methods of accessing/viewing smart meter data (S3): What's your reaction to what you see here? 	<ul style="list-style-type: none"> – <i>explore interest in being able to see energy use over different time periods and how this might be of use</i> – <i>explore interest in different ways of accessing SM data – online via a PC, laptop, via a smart phone</i> – <i>explore interest in the idea of a 'live' visual display – how might this be used? Prompt in relation to both 'real time' information and a visual display</i>
<ul style="list-style-type: none"> • Briefly take respondent through S4 and S5 <u>and then ask</u> 	<ul style="list-style-type: none"> • Do you know how much energy you use outside of normal business hours? What, if anything, do you do to try to keep this as low as possible? Are some items left on 24/7? Are some items left on standby? Why is this? • Would you have any means of knowing if, for example, your heating controls were malfunctioning so that heating was coming on in the middle of the night?
<ul style="list-style-type: none"> • Talk respondent through S6 & S7: 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to you? • <i>note reaction to 'killer facts' – in blue /case study - in red and example of pattern recognition software</i>
<ul style="list-style-type: none"> • Do you know how much energy you use during normal business hours? 	<ul style="list-style-type: none"> • What do you do to try and keep this as low as possible? Are some items left on all day whether or not they are in constant use? • In the winter months, at what time is your heating turned on at the start of the day and turned off at the end of the day? <i>Check how this compares to the time the business opens/closes</i>
<ul style="list-style-type: none"> • Talk respondent through S8-S10: 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Are there things here that you/your business could be doing? • <i>note reaction to 'killer facts' – in blue /case study - in red and examples of pattern recognition software</i>
<ul style="list-style-type: none"> • Do you know how much energy individual appliances use and what they cost to run? 	<ul style="list-style-type: none"> • If yes: How do you know this? • Do you know if all your equipment is operating efficiently? What steps do you take to try and ensure this is the case (<i>Examples might be defrosting fridges regularly, servicing air conditioning units, etc.</i>)

<ul style="list-style-type: none"> • Talk respondent through S11: 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Is this something that you could take advantage of? <i>Explore how respondent might use device disaggregation</i>
<ul style="list-style-type: none"> • Refer back to earlier discussion around involving staff in saving energy. Display S12: 	<ul style="list-style-type: none"> – <i>if the business does not currently provide staff with feedback on energy consumption, explore reactions to the idea of doing so</i> – <i>if business does provide feedback, explore if it includes specific cost messages as opposed to more generic 'turn off' messages</i> – <i>explore reactions to the idea of challenging staff to save energy e.g. by setting them a target</i> – <i>if they wanted to set a target for energy consumption, how would they go about this – how would they know what level to set it?</i>
<ul style="list-style-type: none"> • <u>SINGLE SITES</u> Talk respondent through S13 	<ul style="list-style-type: none"> • Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff: • What's your reaction to what you see here? Is this something that you could take advantage of? Why is this?
<ul style="list-style-type: none"> • <u>CHAINS/MULTI-SITES</u> Talk respondent through S14 - 	<ul style="list-style-type: none"> • Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff. You can also compare the performance of each site. Feedback can be provided for each site as well as at an area/regional level (table on left) and at a national level (table on right). • What's your reaction to what you see here? Is this something that you could take advantage of? Why is this?

<ul style="list-style-type: none"> • Talk respondent through S15 	<ul style="list-style-type: none"> – explore reactions to the idea of using an energy service provider to help them make the most of their smart meter data; make it clear that energy service provider includes not just energy supplier (e.g. B Gas, Eon, etc) but other organisations as well. – if this was something their energy provider offered at no extra charge – if this was something that was offered at an extra charge – what level of charge would be acceptable – explore reactions to the idea of some of the examples already considered as possibly being services they might need to pay for – explore reactions to the idea of device disaggregation (S11) being available for an annual subscription of £25-50
<ul style="list-style-type: none"> • Explore who they would go to for advice about their energy use – who would they listen to/trust? • Then display S16 and take each item at a time • Refer to FF in relation to Role of External Actors and prompt if necessary 	<ul style="list-style-type: none"> – explore reactions to the idea of an Energy Saving Mentor – discuss what this would look like for it to be of interest – how similar a business would the mentor need to run for it to be felt relevant? – explore the idea of seeing examples of what other businesses have achieved – discuss what this would need to look like for it to be of interest – explore with respondent any local business networks/trade associations they are part of – this can include more formal networks (such as the local Chamber of Commerce) as well as informal networks – e.g. where local businesses come together to organise events/activities such as around Christmas. Explore reactions to the idea of local networks, such as these, being used to help businesses reduce their energy consumption/bills e.g. by sharing experiences and best practice – invite respondent to suggest any other ways of providing local businesses with information and advice that could help them make better use of their smart meter data

5. Other

- **Explore any other information they would find helpful in terms of managing energy / encouraging them to reduce consumption? It may be to do with SM data, but it may not be**
- **Ask for permission to re-contact and permission to link data**

6. Site Visit/Observations

Building:	<ul style="list-style-type: none"> • <i>make notes on nature/age of building/whether well maintained/signs of damp, etc e.g. new build/Victorian school with portacabin class rooms, etc. especially anything likely to impact on energy efficiency; if appropriate, take photographs</i>
Uses of energy: <i>make a note of different uses of energy and in particular things that use most energy including: If appropriate take photographs</i>	<ul style="list-style-type: none"> – Heating – Food preparation (full-service kitchens vs. fast-food vs. staff canteen/kitchen etc) – IT installation (server room vs. individual PCs etc) – Swimming pools (seasonal outdoor pools; year round internal pools; heated/unheated) – Workshops (machine tools etc) – Manufacturing (Assembly, packaging, manufacturing or other energy intensive use)
Meters (incl sub-meters where relevant/possible):	<i>make a note of location and accessibility</i>
Energy Management	<ul style="list-style-type: none"> – <i>Make a note of any documents and/or supporting evidence of business's energy management. If possible, ask for a copy. This might include management/policy documents, documents aimed at staff.</i> – <i>If business is accredited to ISO 14001 for environmental management or something similar, ask to see supporting evidence.</i> – <i>Make a note, and where possible photograph, any evidence of attempts taken to encourage staff/customers to use energy wisely.</i>
Advanced/smart meter data	<ul style="list-style-type: none"> – <i>where possible capture how smart meter data is accessed and what format the data is in as well as any additional outputs that might be produced</i> – <i>in some cases, respondent may be able to provide copies or you may be able to take photographs</i>

Recruitment Screener: Cluster 1

When arranging appointments, researchers should ask the main respondent which of the internal actors are involved in **making decisions about energy management**, which are involved in **implementing energy efficiency policies** and which, if any, are **users of energy** (i.e. not involved in decision making or implementation). You should aim, where possible, to include at least one actor involved in decision making, one involved in implementing policies and one involved in using energy. You also need someone to show you around the site so you can see the meters and how energy is used.

This topic guide should be used for internal actors who are either implementers or energy users.

In the event of timing issues, areas highlighted can be omitted or only very briefly covered. These are only suggestions and you should decide what to include/exclude based on the respondent's role and what has emerged from other interviews.

7. Introduction to research

- *Researcher introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (if necessary, give respondent copy of Letter of Authority)
 - it is about how businesses use energy
 - it is also about experiences of advanced/smart meters and the extent to which these might make it easier for businesses to manage their use of energy
 - **confidentiality**: *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with your consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation.*
 - **permission to record**: *give respondent copy of permission to record/take photographs form; ask to read and sign - reassure that there will be no identifiable attribution of quotes. Explain that every business is different and you may like to take photographs to illustrate what different business are doing – you will only take photographs with the respondent's express permission*
 - **focus of the interview**: *explain that the focus of the interview is how energy is used at [name of specific site]*

8. Energy Management (approx. 15 minutes)

Before conducting the case study visit, researchers should review the screening data and Fact Finder Interview and highlight any issues that need following up to ensure you have a good understanding of how energy is being managed and the role of other internal actors. Any findings emerging from other case study interviews with decision makers should also be reviewed – where possible, aim to triangulate findings

<ul style="list-style-type: none"> • Role/Responsibility both in relation to the business as a whole and in relation to energy use 	<ul style="list-style-type: none"> – can you start of by introducing yourself to me and briefly outlining your role within the business? What do you do? What are you responsible for? Do not prompt in relation to energy – If not mentioned spontaneously: how would you describe your role in terms of how the business uses energy? <i>Probe fully</i>
<ul style="list-style-type: none"> • Skip in the case of C3/4 and small/micro businesses in C7/8 Explore organisational culture – not specifically in relation to energy management but more generally 	<ul style="list-style-type: none"> – Most organisations have their ‘style’ or culture’ i.e. a preferred way of doing things. For example some organisations like operations to be tightly managed and controlled from ‘head office’/senior management. Other organisations try to involve staff in a wider range of decisions to achieve company goals often allowing them considerable discretion about how things are done. How would you describe your organisation?
<ul style="list-style-type: none"> • Perceptions of the organisation’s approach to energy efficiency 	<ul style="list-style-type: none"> – how important is energy efficiency within the business? Why do you say that? <p><i>if respondent feels it is important:</i></p> <ul style="list-style-type: none"> – <i>explore why it is e.g. to save ££, because of brand image etc</i> – <i>ask for examples of how this is translated into things that are done to try and use energy efficiently</i> <p><i>if respondent feels it is not important:</i></p> <ul style="list-style-type: none"> – <i>explore why e.g. it doesn’t use very much to begin with</i>
<ul style="list-style-type: none"> • Energy policies/procedures 	<ul style="list-style-type: none"> – are there any policies or procedures or measures in place about the use of energy that you are aware of? <p><i>If Yes: explore what these are and how effective respondent feels they are</i></p>
<ul style="list-style-type: none"> • Own use of energy/use of energy by staff they are responsible for 	<ul style="list-style-type: none"> – can you briefly outline how you personally use energy? And what about any staff you are responsible for? (<i>prompt for any processes or items of equipment they/their staff use</i>) – are there things that you/your staff do to try and use energy as efficiently as you can (<i>prompt for any examples</i>)? – are you/yours staff incentivised or rewarded for

	<p>using energy efficiently? <i>If yes: probe to establish how this works (what are the incentives/rewards) and what impact this has (does it have any impact?)</i></p>
<ul style="list-style-type: none"> • Level of control/empowerment 	<ul style="list-style-type: none"> – how much control do you feel you/your staff have over how much energy you/they use in carrying out your/their job? Why is that? – how much autonomy do you/your staff have over use of energy? – for example, if it gets warmer or colder, can you/they turn down/up the heating or open/close windows? – to what extent are you/your staff encouraged/invited to make suggestions about how energy is used in the business?

9. Users of Advanced/smart meter data – where SM data is being used (approx. 15 mins)

<ul style="list-style-type: none"> Awareness and understanding of smart meters 	<ul style="list-style-type: none"> – are you aware that your business has what are known as advanced/smart meters? – can you briefly sum up for me what an advanced/smart meter can do? – what would you say are the main benefits, if any, of an advanced/smart meter? – and are there any downsides?
<ul style="list-style-type: none"> Impact of advanced/smart meter data 	<ul style="list-style-type: none"> – what difference, if any, have advanced/smart meters and the information they provide made to you and the way you use energy? <i>Probe fully to understand any impact</i>
<ul style="list-style-type: none"> Access/use of SM data 	<ul style="list-style-type: none"> – do you have access to/see any of the advanced/smart meter data?
<p><i>If yes: explore</i></p>	<ul style="list-style-type: none"> – <i>how they access the data (e.g. via a laptop, a printout)</i> – <i>what data they see and how it is presented</i> – <i>how easy it is to understand; what they use it for</i>
<p><i>If no: show S3</i></p>	<ul style="list-style-type: none"> – <i>explore reactions</i> – <i>what difference might it make to them/their staff if they had access to smart meter data</i> – <i>what type of information would be most useful? (e.g. historical – over what time periods; real time consumption)</i> – <i>what method of displaying/accessing this would be most useful and why?</i>
<p><i>Show S12: explore</i></p>	<ul style="list-style-type: none"> – <i>whether they get any feedback on how they/their staff use energy and whether it is conveyed in a motivating way</i> – <i>if they do not get any feedback, what is their reaction to the idea?</i>
<p><i>Show S13 (single sites) or S14 (chains/multi-sites) : explore</i></p> <p><i>NB: if already have targets, how does what they see on S13/14 compare to the feedback they receive</i></p>	<ul style="list-style-type: none"> – <i>reactions to being set a target and getting visual feedback about how well these are being met</i> – <i>reactions to a visual display showing real time information about energy consumption</i>

10. Non-users of Advanced/smart meter data (15 mins)

<ul style="list-style-type: none"> Awareness and understanding of smart meters 	<ul style="list-style-type: none"> are you aware that your business has what are known as advanced/smart meters? can you briefly sum up for me what an advanced/smart meter can do? what would you say are the main benefits, if any, of an advanced/smart meter? and are there any downsides?
<ul style="list-style-type: none"> Impact of advanced/smart meter data 	<ul style="list-style-type: none"> what difference, if any, have advanced/smart meters and the information they provide made to you and the way you use energy? <i>Probe fully to understand any impact</i>

When interviewing implementers who have some responsibility for energy use at the case study site and if time permits take them through S3, S6-S14 and S16. If short of time, focus on S3, S11, S12&13 (single site) or S12&14 (chain/multi-site)

Explain you are going to take them through some information about how smart meter data could be used to help them reduce their energy consumption and costs.

