



Department
of Energy &
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Smart Metering Early Learning Project: Prepayment Qualitative Research

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Executive Summary

Summary of Objectives

Smart meters and In-Home Displays (IHDs) have the potential to offer prepayment customers a range of benefits compared to existing prepayment meters (PPMs). In the future, credit customers may also find that smart meters operating in prepayment mode (Smart PPs) represent an attractive proposition. The research therefore set out to increase DECC's understanding of:

- consumer experiences of and attitudes towards traditional energy prepayment
- consumer reactions to the concept of smart prepayment
- experiences of consumers who already use smart energy prepayment
- enablers and barriers for the realisation of smart prepayment benefits.

Methodology

The research was qualitative in nature, carried out in two phases and was based on a series of in-home depth interviews and focus groups.

In Phase 1, which was conducted during January and February 2014, 90 in-home in-depth interviews, each lasting approximately 1½ hours, were conducted with three samples of consumers:

- respondents who were paying for either their electricity or their gas (or both) through a legacy PPM (*Legacy PPM*; n=30)
- respondents who were paying for either their electricity or their gas (or both) through a smart meter operating in prepayment mode (*Smart PP*; n=30)
- respondents who were paying for all their energy through a legacy credit meter (*Legacy Credit*; n=30)

Legacy prepayment meter	A 'traditional' meter that does not have any smart capability. Customers prepay for their energy using a 'key' which, when inserted into the meter, tops up the energy supply according to how much energy the customer has purchased.
Smart meter operating in prepayment mode	A meter that is compliant with the Smart Meter Equipment Technical Specification (SMETS) and has a range of intelligent functions. When operating in prepayment mode, these include remote top-up, emergency credit and friendly credit.
Legacy credit meter	A 'traditional' meter that does not have any smart capability. Customers pay for their energy in arrears based on meter readings.

All respondents were recruited using a screening questionnaire. Quotas were set on a number of variables to ensure the samples were broadly representative of the wider populations from which respondents were recruited. The *Legacy PPM* and *Legacy Credit* respondents were recruited from among members of the public who met the quotas; the *Smart PP* sample was recruited from lists of several thousand customers who had switched to one energy supplier that already provides smart meters operating in prepayment mode, along with an IHD. There was no basis on which to set quotas for the *Smart PP* sample and respondents were recruited on a random basis within a certain number of postcode area districts. Further details of the research samples can be found at Sample Details in the Annex, p83.

The second phase of research took place in March 2014 during which a further 60 respondents (who had not taken part in the depth interviews) took part in one of eight focus group discussions, again structured according to their type of meter.

The research was carried out across a range of locations in England, Scotland and Wales chosen to reflect a mix of metropolitan, urban and rural settings.

This is a qualitative study which means the opinions of a relatively small number of people have been explored in considerable depth. The findings in this report should be read as indicative of the broader picture in terms of the range and diversity of opinions and experiences of energy consumers. Nevertheless, great care is needed when trying to generalise to the wider population of energy consumers.

Key Findings

The key findings from both phases of research are discussed below.

Overall reactions to Smart Meters and IHDs

Levels of awareness of smart meters and IHDs among *Legacy PPM* and *Legacy Credit* respondents were low although, after a brief introduction to the technology, initial expectations were largely positive. Once respondents had been shown a series of screen shots illustrating the type of information that could be accessed from a smart meter and IHD, including information relating to their use in prepayment mode, most legacy meter customers felt they would have a smart meter and IHD if offered one; this was especially true for existing prepayment meter customers.

Smart meters and IHDs were perceived to offer a number of benefits including, in particular, a greater degree of control over energy bills and consumption. Very few concerns were raised spontaneously by respondents about the technology. There was however an expectation among some that while interest in the new technology may be high initially, this could be short-lived especially if it failed to deliver any tangible benefits.

Legacy PPM respondents were often accessing their meters several times a week, both to monitor and top up their credit balances and, in many cases, opting to use the Emergency Credit facility. Meters were often sited in difficult to access locations and for these respondents, accessing their meter was a challenge. Where respondents were elderly or had restricted mobility, this presented particular difficulties. An IHD connected to a smart meter was seen as offering a significant benefit as the customer would no longer need to access the meter itself on a regular basis. This was confirmed by those respondents who were already prepaying for their energy via a smart meter; in a number of cases, the ease of accessing information from the IHD was a major factor in their decision to switch.

The ability to top up remotely was perceived to be a further advantage by *Legacy PPM* respondents although in practice, many *Smart PP* respondents were continuing to top up at PayPoints rather than using any of the remote top-up methods available to them. Reasons for this included preferring/needing to use cash, higher minimum top-up values for alternative methods, and lacking confidence or access to relevant technology.

Managing energy use

Outside of the energy sector, there was a clear expectation that if customers choose to pay for something earlier than they might otherwise need to, they benefit by a reduction in the cost.

A similar range of benefits and disadvantages were associated with legacy prepayment meters by both *Prepayment Meter* (both those using a *Legacy PPM* and *Smart PP*) and *Legacy Credit*

customers; the main difference was in the weight attached to these perceptions. Given the choice, most *Prepayment Meter* customers would continue prepaying for their energy despite some of the perceived disadvantages, while many *Legacy Credit* customers rejected the idea. In contrast, *Legacy Credit* customers mainly identified positive features of paying for their energy via a legacy credit meter while *Prepayment Meter* customers mainly focused on the negatives of paying for their energy via a credit meter. Whichever method was currently being used to pay their energy bills, most respondents felt it offered them greater control.

It was not unusual for *Legacy PPM* respondents to experience short periods without energy; while this was sometimes due to not having the funds to top up, it could also be a consequence of an inaccessible meter (for example, not noticing that the credit balance was getting very low). There was evidence that switching to a Smart PP reduced the frequency with which this happened.

Legacy PPM respondents felt that the information provided by smart meters and IHDs operating in prepayment mode would make it easier for them to budget. Information such as colour coded usage data expressed in £/h (provided that respondents knew how to interpret this information – not all did), information on credit balances and the predicted number of days credit remaining, credit alerts, the amount of EC used, a record of previous top-ups and historical spend data was all felt to be useful in helping respondents to budget and might motivate them to use less energy. *Smart PP* respondents confirmed that the information available to them via their smart meter and IHD made it easier to manage their money and plan their top-ups.

While everyone claimed