<ul style="list-style-type: none"> Methods of accessing/viewing smart meter data (S3) 	<ul style="list-style-type: none"> What's your reaction to what you see here? <ul style="list-style-type: none"> explore interest in being able to see energy use over different time periods and how this might be of use explore interest in different ways of accessing SM data – online via a PC, laptop, via a smart phone explore interest in the idea of a 'live' visual display– how might this be used?
<ul style="list-style-type: none"> Do you know how much energy you use outside of normal business hours? What do you do to try and keep this as low as possible? Are some items left on 24/7? Are some items left on standby? 	<ul style="list-style-type: none"> Would you have any means of knowing if, for example, your heating controls were malfunctioning so that heating was coming on in the middle of the night?
<ul style="list-style-type: none"> Talk respondent through S6 & S7: 	<ul style="list-style-type: none"> What's your reaction to what you see here? Could it be relevant to you? note reaction to 'killer facts' – in blue /case study - in red and example of pattern recognition software
<ul style="list-style-type: none"> Do you know how much energy you use during normal business hours? What do you do to try and keep this as low as possible? Are some items left on all day whether or not they are in constant use? 	<ul style="list-style-type: none"> In the winter months, at what time is your heating turned on at the start of the day and turned off at the end of the day? <i>Check how this compares to the time the business opens/closes</i>
<ul style="list-style-type: none"> Talk respondent through S8-S10: 	<ul style="list-style-type: none"> What's your reaction to what you see here? Are there things here that you/your business could be doing? <ul style="list-style-type: none"> note reaction to 'killer facts' – in blue /case study - in red and examples of pattern recognition software

<ul style="list-style-type: none"> Do you know how much energy individual appliances use and what they cost to run? If yes: How do you know this? 	<ul style="list-style-type: none"> Do you know if all your equipment is operating efficiently? What steps do you take to try and ensure this is the case (<i>Examples might be defrosting fridges regularly, servicing air conditioning units, etc.</i>)
<ul style="list-style-type: none"> Talk respondent through S11 	<ul style="list-style-type: none"> What's your reaction to what you see here? Is this something that you could take advantage of? <i>Explore how respondent might use device disaggregation</i>
<ul style="list-style-type: none"> Refer back to earlier discussion around involving staff in saving energy. Display S12: 	<ul style="list-style-type: none"> – <i>if the business does not currently provide staff with feedback on energy consumption, explore reactions to the idea of doing so</i> – <i>if business does provide feedback, explore if it includes specific cost messages as opposed to more generic 'turn off' messages</i> – <i>explore reactions to the idea of challenging staff to save energy e.g. by setting them a target</i> – <i>if they wanted to set a target for energy consumption, how would they go about this – how would they know what level to set it?</i>
<ul style="list-style-type: none"> <u>SINGLE SITES</u> Talk respondent through S13 	<ul style="list-style-type: none"> Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff: What's your reaction to what you see here? Is this something that you could take advantage of?
<ul style="list-style-type: none"> <u>CHAINS/MULTI-SITES</u> Talk respondent through S14 	<ul style="list-style-type: none"> Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff. You can also compare the performance of each site. Feedback can be provided for each site as well as at an area/regional level (table on left) and at a national level (table on right). What's your reaction to what you see here? Is this something that you could take advantage of?

<p>When interviewing energy users and implementers who do not have responsibility for energy use at the case study site.</p> <p><i>Explain you are going to take them through some information about how smart meter data could be used to help them reduce their energy consumption and costs.</i></p>	
<ul style="list-style-type: none"> • Methods of accessing/viewing smart meter data (S3) 	<ul style="list-style-type: none"> • What's your reaction to what you see here? <ul style="list-style-type: none"> – <i>explore interest in being able to see energy use over different time periods and how this might be of use</i> – <i>explore interest in different ways of accessing</i> – <i>SM data – online via a PC, laptop, via a smart phone</i> – <i>explore interest in the idea of a 'live' visual display– how might this be used?</i>
<ul style="list-style-type: none"> • <i>Refer back to earlier discussion around involving staff in saving energy. Display S12:</i> 	<ul style="list-style-type: none"> – <i>if the business does not currently provide staff with feedback on energy consumption, explore reactions to the idea of doing so</i> – <i>if business does provide feedback, explore if it includes specific cost messages as opposed to more generic 'turn off' messages</i> – <i>explore reactions to the idea of challenging staff to save energy e.g. by setting them a target</i>
<ul style="list-style-type: none"> • <u>SINGLE SITES</u> <i>Talk respondent through S13</i> 	<ul style="list-style-type: none"> • Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff: • What's your reaction to what you see here? Is this something that you could take advantage of?
<ul style="list-style-type: none"> • <u>CHAINS/MULTI-SITES</u> <i>Talk respondent through S14</i> 	<ul style="list-style-type: none"> • Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff. You can also compare the performance of each site. Feedback can be provided for each site as well as at an area/regional level (table on left) and at a national level (table on right). • What's your reaction to what you see here? Is this something that you could take advantage of?

Recruitment Screener: Cluster 1

This topic guide is intended for case studies based on chains (C5) to ensure we have an overview of what happens across the chain as a whole. In some cases, the individual who is identified as the main decision maker for the case study site may also be the person best placed to provide a strategic overview (this was typically the case for C1 in Stage 1). In this situation, you should use BCS1 topic guide but when reviewing the Fact Finder, be sure to establish the extent to which the case study site is typical of what happens across all/most sites. This guide can be used to indicate possible areas to follow up.

It may also be appropriate for businesses in C7 and C8 which occupy several different sites provided there is some centralised overview. E.g. a firm of solicitors may have offices in a number of towns. If there is a common approach to energy management that is determined 'centrally', then an interview should be conducted with someone who can provide an overview; if each site's approach to energy management is determined locally, there is no requirement for a strategic overview.

The interview may be conducted f2f (e.g. as part of the case study visit) or by telephone. In the case of a telephone interview, send copies of stimulus in advance.

In the event of timing issues, areas highlighted in pink can be omitted or only very briefly covered.

The areas shaded in orange still include important areas to cover as far as possible for triangulation purposes, but it may be possible to just briefly touch on these depending on the particulars of the case study site and what you have been told during interviews already completed. Alternatively, where appropriate you may be able to sum up what happens at the case study site and check if this is what also happens at most other sites. NB orange shaded issues have a higher priority over pink

11. Introduction to research

- *Interviewer introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (*if necessary, refer/send respondent copy of Letter of Authority*)
 - it is about how businesses use energy
 - it is also about experiences of smart meters and the extent to which these might make it easier for businesses to manage their use of energy
 - **confidentiality:** *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with their consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation.*
 - **permission to record:** *check respondent is happy for the interview to be recorded – if necessary reassure them that there will be no identifiable attribution of comments and that, by recording the interview, it will take less time to complete.*

- **focus of the interview:** *explain that as part of the research we have been discussing how energy is used at **[name of specific site]**. We also want to explore how energy is managed across the organisation's wider portfolio of sites and **this is the focus of the discussion**.*
- **duration of interview:** *explain that it will take about 1 hour*

Energy Management (25 mins)

<p><i>Before conducting the interview, review the FF and any other case study interviews that have been completed. Where it is clear that what applies to the case study site also applies to all other sites, do not spend time exploring the details – you could summarise what happens at the case study site and then check if this is typical of all/most sites and then move on. The main aim here is to understand the reasons for any variation across sites. You may already have a clear understanding in relation to some questions (I have highlighted these in orange) in which case they can be skipped</i></p>	
<ul style="list-style-type: none"> • What is your role within the business? 	<ul style="list-style-type: none"> – (main responsibilities – do not prompt for energy management)
<ul style="list-style-type: none"> • <i>Explore organisational culture – not specifically in relation to energy management but more generally</i> 	<ul style="list-style-type: none"> – Most organisations have their ‘style’ or culture’ i.e. a preferred way of doing things. For example some organisations like operations to be tightly managed and controlled from ‘head office’/senior management. Other organisations try to involve staff in a wider range of decisions to achieve company goals often allowing them considerable discretion about how things are done. How would you describe your organisation?
<p>I want to discuss with you how your business makes decisions about the energy it uses – this could include paying/authorising energy bills, deciding whether to switch energy supplier, deciding what equipment to purchase, installing energy efficiency measures, how staff use equipment, and so on.</p>	
<ul style="list-style-type: none"> • Who is involved in making these types of decisions? 	<ul style="list-style-type: none"> – who is/are the main decision maker(s) and who else might be involved (e.g. board of directors, procurement, facilities managers, etc.) – Is/are the main decisions maker(s) a full-time, dedicated energy manager or is this is just a part of their/your role?
<ul style="list-style-type: none"> • <i>if have a full-time energy manager:</i> 	<ul style="list-style-type: none"> – why has the business decided to employ a dedicated energy manager?
<ul style="list-style-type: none"> • <i>if not a full-time role:</i> 	<ul style="list-style-type: none"> – is there a reason for this? Approximately what proportion of their/your time is spent on looking after energy related issues?
<ul style="list-style-type: none"> • When it comes to energy management and trying to use energy as efficiently as possible, where would you say the knowledge and expertise lies? 	<ul style="list-style-type: none"> – is it in-house (e.g. does it reside with the dedicated energy manager? If no dedicated EM, who does have the expertise?) – is it provided by external experts (if so, who is this)? – is it a mix of the two (if so, try to establish the mix)?

<ul style="list-style-type: none"> Can you outline for me your organisation’s approach to energy management. <i>Prompt only as necessary</i> 	<ul style="list-style-type: none"> – which decisions are taken at ‘head office’ and which at individual sites? <p>are individual sites set any targets in terms of energy consumption?/ are there any rewards/incentives for achieving targets</p> <p>use of facilities management/building management</p> <p>whether energy audits are carried out</p> <p>how much variation is there between different sites?</p> <p>how typical is [case study site] – identify any aspects that are different to what typically happens</p>
<ul style="list-style-type: none"> What level of control do you feel the business has over how much energy it uses across the portfolio? <i>READ OUT</i> Why is this? 	<input type="checkbox"/> Complete control <input type="checkbox"/> A reasonable level of control <input type="checkbox"/> Limited control <input type="checkbox"/> No control
<ul style="list-style-type: none"> What proportion of the total operating costs of the business are taken up by the cost of your energy? <ul style="list-style-type: none"> – <i>encourage participant to provide an estimate if possible (e.g. 5 %); write this in</i> ask all to choose one of the options shown 	<input type="checkbox"/> Tiny proportion of operating costs <input type="checkbox"/> Small proportion of operating costs <input type="checkbox"/> Medium proportion of operating costs <input type="checkbox"/> Large proportion of operating costs <input type="checkbox"/> DK <i>check to see if this varies significantly by site and, if so, why this is</i>
<ul style="list-style-type: none"> How important is it to your business to try to be as energy efficient as possible; would you say it is a READ OUT? 	<input type="checkbox"/> low priority <input type="checkbox"/> medium priority <input type="checkbox"/> high priority <input type="checkbox"/> something else
<ul style="list-style-type: none"> Why is that? (<i>ask unprompted then prompt as necessary</i>) <p>NB these prompts are covered in the FF so it may just be a question of checking they apply across all sites</p>	<ul style="list-style-type: none"> – To reduce costs – For strategic reasons e.g. to provide a competitive edge – To reduce CO₂ emissions/to do ‘one’s bit’ to tackle climate change – To be seen as a responsible organisation (corporate responsibility) – To comply with any supply chain requirements (e.g. a supermarket might only purchase goods/services from suppliers that can demonstrate they are an energy efficient business) <p><u>Large businesses only i.e. where the total no of employees >250</u></p> <ul style="list-style-type: none"> – To ensure we comply with government regulations e.g. CRC, ESOS
<ul style="list-style-type: none"> Even where reducing energy consumption is a priority, businesses may feel it is difficult to achieve reductions in the 	<ul style="list-style-type: none"> – <i>refer to FF – it may just be a case of checking that the same applies across all/most sites</i> – <i>check to see if this varies by site/type of site e.g. sites</i>

<p>amount of energy they use. Is there anything that you think makes it difficult for your organisation?</p>	<p><i>that are owned/leased and the reasons behind any such differences</i></p>
<ul style="list-style-type: none"> • Has anything happened that has triggered the business to think about/review its use of energy? NB this might have been recently or some time in the past. 	<ul style="list-style-type: none"> – <i>refer to FF – it may just be a case of checking that the same applies across all/most sites</i> – <i>check to see if what triggers a review is site specific and explore what this might be</i>
<ul style="list-style-type: none"> • There are various ways in which an organisation can try to reduce energy consumption. Some of these relate to the way in which energy is used, such as when equipment is switched on and off, while others involve investing in improvements, such as in more efficient heating or lighting. 	<ul style="list-style-type: none"> • Can you briefly outline the main things you have done/put in place across your business? <ul style="list-style-type: none"> – have any of these been prompted by information from your smart meter? if yes: which actions and what was it that you discovered from your smart meter data that prompted it/them? – <i>refer to FF – it may just be a case of checking that the same applies across all/most sites</i> – <i>check to see if there are measures that have been adopted across all/most sites</i> – <i>check to see if there are measures that have been adopted at just some sites; what determines site specific actions</i>

13. The Role of External Actors (10 mins)

<ul style="list-style-type: none"> • Are any of your sites leased or rented? 	<ul style="list-style-type: none"> • If no: skip to question about energy supplier • if yes: <ul style="list-style-type: none"> – explore how many sites/what proportion are leased/rented – Can you outline for me the type(s) of lease you have and which aspects you/your business is responsible for and pays for, and which things your landlord is responsible for – NB this may vary from site to site – try to establish the main forms of lease
<ul style="list-style-type: none"> • Typically who is responsible for paying energy bills where you are a tenant 	<ul style="list-style-type: none"> • explore if it is the tenant or the landlord in relation to any common parts as well as the premises being leased/rented • where landlord pays some/all bills, explore how the costs are recovered • NB this may vary from site to site – try to establish the main forms of lease
<ul style="list-style-type: none"> • Do the terms of the lease have an impact on how the business uses energy or makes energy related decisions? 	<ul style="list-style-type: none"> • if yes: ask respondent to outline how the lease has an impact on their energy use/management <ul style="list-style-type: none"> – NB this may vary from site to site or by different types of lease – try to establish the different permutations and which are more usual • Where energy bills are paid by the landlord and recovered via a service charge/rent: <ul style="list-style-type: none"> – you mentioned just now that(for some sites) the landlord or managing agent pays the energy bills and then reclaims this through a service charge/rent. What impact does this have on how you manage your use of energy at these types of site? For example; does it mean you have less of an incentive to reduce the amount of energy you use?
<ul style="list-style-type: none"> • Have you come across something called a Green Lease 	<ul style="list-style-type: none"> • if yes: ask them to outline what they know of Green Leases and what they think of the idea; reasons why they would/would not consider signing up to one (if necessary, use S2) • if no show S17: ask what they think of the idea; reasons why they would/would not consider signing up to one (either a GL or a MOU)

<p>Ask all (5 mins)</p>	
<ul style="list-style-type: none"> • What role, if any, does your energy supplier play in terms of helping your business manage its use of energy? For example, does it offer advice on how to make the business more energy efficient? 	
<ul style="list-style-type: none"> • Does your business use/have you used the services of an energy consultant? 	<ul style="list-style-type: none"> • <u>If yes:</u> what role do they/have they played in helping make the business more energy efficient? • <u>Refer back to earlier discussion of expertise</u>
<ul style="list-style-type: none"> • Are you/is your business a member of a trade association/ professional body? 	<ul style="list-style-type: none"> • <u>If yes:</u> <i>record name of trade body/professional association;</i> have they played any role in helping make the business more energy efficient? In what way?
<ul style="list-style-type: none"> • Are there any other organisations or individuals that you/your business have relied on for advice and guidance in relation to how you use energy? This could be trades people such as electricians or shop fitters, for example, or equipment manufacturers, etc 	<ul style="list-style-type: none"> • <u>If yes:</u> how have they helped make the business more energy efficient?

14. Smart meters (20 mins)

I would like to finish up by asking you some questions about your smart meter(s)	
<ul style="list-style-type: none"> What proportion of your sites have smart meters? 	<ul style="list-style-type: none"> <i>Check if this includes both electricity and gas</i> <i>Check if all meters at a given site are smart or a mix of smart/traditional – why is this</i> <i>Check in terms of how this varies across sites; if only some sites have smart meters, explore why this is</i>
<ul style="list-style-type: none"> Why were smart meters installed (Read out) <ul style="list-style-type: none"> <i>if accepted offer of supplier/landlord: why did you decide to accept their offer?</i> <i>if requested by respondent/business: why was this?</i> 	<ul style="list-style-type: none"> <input type="checkbox"/> they were already installed when you moved into the premises <input type="checkbox"/> the energy supplier insisted/offered <input type="checkbox"/> the landlord insisted/offered <input type="checkbox"/> you/your business asked for them to be installed <p><i>Check if this varies by site and reasons for this</i></p>
<ul style="list-style-type: none"> What information/guidance/help about advanced/smart meters was provided? 	<ul style="list-style-type: none"> <i>check for information etc provided pre-installation/during installation/post-installation and whether this varied by site</i> who provided this; who received it? what did they find helpful? what more/else could have been done that would have been helpful?
<ul style="list-style-type: none"> Apart from information relating to bills, do you/does the business use any of the data available from the smart meter(s) to help you manage your energy? 	<ul style="list-style-type: none"> Yes: <i>Summarise from screener/Fact Finder/other case study interviews how SM data is used by case study site</i> <ul style="list-style-type: none"> <i>how the data is collected</i> <i>how it is accessed and by whom</i> <i>any it is represented/interpreted</i> <i>how it is used</i> explore the extent to which this is what happens at all sites and identify any significant variations in this No: explore why this is

<p><i>If time permits take all respondents through slides 7, 9-11, 13,14; explain you would like to show them some ways in which businesses can use smart meter data to help them manage their energy use more efficiently</i></p>	
<ul style="list-style-type: none"> • Explain that 'pattern recognition software' can be used to identify how energy is being used as well as opportunities to save energy 	<ul style="list-style-type: none"> • Use S7, 9 & 10 to illustrate how pattern recognition software can be used <ul style="list-style-type: none"> – What's your reaction to what you see here? Are there things here that your business could be using/doing?
<ul style="list-style-type: none"> • Explain that software is also available that identifies which individual electrical items are being used and how much energy they are consuming 	<ul style="list-style-type: none"> • Use S11 to illustrate this <ul style="list-style-type: none"> – What's your reaction to what you see here? Are there things here that your business could be using/doing?
<ul style="list-style-type: none"> • Explain that information about energy consumption can be shared with staff 	<ul style="list-style-type: none"> • Use S13 <ul style="list-style-type: none"> – What's your reaction to what you see here? Are there things here that your business could be using/doing? – explore interest in the idea of a 'live' visual display – how might this be used?
<ul style="list-style-type: none"> • The information can also be used to set targets and compare the performance of different sites. This can be done at different levels e.g. individual sites and at the regional level 	<ul style="list-style-type: none"> • Use S14 <ul style="list-style-type: none"> – What's your reaction to what you see here? Are there things here that your business could be using/doing?
<ul style="list-style-type: none"> • explore reactions to the idea of paying for services along the lines of those outlined above 	<ul style="list-style-type: none"> • explore reactions to the idea of device disaggregation (S11) being available for an annual subscription of £25-50 per site
<ul style="list-style-type: none"> • Explore any other information they would find helpful in terms of managing energy / encouraging them to reduce consumption? It may be to do with SM data, but it may not be 	

Recruitment Screener: Cluster 1

This topic guide should be used for business case studies with Landlords/Facility Managers involved as external actors.

The respondent may or may not be familiar with the case study site.

NB the term Landlord/Facility Manager is used here to refer to the organisation that has responsibility for managing the case study site. They may or may not be the owner of the site.

In the event of timing issues, areas highlighted in pink can be omitted or only very briefly covered.

When arranging appointments, researchers should ask the main respondent if possible to have to hand copies of any relevant documents relating to energy, such as an energy policy document, an environmental policy, guidelines for staff relating to using energy efficiently, etc. and, if possible, to have a copy that you can take away.

Where the interview is conducted by phone, you should arrange to send stimulus materials in advance

15. Introduction to research

- *Interviewer introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (if necessary, refer/send respondent copy of Letter of Authority)
 - it is about how businesses, including landlords/facilities managers and their tenants, use energy
 - it is also about experiences of smart meters and the extent to which these might make it easier for organisations to manage their use of energy
 - **confidentiality:** *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with their consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation*
 - **permission to record:** *check respondent is happy for the interview to be recorded – if necessary reassure that there will be no identifiable attribution of comments and that, by recording the interview, it will take less time to complete.*
 - **focus of the interview: Check respondent is familiar with case study site.**
 - **if familiar with case study site:** *explain that the focus of the interview is about their organisation's approach to energy management across their portfolio of **commercial** properties as well as how energy is used at [name of specific site]*
 - **if not familiar with case study site:** *explain that the focus of the interview is about their organisation's approach to energy management across their portfolio of **commercial** properties; you may need to skip site specific prompts or re-word so it relates to what typically happens*
 - **duration of interview:** *explain that it will take about 1 hour*

16. Introduction to Respondent/Business and Leasing Arrangements (15 mins)

<ul style="list-style-type: none"> • Can you briefly outline for me the nature of your organisation? 	<ul style="list-style-type: none"> – how many, and what range/types of properties do you have in your portfolio? – are these properties owned by your organisation or are they managed on behalf of the property owners? – what range/types of businesses do you have as tenants? – what is your role within the organisation? What are your main responsibilities?
<ul style="list-style-type: none"> • What is the typical length of the lease/rental agreements in place? 	<p><i>if no typical length, ask for the range</i></p>
<ul style="list-style-type: none"> • Can you outline for me the type(s) of lease/rental agreements you have with your tenants, for example, short term/long term, full repairing, etc. 	<ul style="list-style-type: none"> – the type of leasing arrangements you have with your tenants, for example, short term/long term, full repairing, etc. And what is the situation at [name of specific site]?
<ul style="list-style-type: none"> • Explore awareness of and reaction to the idea of a green lease. If already made reference to Green Lease; explore what this actually means in practice otherwise, ask if have heard of Green Leases 	<ul style="list-style-type: none"> – if yes: ask them to outline what they know of Green Leases and what they think of the idea; reasons why they would/would not consider introducing them (if necessary, use S17) – if no show S17: ask what they think of the idea; reasons why they would/would not consider introducing them
<ul style="list-style-type: none"> • What determines whether any refurbishment/repairs/upgrades are carried out? For example, do you have a regular refurbishment programme or is this carried out on an 'as needs' basis? 	<ul style="list-style-type: none"> – How is the cost of this work recovered? For example, via a service charge or a one off charge to tenants? – And what is the situation at [name of specific site]?

<ul style="list-style-type: none"> • Which of the following arrangements describes who is responsible for paying for the energy at [case study site]? 	<ul style="list-style-type: none"> <input type="checkbox"/> The tenants are responsible for paying all the energy bills directly to the energy suppliers <input type="checkbox"/> The tenants pay for their own energy costs; landlord pays the energy bills for the common parts <input type="checkbox"/> Landlord pays all the energy bills <input type="checkbox"/> Some other arrangement
<ul style="list-style-type: none"> • <u>Where some/all energy bills are paid by the landlord:</u> how do you recover the cost of the energy bills you pay for? 	<ul style="list-style-type: none"> – How do you calculate how much to charge your tenants for the energy or is it a flat rate irrespective of how much they use? <p><i>For example: the landlord may have separate meters for each tenant or may charge an amount based on the size of each tenant's premises or in some other way</i></p>

17. Energy Management (15 mins)

I want to discuss with you how your business/organisation makes decisions about the energy used in your properties.	
<ul style="list-style-type: none"> Who is involved in making these types of decisions? <ul style="list-style-type: none"> who is the main decision maker? who else might be involved (e.g. board of directors, procurement, facilities managers, etc.)? Is/are the main decisions maker(s) a full-time, dedicated energy manager or is this just a part of their role 	<ul style="list-style-type: none"> if have a full-time energy manager: Why has the business decided to employ a dedicated energy manager? if not a full-time role: approximately what proportion of their/your time is spent on energy management?
<ul style="list-style-type: none"> if properties managed, not owned: are the owner(s) involved in relation to energy management? 	<ul style="list-style-type: none"> explore what involvement the owner(s) have
<ul style="list-style-type: none"> Which decisions are taken at 'head office' level and which are taken at the individual site level? 	<ul style="list-style-type: none"> why is this? are individual sites set any targets in terms of energy consumption? are there any rewards/incentives for achieving targets?
<ul style="list-style-type: none"> What level of control do you feel you have over how much energy is used in your properties, including the energy used by the tenants? READ OUT Why is this? 	<input type="checkbox"/> Complete control <input type="checkbox"/> A reasonable level of control <input type="checkbox"/> Limited control <input type="checkbox"/> No control
<ul style="list-style-type: none"> How important is it to you to be able to control or influence how much energy individual tenants use? Read out Why is this? 	<input type="checkbox"/> Very important <input type="checkbox"/> Fairly important <input type="checkbox"/> Not important
<ul style="list-style-type: none"> To what extent do you feel able to control or influence how much energy individual tenants use? 	<p>where landlord is responsible for paying all or some elements of the energy bills, such as common parts: what information, if any, about energy consumption that you manage is shared with tenants?</p>
<ul style="list-style-type: none"> Who is responsible for facilities management or looking after the building at [name of specific site]? 	<input type="checkbox"/> There is no facilities management <input type="checkbox"/> This is part of my responsibilities <input type="checkbox"/> There is another member of staff who has this responsibility <input type="checkbox"/> Facilities management is outsourced

	<input type="checkbox"/> Something else <ul style="list-style-type: none"> – Skip if no facilities management: what is your/their role/what are they responsible for?
<ul style="list-style-type: none"> • Does the [case study site] have a building management system in operation? <p><i>NB An automated Building Management System (BMS) is a computer-based control system that controls and monitors the building's mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems.</i></p>	<ul style="list-style-type: none"> – If yes: what does this consist of? Is it a manual or an automated system? – is this is outsourced or managed in-house – if outsourced: who provides the service and what does it consist of?
<ul style="list-style-type: none"> • How important is it that your properties are as energy efficient as possible; would you say it is a high/medium/low priority)? Why is that? 	<input type="checkbox"/> High priority <input type="checkbox"/> Medium priority <input type="checkbox"/> Low priority
<ul style="list-style-type: none"> • Even where reducing energy consumption is a priority, businesses may feel it is difficult to achieve reductions in the amount of energy they use. Is there anything that you think makes it difficult for your organisation or your tenants? 	

18. Ways to Reduce Energy Costs/Consumption (10 mins)

<p>There are various ways in which an organisation can try to reduce energy consumption. Some of these relate to the way in which energy is used, such as when equipment is switched on and off, while others involve investing in improvements, such as in more efficient heating or lighting. Some of these things might be the tenant's responsibility while others might be done by the landlord.</p>	
<ul style="list-style-type: none"> • Can you outline for me the types of energy efficiency measures you consider to be the responsibility of the tenant? 	<ul style="list-style-type: none"> – <i>Prompt: any thing else?</i>
<ul style="list-style-type: none"> • And can you outline for me the types of energy efficiency measures you consider to be the responsibility of the Landlord? 	<ul style="list-style-type: none"> – <i>Prompt: any thing else?</i> – What energy efficiency measures have you put in place at the site in question?
<ul style="list-style-type: none"> • <i>Return on investment</i> 	<ul style="list-style-type: none"> – <i>explore what payback period is considered acceptable for any investment in energy efficiency measures</i>

19. Smart meters (5 mins)

<ul style="list-style-type: none"> • I should like to get your views on smart meters 	<ul style="list-style-type: none"> – what would you say are the main benefits to your organisation, if any, of an advanced/smart meter over a traditional meter?
<ul style="list-style-type: none"> • IF LANDLORD NOT RESPONSIBLE FOR ANY ENERGY BILLS AT CASE STUDY SITE 	<ul style="list-style-type: none"> – <i>Go to Section 7</i>
<ul style="list-style-type: none"> • Apart from using it for billing purposes, do you/does your organisation use any of the data available from the advanced/smart meter(s) at [case study site]? Do you share any of the data with your tenants? 	<ul style="list-style-type: none"> – <i>if advanced/smart meter data is used: go to Section 6</i> – <i>if advanced/smart meter data not used: go to Section 7</i>

20. Smart meter data users (15 mins)

THIS SECTION IS FOR LANDLORDS/FMs THAT ARE RESPONSIBLE FOR SOME/ALL ENERGY BILLS AT THE CASE STUDY SITE AND USING THEIR SM DATA. THIS MIGHT BE JUST IN RELATION TO THE COMMON PARTS OR THE UNITS OCCUPIED BY TENANTS WHERE THE LANDLORD IS PAYING THE ENERGY BILL

<ul style="list-style-type: none"> • What difference have advanced/smart meter data made to your ability to manage energy use at [case study site] <i>NB this may be in relation to common parts or individual units depending on who is responsible for the energy bills</i> <i>NB one of the things to establish is whether smart meters allows them to do what they were already doing but more effectively or whether they are now able to do things which they couldn't do before they had smart meters or were triggered by SM data</i> 	<ul style="list-style-type: none"> – <i>Explore in detail to find out what impact advanced/smart meters data have had on how energy is managed and used</i> – <i>Has it enabled them to do things that they were unable to do/weren't doing before? Has it revealed things about how they use energy that they were previously unaware of (e.g. how much energy was being used outside business hours)</i>
<ul style="list-style-type: none"> • Who is involved in collecting and providing you with your SM data? 	<ul style="list-style-type: none"> – <i>if they have signed up to an energy management service, who provides this and what form does it take? this might include their energy provider or an organisation, that collates and presents the data in a particular way</i> – <i>they might have their own bespoke software which does this – who provided/designed this?</i> – <i>do they know what the costs are of having their data collected and presented in this way? Does it represents VFM?</i>
<ul style="list-style-type: none"> • How do you access your SM data? 	<ul style="list-style-type: none"> – <i>ask them to show you e.g. on a laptop (ask if you can take photographs)</i> – <i>if they can access/create different reports/ways of presenting the data, ask them to outline the ones they use most often/find the most helpful e.g. comparing consumption over particular time periods (which)</i>

<ul style="list-style-type: none"> Who else gets to see the SM data? In what form (e.g. on a screen, in hard copy form)? What do they use it for? 	<ul style="list-style-type: none"> <i>if the data is converted into a format for use by other people, ask if you can see an example and if you can take a photograph. Who converts it? Why is it converted?</i> <i>do they share any of the data with tenants?</i> <ul style="list-style-type: none"> if no: <i>is there any reason why they don't</i> if yes: <i>what data do they share, why do they share it, what impact if any has this has on their tenants</i>
<ul style="list-style-type: none"> How easy is the data to interpret? Do you do anything with it to make it easier to use/interpret? 	<ul style="list-style-type: none"> <i>what are the issues/difficulties?</i> <i>what have they done to try to address these?</i>
<ul style="list-style-type: none"> How do you go about working out from your SM data whether there are ways in which you can save energy? 	<ul style="list-style-type: none"> <i>explore how respondent goes from 'seeing how they are using energy' to 'deciding how they could use less energy'</i> <i>explore if they use any external service providers to help; if so, who is used and what do they provide? What is the cost of this service?</i>
<p>If time permits, go through some of the stimulus – focus on S7, S9, S10 (pattern recognition) and S11 (device disaggregation)</p>	
<ul style="list-style-type: none"> <i>Explore any other information they would find helpful in terms of managing energy / encouraging them to reduce consumption? It may be to do with SM data, but it may not be</i> 	
<p>Ask for permission to re-contact, thank and close</p>	

21. Non-users of Advanced/smart meter data (15 mins)

THIS SECTION IS FOR LANDLORDS/FMs THAT ARE RESPONSIBLE FOR SOME/ALL ENERGY BILLS AT THE CASE STUDY SITE AND NOT USING THEIR SM DATA OR LANDLORDS WHO ARE NOT RESPONSIBLE FOR ANY ENERGY BILLS AT THE CASE STUDY SITE	
<ul style="list-style-type: none"> • Where Landlord RESPONSIBLE FOR SOME/ALL ENERGY BILLS AT THE CASE STUDY SITE AND NOT USING THEIR SM DATA Confirm with respondent that they are not using their smart meter data (other than for billing purposes). 	<ul style="list-style-type: none"> • Explore the reasons for this. • Can they suggest anything that would encourage them to use their SM data?
<p>Explain you are going to take them through some information about how smart meter data could be used to help them/their tenants reduce their energy consumption and costs, <u>including, where appropriate, how it might help them encourage/influence their tenants to use energy more efficiently either in terms of common parts or the tenants' use of energy (where landlord pays the bills)</u></p>	
<ul style="list-style-type: none"> • Methods of accessing/viewing smart meter data (S3): What's your reaction to what you see here? 	<ul style="list-style-type: none"> – explore interest in being able to see energy use over different time periods and how this might be of use – explore interest in different ways of accessing SM data – online via a PC, laptop, via a smart phone –
<ul style="list-style-type: none"> • Talk respondent through S7 S9 and S10 (pattern recognition) 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to you? Could it help you to encourage tenants to use energy more efficiently? • note reaction to 'killer facts' – in blue /case study - in red and example of pattern recognition software
<ul style="list-style-type: none"> • Talk respondent through S11 (device disaggregation): 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Is this something that you could take advantage of? Could it help you to encourage tenants to use energy more efficiently? Explore how respondent might use device disaggregation
<ul style="list-style-type: none"> • <u>SINGLE SITES- where respondent is responsible for a single site</u> Talk respondent through S13 	<ul style="list-style-type: none"> • Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff: • What's your reaction to what you see here? Is this something that you could take advantage of? Why is this? Could it help you to encourage tenants to use energy more efficiently?

<ul style="list-style-type: none">• <u>CHAINS/MULTI-SITES - where respondent is responsible for more than 1 site</u> Talk respondent through S14	<ul style="list-style-type: none">• Once you know how much energy you are using each day/week/month etc you can set targets e.g. to save 10%. Information about how well the target is being met can be shared with staff. You can also compare the performance of each site. Feedback can be provided for each site as well as at an area/regional level (table on left) and at a national level (table on right).• What's your reaction to what you see here? Is this something that you could take advantage of? Why is this? Could it be relevant to your tenants?
<ul style="list-style-type: none">• <i>Explore any other information they would find helpful in terms of managing energy / encouraging them to reduce consumption? It may be to do with SM data, but it may not be</i>	
<ul style="list-style-type: none">• Ask for permission to re-contact	

Recruitment Screener: Cluster 1

This topic guide should be used for external actors providing some form of energy consultancy to a case study business

11. Introduction to research

- *Researcher introduces self and the aim of the research*
 - the research is being carried out for the Department of Energy and Climate Change (if necessary, give respondent copy of Letter of Authority)
 - it is about how businesses use energy
 - it is also about experiences of advanced/smart meters and the extent to which these might make it easier for businesses to manage their use of energy
 - **confidentiality:** *the interview will be audio recorded to ensure accuracy but the recording would remain confidential to the research team. An anonymised transcript of this recording may be passed to the client, but only with their consent and it would only be used for research purposes. All of your comments will be treated as confidential and will be fed back anonymously to form part of a published research report and any quotations or comments used in this report will not be attributed personally to you or your organisation.*
 - **permission to record:** *give respondent copy of permission to record/take photographs form; ask to read and sign - reassure that there will be no identifiable attribution of quotes.*
 - **focus of the interview:** *explain that the focus of the interview is how energy is used at [name of specific site]*

12. Introduction (approx. 5 minutes)

Before conducting the case study visit, researchers should review the screening data, the Fact Finder Interview and any interviews conducted as part of the case study and highlight any issues that need following up to ensure you have a good understanding of how energy is being managed and the role of external actors.

<ul style="list-style-type: none"> • <i>Review any issues arising from FF in relation to</i> <ul style="list-style-type: none"> – <i>the business and its use of energy</i> – <i>energy management</i> – <i>the role of external actors</i> 	<ul style="list-style-type: none"> – <i>make a note of any points that need following-up and raise them at the appropriate point in the discussion</i>
<ul style="list-style-type: none"> • <i>Can you briefly outline for me the nature of your organisation?</i> 	<ul style="list-style-type: none"> • <i>Prompt what sort of services/products do you provide and what is the range/types of business you have as clients?</i> <ul style="list-style-type: none"> – <i>What is your own role within the organisation?</i>
<ul style="list-style-type: none"> • <i>Explore what respondent sees as the main message coming from government and aimed at business in relation to energy efficiency</i> 	<ul style="list-style-type: none"> – <i>ask how this is felt to impact on the priority that businesses attach to energy efficiency</i>

13. Energy Management (20 mins)

<ul style="list-style-type: none"> How did your relationship with [name of case study site] come about? 	<ul style="list-style-type: none"> – did they approach you or did you approach them? – if consultant approached the business: Were there any initial barriers to them using a consultant – what? How did you overcome these? – if business approached consultant: Why was this? What was their objective/reason for the approach? Explore what triggered the decision to involve a consultant
<ul style="list-style-type: none"> Can you sum up for me what services/products /information/advice you provide to [case study]? 	<ul style="list-style-type: none"> – <i>Explore full range of help offered</i> – <i>this might be the same as above or a sub-set of the services available</i>
<ul style="list-style-type: none"> Would you say [case study] considers reducing its energy consumption to be a high/medium/low priority? 	<ul style="list-style-type: none"> – Why do you say that? Probe for reasons why {case study} considers reducing their energy consumption to be a high/medium/low priority
<ul style="list-style-type: none"> What recommendations have you made to [case study] in relation to energy management? 	<ul style="list-style-type: none"> • <i>for each recommendation made, explore</i> <ul style="list-style-type: none"> – <i>whether it was accepted/implemented; if not, why was this?</i> • <i>for those recommendations implemented:</i> <ul style="list-style-type: none"> – <i>the financial cost, if any and if known, of taking the action</i> – <i>the extent to which this resulted in any savings (if known)</i> – <i>what role, if any, smart meter data has played</i> – <i>if they know the cost and the savings, what is the expected payback period</i>

14. Advanced/smart meter data (20 mins)

<ul style="list-style-type: none"> • What advantages, if any, do advanced/smart meters offer businesses such as [case study]? Any downsides? 	
<ul style="list-style-type: none"> • Are there any challenges in getting organisations interested in, and making use of, the data from smart meters? 	<ul style="list-style-type: none"> – <i>explore nature of any challenges and how these can be addressed</i>
<ul style="list-style-type: none"> • Did you/your organisation play a role in the decision by [case study] to have smart meters in the first place? 	<ul style="list-style-type: none"> – <i>explore what role they played including any reasons they gave for recommending smart meters</i>
<ul style="list-style-type: none"> • If [case study] not using SM data: 	<ul style="list-style-type: none"> – <i>explore why this is and any suggestions that could encourage [case study] to start doing so</i>
<ul style="list-style-type: none"> • If [case study] is using SM data: 	<ul style="list-style-type: none"> – <i>explore what role respondent/respondent's organisation has in collecting and using data from the meters</i> – <i>how the data/information is made available to [case study] e.g. via web etc</i> – <i>how often reports etc are provided (daily/weekly/monthly etc)</i> – <i>whether the service provided by respondent/respondent's organisation includes the interpretation of the data or just the data</i> – <i>if interpretation/advice offered, what form does this take – ask for examples</i> – <i>explore what SM data respondent considers is most useful and why both in relation to the case study site but also to businesses more generally</i>
<ul style="list-style-type: none"> • What difference have smart meter data made to [case study]? <p>NB <i>one of the things to establish is whether smart meters allows them to do what they were already doing but more effectively or whether they are now able to do things which they couldn't do before they had smart meters or has been triggered by smart meter data</i></p>	<ul style="list-style-type: none"> – <i>Explore impact smart meter data have had on how energy is managed and used</i> – <i>Has it enabled them to do things that they were unable to do/were not doing before? Has it revealed things about how they use energy that they were previously unaware of (e.g. how much energy was being used outside business hours)</i> – <i>Has it enabled them to see which items of equipment use most energy? How has it done this? Has this led to any changes in equipment or to the way equipment is used?</i> – <i>Has it helped them evaluate the impact of any changes to the way they use energy? If it has enabled them to save energy/money, are they able to say what the level of savings has been?</i> – <i>Has it enabled them to set targets and monitor how well they are doing against these?</i> – <i>Has it enabled them to engage their staff more effectively with energy saving? How successful has this been? How has it done this?</i>

15. Ways of using SM Data (15 mins)

<p><i>Explain you are going to take them through some information about how smart meter data could be used to help businesses reduce their energy consumption and costs. You are interested in how relevant these may be to [case study] site but also respondent's thoughts about how relevant the ideas might be to any business</i></p>	
<ul style="list-style-type: none"> • Talk respondent through S7, S9 & S10: explain these are examples of using pattern recognition software to identify how energy is being used 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to [case study]? What about other businesses? • Probe for perceived pros and cons including reasons why it is/isn't relevant/useful and whether it is more relevant/useful to certain types of business (which)
<ul style="list-style-type: none"> • Talk respondent through S11: explain that software can also be used to work out which different items of equipment are being used 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to [case study]? What about other businesses? • Probe for perceived pros and cons including reasons why it is/isn't relevant/useful and whether it is more relevant/useful to certain types of business (which)
<ul style="list-style-type: none"> • Display S13: explain SM data can be used to set energy targets and feedback can be provided about whether these are being met 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to [case study]? What about other businesses? <ul style="list-style-type: none"> – Probe for perceived pros and cons including reasons why it is/isn't relevant/useful and whether it is more relevant/useful to certain types of business (which) – Explore, in particular, the perceived pros and cons of a business having a visual display showing how much energy is being used in near real time
<ul style="list-style-type: none"> • Display S14: explain that where a business has more than 1 site, comparisons can be made about energy consumption; this can be shown at different levels e.g. for individual sites, aggregated by region, etc 	<ul style="list-style-type: none"> • What's your reaction to what you see here? Could it be relevant to [case study]? What about other businesses? <ul style="list-style-type: none"> – Probe for perceived pros and cons including reasons why it is/isn't relevant/useful and whether it is more relevant/useful to certain types of business (which) • Explore reactions to the idea of using something similar for businesses based at a single site by comparing the to other similar businesses
<ul style="list-style-type: none"> • Explain that some of these types of service might be offered 'free' by energy suppliers or there might be a charge involved 	<ul style="list-style-type: none"> – explore respondent's views on these types of service being charged for based on their experience of working with businesses such as [case study]; how big a barrier might this be?
<p>Ask for permission to re-contact</p>	

Annex J – Stage 2 Case Study Stimulus Material

Using Smart Meter Data to Identify Energy Savings



Using Smart Meter Data to Identify Energy Savings



Job No. 646 V3 02/12/15

Options for reducing energy consumption/costs/CO₂ emissions

Change

- tariff/supplier
- timing e.g. take advantage of Economy 7 type tariffs
- energy source e.g. switch from electricity to gas
- the things you produce/sell
- production processes e.g. change the timings of the heating system
- behaviour e.g. incentivise/train staff to use energy more efficiently

Invest in

- improved building insulation
- new/refurbished equipment
- servicing existing equipment
- improve heating/cooling/lighting systems
- auto-generation e.g. solar panels

Creative Research 2

Your smart meter(s) provide information about your use of energy



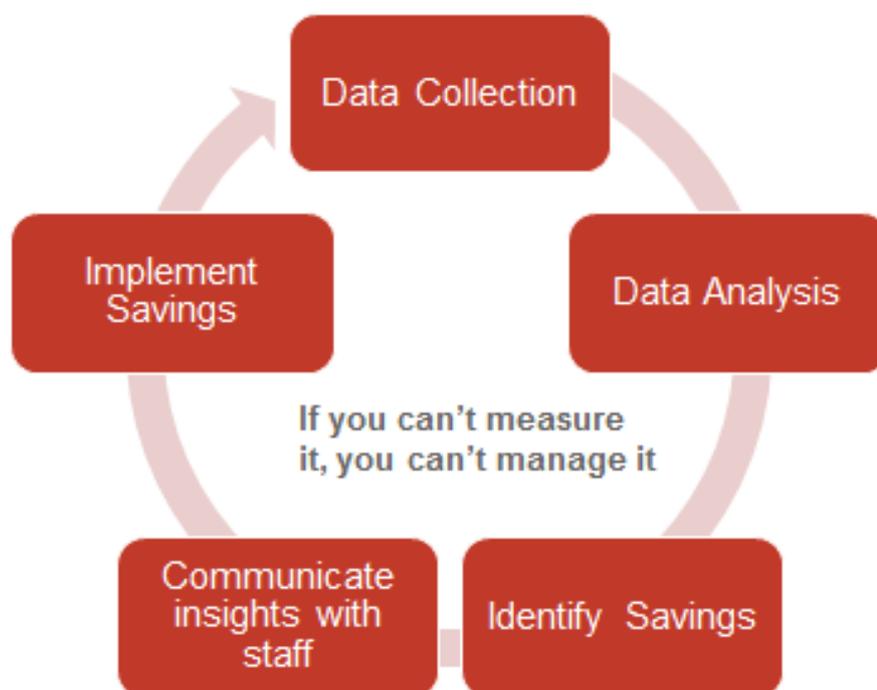
Near real-time information on energy usage, so you can see what you have used, typically, for every half hour. Information can be displayed to show consumption over different periods e.g. daily, weekly, monthly, yearly

Information can be displayed/ accessed in a number of ways, such as through interactive web based reports that you log onto using a laptop or smartphone. Hard copies can be printed out.



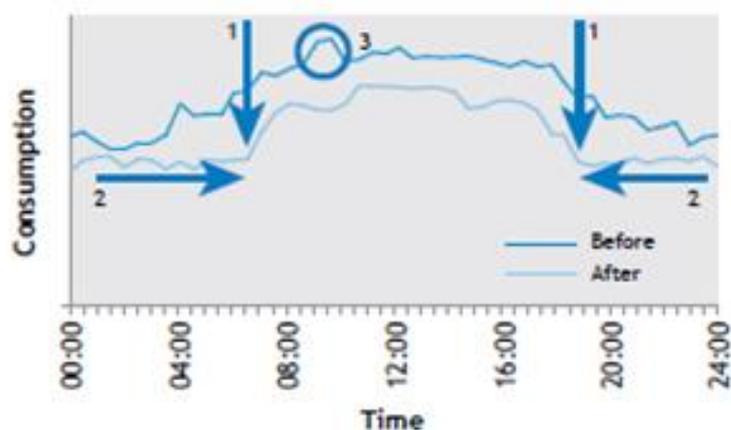
It may also be possible to show real-time information on a visual display

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Smart meter data can help you to understand how you use energy, reveal opportunities for reducing consumption and measure the impact of any changes ⁴

By knowing the 'energy profile' of your business, you can start looking at ways to reduce your consumption



In this example, the business has:

1. Lowered the overall use of energy
2. Altered the start-up and shutdown times of key processes and equipment
3. Understood and addressed the causes of peaks in energy use

A good starting point is to look at how much energy you consume outside normal operating hours

46% of electricity in businesses is used outside of standard operating hours. (SME Guide to Energy Efficiency; DECC, 2015)

A base load of 1kW costs around £1,000 a year. (SME Guide to Energy Efficiency; DECC, 2015)

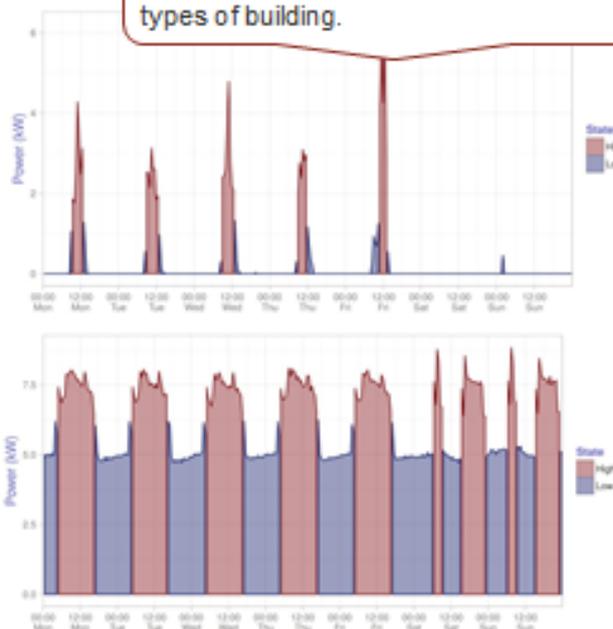
Some businesses will have equipment, like refrigerators and alarms, which need to be running all the time. But non-essential equipment left on overnight will be wasting energy.

A photocopier left on standby overnight wastes enough energy to make 30 cups of tea. (The Carbon Trust)

An engineering firm is saving £596 a year from a 'Switch Off' campaign to ensure all office computers are turned off at the end of the day and at weekends. (Source: SME Guide to Energy Efficiency; DECC, 2015)

One option is to put all non-essential equipment on a separate circuit-breaker/switch which can be turned off when the site closes.

A building that is unoccupied overnight should use very little gas at night. Pattern recognition software can contrast and compare similar types of building.



The two charts show average weekly gas consumption patterns from two similar buildings of two very similar organisations. (Source: kWIQly GmbH)

A simple, inexpensive fix – installing a thermostat and time-clock combination which is set appropriately.

By installing a £100 timer to its existing heating system, the Chinese Contemporary Arts Centre in Manchester is saving over £4,000 a year. (Source: SME Guide to Energy Efficiency; DECC, 2015)

Review how energy is used throughout the working day

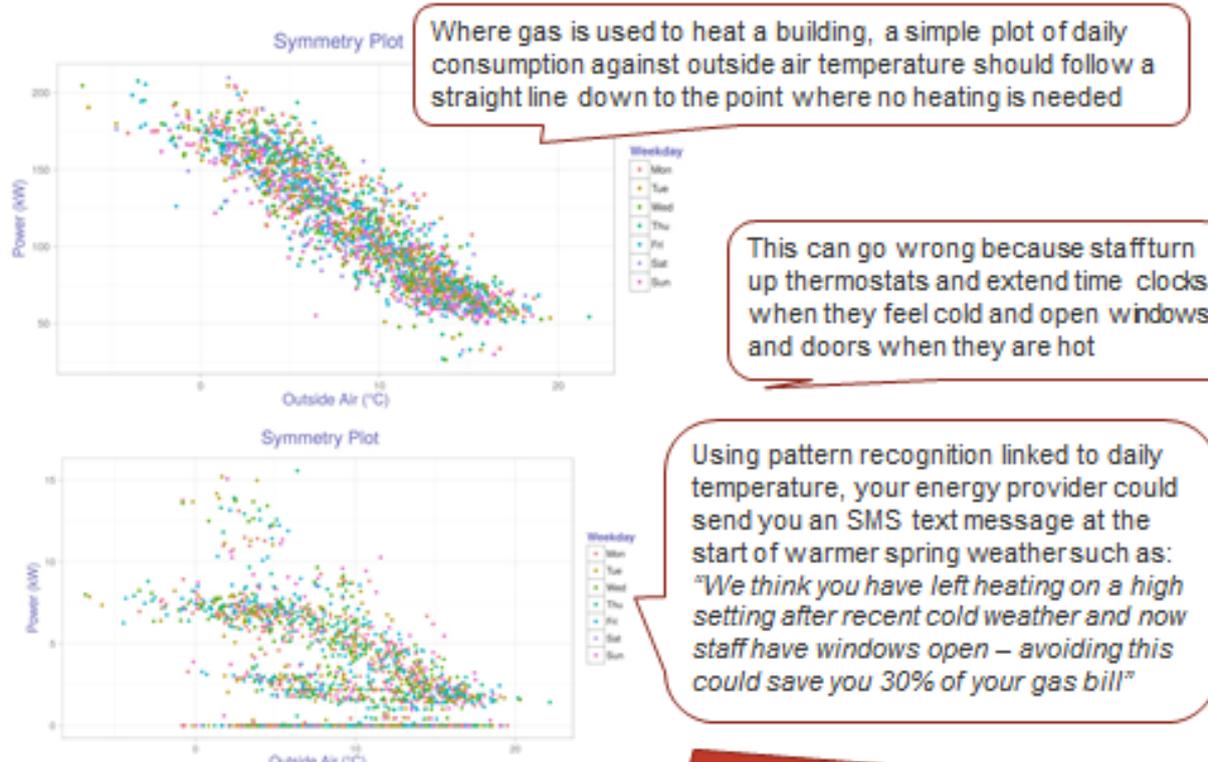
Based on experience, the average SME could reduce its energy bill by 18-25% by installing energy efficiency measures with an average payback of less than 1.5 years. And it is estimated 40% of these savings would require zero capital cost.
(Source: SME Guide to Energy Efficiency; DECC, 2015)

For example, checking that items of equipment only get switched on when they are needed

- putting stickers on ovens and grills telling staff how long a piece of equipment takes to reach operating temperature
- turning the heating off 1 hour before closing time

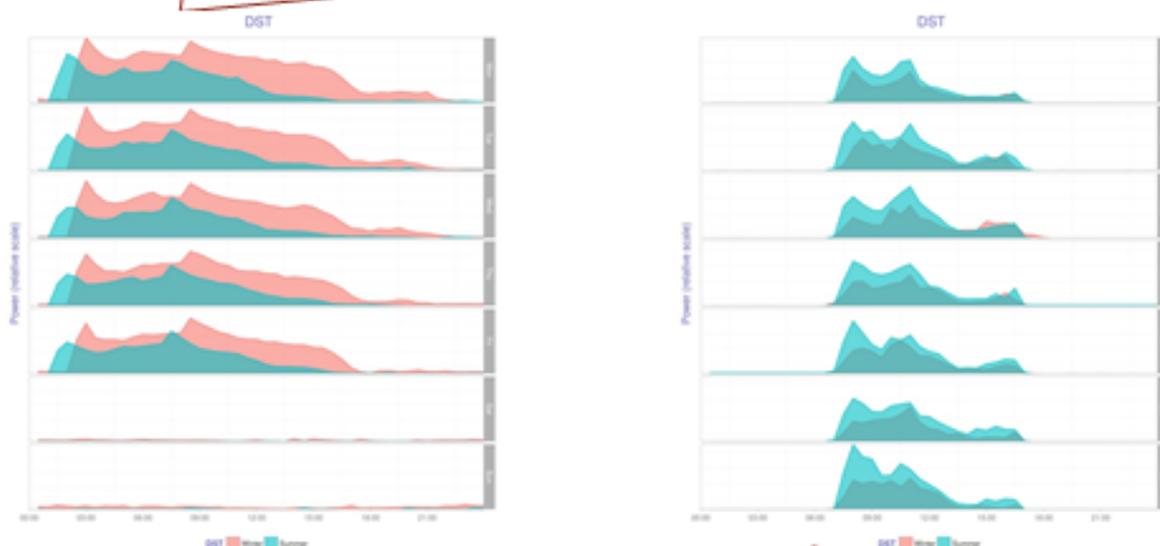
'Pattern recognition' software can be used to identify further opportunities for saving energy e.g.

- linking energy consumption for heating to external temperature
- checking that controls have been adjusted correctly when the clocks go forward/back



This approach of linking gas consumption to daily temperatures was used by a chain of pubs and resulted in savings of some 11% in their annual gas consumption.
(Source: kWIQly GmbH)

As the clock changes each year, we would expect daily energy consumption profiles to shift to the left "Spring forwards" in March and "Fall back" in October.

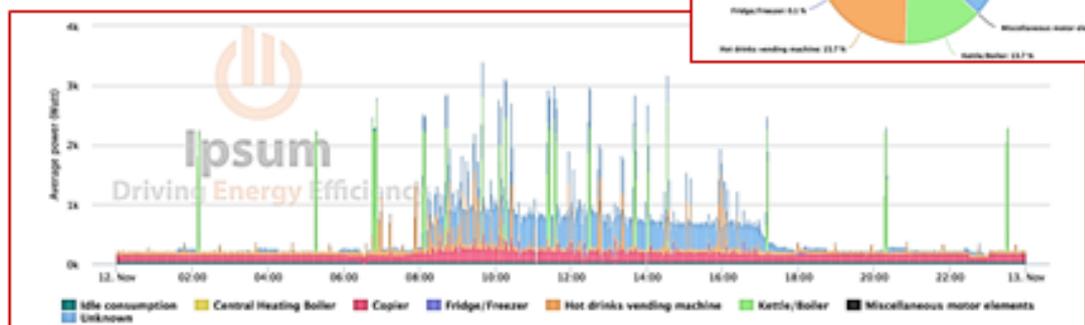
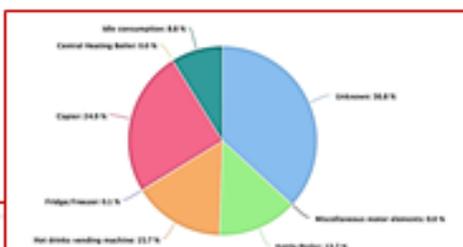


In our experience (based on over 25,000 gas meters) over 35% do not - a few turn the clocks the wrong way - this is seen in about 2% of gas meters we see. (Source: kWIQly GmbH)

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Do you know how much energy individual appliances use and what they cost to run?

- You can find out by subscribing to a service that uses software to identify which items of equipment are in use at different times and how much energy they are consuming e.g.
 - identifying equipment that is switched on when it is not needed – e.g. perhaps the automated controls have been manually over ridden and not reset
 - identifying equipment that is using more energy than it should – e.g. perhaps an air conditioning unit needs servicing



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Encourage and engage your staff

Feedback on consumption is necessary for energy savings. Good feedback is clear, easy to interpret and expressed in terms that a user can understand.

Feedback such as 'this machine uses 0.945 kWh of electricity per use' or 'turn off the lights' may not sound very engaging to staff.

Specific 'cost' messages like 'this machine costs us £1,000 every month, please use responsibly' will almost certainly have a bigger impact on your workforce

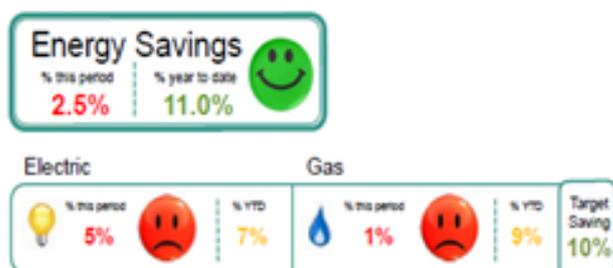
12

Encourage and engage your staff

Energy Savings Report



You can use your smart meter data to set meaningful targets and then measure how well these are being met and feedback the results to your staff



Target being met/exceeded
 50%+ towards meeting target
 Less than 50% towards meeting target



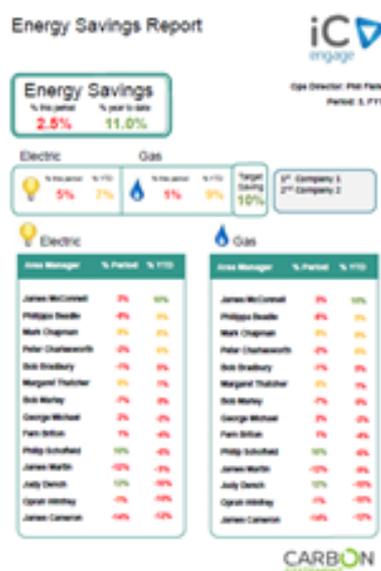
A visual display could be used to provide staff with real-time feedback.

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Encourage and engage your staff

Target being met/exceeded
 50%+ towards meeting target
 Less than 50% towards meeting target

You can use your smart meter data to set meaningful targets and then measure how well these are being met, compare the performance of different sites and feedback the results to your staff.



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Ask an Energy Service Provider

Energy service providers will be able to spot patterns and make recommendations based on any information you collect. They also have access to software and tools which many small businesses cannot justify buying

Some services may be provided free of charge. Other services, that might be charged for, include:

- monitoring your energy use over different periods taking into account other factors such as local temperature and business operating times (S9)
- using software to identify opportunities for saving energy e.g.
 - determining if the heating is left on overnight/longer than necessary (S7)
 - during spring/autumn (i.e. as it gets warmer/colder) identifying unadjusted thermostats (S10)
 - Identifying which items are in use at different times and how much energy they are consuming (S8)

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Other Sources of Information and Advice

Energy Saving Mentor

Someone with experience of running a business similar to yours who has achieved affordable energy savings in their own business.

The mentor would offer information and advice about how you could use your smart meter data to make savings

Local Networking

Local businesses coming together to share their experiences and discuss how best to save energy.

Meetings could involve local business people who have made worthwhile energy savings

Case Studies

Examples of other businesses similar to yours showing how they have reduced their energy consumption including:

- how they used their smart meter data to help achieve savings
- what they did to save energy
- the cost of the measures
- the savings they achieved
- the pay back period

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Green Lease

What is a Green Lease?

A standard lease with additional clauses which provide for the management and improvement of the Environmental Performance of a building by both owner and occupier(s).

Clauses may cover sharing of data (e.g. energy consumption) and co-operation on improving Environmental Performance (e.g. an agreed approach to making the building as energy efficient as possible including how costs should be shared).

It is legally binding and its provisions remain in place for the duration of the term.

What is a Memorandum of Understanding?

Similar to a green lease, a MOU is not legally binding, can be updated from time to time without amending the lease and can remain in place for any chosen length of time. It generally provides a faster route to agreement than is possible with a green lease.

Creative Research 17

Annex K – Stage 2 Analysis Framework

Recruitment Screener: Cluster 1

You should produce a single, detailed set of notes for each Case Study. This should be structured using this template. If your case study raises issues which do not appear to fit under any of the sub-headings, you should create some new headings at the end of the relevant section. If it doesn't appear to fit under any of the main headings, please add it under '12 Other issues'. Please email other members of the research team with details so if appropriate, we can all follow suit.

You should identify each actor using a different font colour and provide a key to show which colour relates to each actor (see example below and grid over page). You should include any feedback from implementers/energy users under the relevant sections. This will enable us to see where different actors are providing different parts of the overall picture.

You should set out the findings as a series of statements/bullet points. Where possible, findings should be 'triangulated' - where the same point has been made by two or more actors, this should be indicated by the use of 'ditto' in the appropriate colour. In the example below the first actor had stated that reducing energy consumption is a low priority and this was then confirmed by one further actor. Similarly, where there are discrepancies in terms of what different actors report, this should also be noted. In the example below, the third actor offered a different perspective.

Findings need to be supported wherever possible with evidence. This will principally take the form of verbatims which should be shown in italics within speech marks and colour coded.

- reducing energy consumption is a low priority; ditto; rated as a high priority

“Reducing our energy consumption is a low priority for us.”

“From my perspective, trying to lower our energy consumption is a high priority.”

Where it is not possible to provide a verbatim (e.g. if the only relevant examples are too long or convoluted) then a simple statement of the finding should be provided.

Wherever relevant, other supporting evidence should be cited e.g. in the form of researcher observations, photographs, copies of documents, etc. Please provide a list of all supporting evidence (photographs, copies of documents) in the appendix, along with a unique ID (e.g. Cn.nP1, Cn.n.P2, Cn.,n.D1 where Cn.n indicates the Case Study and P1/D1 indicates either a photograph or a document. Where it is appropriate to do so, you can insert images into the body of the write-up. Please ensure you send me electronic copies of all such material. In

the case of paper documents, either scan or copy these then send me the originals via Special Delivery.

Once you have written up the case study, you should populate the pathway map.

Some of the results of the Fact Finder interview need to be incorporated into your write up. The Fact Finder is an HTML document which opens in your web browser. You can print it out using the browser print command. You will need to do this **before** you carry out the case study visit so you can highlight any issues to follow up during the visit. You will also receive a spread sheet which identifies each question and sets out the replies. You can use this to cut and paste information into the template. I have indicated in the template the relevant questions e.g. FFQ14.

Please save each write up using the case study ID e.g. C7.7 Analysis and send a copy to me and to Miranda.

Case Study site and Actors

List below all the name and address of the case study site and the actors who have taken part

FFQ14

ID	Name	Title	D (decision maker) I (implementer) E (user)	Organisation (if not employee of case study site)
A1				
A2				
A3				
A4				
A5				
A6				
ID	Outline the role of each actor in terms of energy management/implementation/energy use			

Annex K – Stage 2 Analysis Framework

A1	
A2	
A3	
A4	
A5	
A6	

Organisational Context

Please identify and describe the organisational factors that seem to have a bearing on energy use/management. The table below lists the main ones to consider and where these are addressed via the FF. You should supplement this information with any findings from the case study visit including any new factors. For example, FFQ23/24 will summarise the size of the case study site in terms of employees but in the case of chains/multisite businesses, you will need to comment on where control lies. Likewise, FFQ58 addresses aspects of organisational culture but much of the information will be based on what impressions you have formed

Organisational Context	
Operations and premises – types of business and activities taking place, hour of operation, etc; main uses of energy	FFQ9, 32/33
Occupancy patterns (one vs. multiple building occupants) and who occupies the building including public access	FFQ13
Size of organisation (large: 250+; medium: 51-249; small: 11-50; micro: <11 employees)	FFQ21/22
Business site composition and control e.g. where energy efficiency is driven by central management	FFQ23/24
Energy intensity of operations and premises	FFQ28
Budgeting and financial control arrangement	
Human resources, organisational culture and/or structure e.g. extent to which energy efficiency is systematised	FFQ51-58
Process standardisation or Quality Assurance e.g. extent to which energy management systems are standardised	FFQ51-53
Building management incentives and structure e.g. organisational arrangements and/or incentives to reduce consumption	FFQ53-55, 78 (energy targets?)
Nature of building	FFQ59-60
Active building facilities management	FFQ61-66
Is there an environmental policy in place	FFQ67/68
Has an energy audit been carried out	FFQ69-72
Legal arrangements, e.g. building lease, which have an influence on the tenant's ability to manage their energy; may also relate to things like planning issues	FFQ76,87-89

- Briefly outline the nature of the site/business drawing on your observations as well as information from actors and any other relevant sources.
- Summarise each organisational factor that applies to the business **as a separate bullet point(s)** plus any quotes etc
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is 'typical'

Use of Energy

Types of energy

- Summarise the different types of energy in use (elec, gas, etc including any renewables)
- Summarise the types and numbers of meters; if have multiple meters, summarise reason/use (e.g. if have 2+ electricity meters)

Use of energy:

- Energy intensity (high/medium/low) – based on FF plus your own observations/learnings
- Main activities that account for use of electricity including any items of equipment/apparatus that use lots of/most electricity
- Main activities that account for use of gas including any items of equipment/apparatus that use lots of/most gas
- Main activities that account for use of other forms of electricity including any items of equipment/apparatus that use lots of/most electricity

NB client is interested to know if any organisations are using a low carbon form of heating such as biomass boiler, ground source heat pump so if you come across these please mention it

- Summarise any variations in energy use (daily, weekly, monthly, etc)
- What proportion of the total operating cost of the site is taken up by energy; reasons/explanation
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is 'typical'

External Factors

Please identify and describe any external factors that seem to have a bearing on energy use/management. The table below lists the main ones to consider and where these are addressed via the FF. You should supplement this information with any findings from the case study visit including any new external factors. For example, if the business says that it wants to be seen as 'green' but you found little evidence of this, please comment to this effect.

External Context	
Technological innovation that has resulted in increased energy use which needs to be managed	
Reputational drivers – wanting to be seen as 'green', 'energy efficient'	FFQ74
Financial incentives or commitments to reduce consumption e.g. environmental awards	FFQ78
Government policy drivers e.g. CRC Energy Efficiency Scheme (CRC), Climate Change	FFQ74

Agreements (CCAs), Climate Change Levy, Energy Savings Opportunity Scheme (ESOS) Applies to large businesses only	
Competition and profit margins	FFQ74
Energy price	FFQ78
Climate change	FFQ74
Planning restrictions	FFQ76
Supply chain pressure	FFQ74/78
Perceived messages from government aimed at businesses in relation to energy efficiency	

- Summarise each external factor that applies to the business **as a separate bullet point(s)** plus any quotes etc
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is ‘typical’

Decision Making

- Outline how the business goes about making decisions about its use of energy, including who is involved (including whether anyone is responsible for facilities management/BMS), how decisions are made. Include details of all decision makers and implementers (including any you have not interviewed) and the main users of energy
- Outline the extent to which decision making is centralised/devolved
- Outline the extent to which staff are involved/encouraged to use energy efficiently

Expertise

- What level of expertise about EM exists?
- Where does the expertise lie – in-house vs out of house, head office vs. individual sites, dedicated staff vs. generalists (i.e. just one of their roles)
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is ‘typical’

Triggers and Problems that Stimulate Action; Drivers

- Summarise importance of reducing energy consumption and reasons why
- Perceived level of control over energy use and reasons why
- Outline main barriers to action

Annex K – Stage 2 Analysis Framework

Some of the barriers mentioned at stage 1	
Energy represents a small % of operating costs Staff compliance Mgrs of individual sites may be given 'responsibility' for energy consumption but lack decision making power Lack of information, time and expertise Perceived lack of control over energy use Unable to link overall consumption with individual items of equipment or demonstrate impact of measures No sharing of best practice Operational and aesthetic considerations Franchise owner constraints	Distrust of advisors and reluctant to pay for advice Disruption to business Lack of ready funding Not prioritised by senior managers/governing board Lack awareness of data/ability to access it/knowledge of how to use it Perceived lack of control over energy use Scepticism about savings that are achievable and reluctance to invest Experiences of energy contracts and switching supplier Tenancy arrangements

- Describe key triggers

Some of the triggers mentioned at stage 1	
Motivated, knowledgeable, empowered decision maker Energy champions/Footprint leaders Cross-site comparisons and sharing best practice Cost of energy/contract renewal Lease renewal Refurbishment & asset renewal Shareholder requirements Requirements of franchise owner	Presentation of benefits of smart meters/LEDs Increasing bills Reduction of capital budget/other constraints requiring cost reduction Taking advantage of funding streams Reduction of capital budget/other constraints requiring cost reduction Comparisons with other schools Third party recommendations

- Views around ROI in relation to energy efficiency measures
- Summarise key drivers behind energy management

Some of the drivers mentioned at stage 1	
Cost reduction/increase profits CO2 emission reduction/climate change CSR commitments Release of budget for learning Government policy drivers In-house or external 'expert'	Success in securing of funding Early demonstration of savings To provide greater control over energy use/billing Compliance with franchise agreement To provide greater control over energy use/billing

- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is 'typical'

Ways to Reduce Energy Costs/Consumption

- Summarise actions taken. In each case, summarise as far as possible
 - what triggered the action
 - were any external actors involved; if yes: who and in what way
 - the financial cost, if any and if known, of taking the action
 - the extent to which this resulted in any savings (if known)
 - what role, if any, smart meter data has played
 - if they know the cost and the savings, what is the expected payback period

- Summarise why other/further actions have not been taken
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is 'typical'

Non-domestic Smart Meter Context

Experience of SM

- Awareness of SM – summarise if respondents aware they have smart meter
- Data first SM installed
- Summarise understanding of advanced/smart meters – what they can do/benefits/disadvantages
- Summarise reasons SM were installed
- What information/guidance/help about advanced/smart meters was provided
 - check for information etc provided pre-installation/during installation/post-installation
 - who provided this; who received it
 - what did they find helpful? what more/else could have been done that would have been helpful?
- If business has a mix of advanced/smart and traditional meters – explore why only some are advanced/smart, which aspects of energy use are linked to advanced/smart meters and what proportion of energy usage is accounted for by advanced/smart meters
- Outline any difficulties/challenges around SM
- If not using SM data, explain in as much detail as possible why this is – apart from lack of awareness of availability of/access to SM data, are there any other barriers?
- Describe in detail what impact advanced/smart meters data have had on how energy is managed and used – if relevant, refer back to earlier discussion about any changes/investments they have made in relation to reducing their energy consumption
 - Has it enabled them to do things that they were unable to do before? Has it revealed things about how they use energy that they were previously unaware of (e.g. how much energy was being used outside business hours)
 - Has it enabled them to see which items of equipment use most energy? How has it done this? Has this led to any changes in equipment or to the way equipment is used?
 - Has it helped them evaluate the impact of any changes to the way they use energy? If it has enabled them to save energy/money, are they able to say what the level of savings has been?
 - Has it enabled them to set targets and monitor how well they are doing against these?
 - Has it enabled them to engage their staff more effectively with energy saving? How successful has this been? How has it done this?

Users of advanced/smart meter data

- Who is involved in collecting and providing the SM data?
- How is SM data accessed?
- Reactions to S3
- Who else gets to see the SM data? In what form (e.g. on a screen, in hard copy form)? What do they use it for?
- How easy is the data to interpret? Is anything done with it to make it easier to use/interpret?
- How do they go about working out from SM data whether there are ways in which they can save energy?
- NB in the case of chains/multi-sites with some degree of central control record the extent to which the case study site is 'typical'

Mediator, Information Provider and Analyst Context

Role of external organisations

- Outline whether organisation has used/uses external organisations in terms of energy management and what role each has played including energy suppliers, energy consultants, trade/professional bodies, etc

SM Data Journey

Write this up based on which elements of the journey you were able to cover

- Methods of accessing/viewing smart meter data (S3)
- Awareness of energy use outside normal business hours; reactions to S6/7
- Awareness of energy use during normal business hours; reactions to S8-10
- Awareness of how much energy individual appliances use and what they cost to run; reactions to S11
- Reactions to S12-14 (as appropriate)
- Reactions to S15 – willingness to use energy service providers/willingness to pay for such services
- Who they would go to for advice about their energy use – who would they listen to/trust?
- Reactions to Energy Saving Mentor/Local Networking/Case studies

Landlords and Tenants

Tenant's Perspective

- Details of lease:
 - length and how many years remaining
 - type/nature of lease
 - who/how are energy bills paid – where relevant, identify arrangements for common parts as well as tenant's premises
- Extent to which terms of lease impact on energy use
- Views on Green Lease (when interviewing respondent with strategic overview)

Landlord Perspective – Leasing Arrangements

- Nature of organisation
 - number and range/types of properties in portfolio
 - are these properties owned or are they managed on behalf of the property owners
 - range/types of businesses as tenants
 - respondent's role/responsibilities
- Lease arrangements
 - typical length
 - types of lease
 - policy regarding refurbishment/repairs
- Green lease: awareness and reaction to
- Billing arrangements at case study site

Landlord Perspective: Energy management

- Summarise decision making
 - who is involved/is there an Energy Manager/full time? etc
 - where decisions are taken – head office vs. individual sites
 - any targets/incentives

- Issues of control
 - level of control/reasons for this
 - importance of influencing tenant's use of energy/extent to which able to do this
- Management of case study site building including facilities management/BMS
- Importance of having energy efficient buildings/reasons
- Barriers to energy efficiency
- Energy efficiency measures
 - summarise those things considered to be the tenant's responsibility vs. landlord's responsibility
 - measures landlord has implemented at case study site
 - views on ROI

Landlord Perspective: Smart Meters

- Perceived benefits

Smart Meter Data Users

- What difference SM data makes to energy management at case study site
- Summarise how SM data is used
 - who is involved in collecting/providing the data
 - how the data is accessed
 - who else has access
 - ease of interpretation
 - how use SM data to identify energy savings
- Summarise reactions to any of the stimulus shown
- Any else that would be helpful in terms of managing energy

Smart Meter Data Non-users

- Summarise reasons for non use and anything that would encourage use
- Reactions to S3
- Reactions to S7/9/10 (pattern recognition)
- Reactions to S11 (device disaggregation)
- Reactions to S13/14
- Any else that would be helpful in terms of managing energy

Energy Consultants

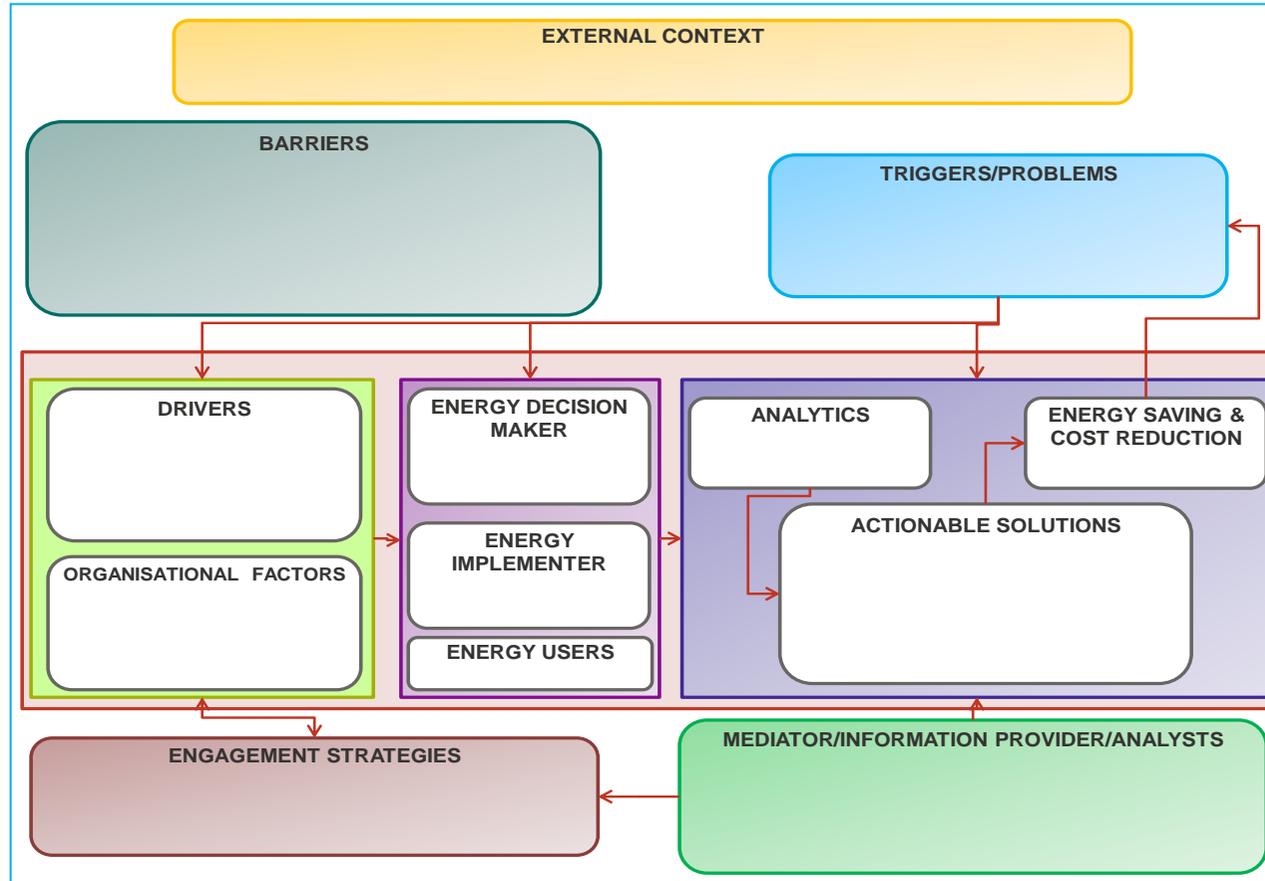
Energy Management

- Summarise range of products/services offered and range of clients; respondent's role
- Main government messages aimed at businesses re energy efficiency and impact this has
- Summarise history of relationship with case study site and the services provided
- What priority case study organisation gives to energy efficiency
- Summarise any recommendations made and any outcomes where known

Smart Meter Data

- Perceived advantages/downsides
- Challenges in getting organisations interested in SM data
- What role, if any, played in case study organisation's decision to have SM
- If SM data not being used by case study site: why is this/what might encourage them to do so
- If SM data being used: summarise how
- Summarise what difference/impact SM data has made to case study
- Summarise reactions to any stimulus shown – both its relevance to case study and to businesses more generally
 - S7/9/10 (pattern recognition)
 - S11 (device disaggregation)
 - S13/14
 - views on charging

Pathway Map



Please construct a pathway map for this case study. You can double click on the pathway map to edit/write in details into individual boxes

Appendices

Please provide a list of any supporting evidence you have in the way of photographs and documents and assign a code to each. Use this code when referring to the evidence in the body of the write-up.

Annex L – Sample Achieved By Each Stage of the Research

Stage 1 Case Studies: Achieved Sample

The 16 case studies were conducted from a cross-section of organisations drawn from clusters 1 to 4 as shown in **Error! Reference source not found.** below. Each case study was assigned a unique identifier.

Table 3: The 16 Case Studies

Cluster 1	Cluster 2	Cluster 3/4
Coffee shop (franchise)	Secondary school (under local authority (LA) control)	Restaurant and B&B
Pub with restaurant	Primary school (under LA control)	Repair Garage
Bakery with two shops	Secondary school (Academy)	Laundrette
Restaurant	Lower and middle school (under LA control)	Hotel with restaurant
Coffee shop (franchise)	Secondary school (Academy)	Textile/art shop
		Cycle shop

As noted above under ‘Actors’, it was intended to include a range of internal actors, including decision makers, implementers (those involved in implementing energy management decisions) and energy users, as well as external actors, such as landlords and energy consultants. However, there was a considerable reluctance to allow users to participate in the case studies – particularly in the small, independent cluster 3/4 sites – as, being customer-facing organisations, their participation would take them away from customers. Only one user interview was conducted. It also proved very difficult to include landlords, with only two landlords/property managers interviewed in total. This was primarily because the clusters selected for Stage 1 meant that majority of case studies were owner occupier sites. Only one case study included an energy consultant, as no other sites were found to be working closely with consultants.

A full breakdown of actors by cluster is shown in Table 2.

Table 4: Breakdown of Interviews showing the number of internal and external actors by cluster and role

		Cluster 1	Cluster 2	Cluster 3/4	Total
	no. of case studies	5	5	6	16
Roles[#]					
Internal Actors	Decision maker	5	7	7	19
	Implementer	5	6	1	12
	User	1	-	-	1
External Actors	Landlord	-	-	2	2
	Energy Consultant	1*	-	-	1
	LA Energy Mngr.	-	1	-	1
	Total	12	14	10	36

[#] There was considerable overlap of internal actors with the same individuals often fulfilling more than one role. To avoid double counting, each participant has been counted just once. Decision makers may also have been implementers and/or users. Anyone classed as an implementer was not involved in decision making (but may also have been an energy user). Anyone classed as a user was not involved in decision making or implementing decisions.

*A second short interview was conducted with a second energy consultant by telephone and email but is not shown here.

Stage 1 Follow Up Interviews: Achieved Sample

A list of the 15 types of organisations that took part in the depth interviews is shown below in **Error! Reference source not found.**

Table 5: The 15 Organisations taking part in the Depth Interviews

Cluster 1	Cluster 2
Pub with restaurant and guest rooms	Secondary school (Academy)
Bakery and coffee shop retailer	

Table 5: The 15 Organisations taking part in the Depth Interviews

Cluster 1	Cluster 2
Restaurant	
Cluster 3/4	
Hair salon	Florist
Picture framer	Café
Convenience store	Restaurant
Cycle shop	Electronic repair shop
Optician	Hardware store
Restaurant with rooms	

Stage 2 Fact Finders: Achieved Sample

The 79 case studies were conducted from a cross-section of organisations drawn from the five clusters as shown in **Error! Reference source not found.** below. The number in each cluster reflects the number required to achieve the target number of case studies in each cluster rather than being an even spread across the clusters.

Table 6: The 79 Fact Finders

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Landlords
Restaurant	Furniture shop	Dairy farm	Chartered accountant	Offices and business parks landlord
Café	Clothing retailer	Dairy farm	Chartered accountant	
Motor factor	Jewellery retailer	Clothing manufacturer	Business advisor and accountant	
Dry cleaner	Clothing retailer	Furniture manufacturer	Vacuum technology consultancy	
Gym	Car showroom	Conservatory roof manufacturer	Design consultancy	

Table 6: The 79 Fact Finders

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Landlords
Restaurant	Discount retailer	manufacturer of security storage boxes	Exhibition services	
Convenience store	Car sales & repairs	Sign manufacturer	Community business advisor	
	Clothing retailer	Poultry farm	Chartered Surveyor	
	Discount retailer	Manufacturer of machine tooling dies for the packaging industry	Specialist design consultancy	
	Car sales & repairs	Office equipment maintenance & supply	Architects	
	Health & beauty retail	Electrical engineers	Drilling engineering consultancy	
	Clothing retailer	Diesel fuel injection repairers	Branding & marketing agency	
	Sportswear & equipment retail	Manufacturer and repairer of agricultural buildings and equipment	Highways maintenance engineering consultancy	
	Garden centre	Electric testing equipment manufacturer & distributor	Security industry consultancy and wholesaler	
	Travel agent	Packaging merchants	Online auctioneers	

Table 6: The 79 Fact Finders

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Landlords
	Fleet hire	Importers and distributors of communications equipment	Loadbank manufacturer and data services consultancy	
	Food retailer	Importer and manufacturer of fresh food packaging	Occupational therapist	
	Betting shop	Sign manufacturer	Architectural building & planning consultants	
	Building society	Control panel manufacturer	Skin consultants	
	Travel agent	Packaging distributor	Importers and distributors of clothing	
		Manufacturer of plastic products and enclosures	Architects	
		Electronics research and development and manufacturer	Acoustic & environmental consultancy	
		Furniture manufacturer	Online PR and marketing agency	
		Cardboard box manufacturer	Importing agency	

Table 6: The 79 Fact Finders

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Landlords
		Manufacturers and installers of aluminium shop fronts		
		Designers and manufacturers of vehicle computer control systems		
		CNC machining of timber based materials		

Stage 2 Case Studies: Achieved Sample

The 25 case studies were conducted from a cross-section of organisations drawn from Clusters 3/4 to 8 as shown in Table 5 below. Each case study was assigned a unique identifier.

Table 7: The 25 Case Studies

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8
Restaurant	Furniture shop	Manufacturer of security storage boxes	Chartered accountant
Café	Jewellery retailer	Sign manufacturer	Chartered accountant
Restaurant	Discount retailer	Poultry farm	Design consultancy
Convenience store	Clothing retailer	Office equipment maintenance & supply	Community business advisor
	Health & beauty retail	Welding fabrication & repair	Specialist design consultancy
	Sportswear & equipment retail	Electrical equipment manufacturer & distributor	Highways maintenance engineering consultancy

Table 7: The 25 Case Studies

Cluster 3/4	Cluster 5	Cluster 7	Cluster 8
		Importer and manufacturer of fresh food packaging	Occupational therapy
		Electronics research and development and manufacturer	

A range of internal actors, including decision makers, those with a strategic overview, implementers (those involved in implementing energy management decisions) and energy users, as well as external actors, such as landlords and energy consultants, were included within the case studies. A full breakdown of actors by cluster is shown in Table 6.

² Brokers who were seeking to identify the most appropriate supplier and/or tariff but had no input into how energy was used, and third parties that provided access to smart meter data but were not providing any interpretation of the data, were not included as external actors.

Table 8: Breakdown of Interviews showing the number of internal and external actors by cluster and role

		Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Total
	no. of case studies	4	6	8	7	25
Roles[#]						
Internal Actors	Decision maker	5	6	12	9	32
	Strategic overview				1	1
	Implementer		4	2	1	7
	User		1	2		3
External Actors	Landlord			2	2	4
	Energy Consultant		2			2
	Total	5	13	18	13	49

Table 8: Breakdown of Interviews showing the number of internal and external actors by cluster and role

		Cluster 3/4	Cluster 5	Cluster 7	Cluster 8	Total
	no. of case studies	4	6	8	7	25
Roles[#]						
	<p>[#]There was considerable overlap of internal actors with the same individuals often fulfilling more than one role. To avoid double counting, each participant has been counted just once. Decision makers may also have been implementers and/or users. Anyone classed as an implementer was not involved in decision making (but may also have been an energy user). Anyone classed as a user was not involved in decision making or implementing decisions. In the case of cluster 5, the main decision maker was also the individual with the strategic overview.</p>					



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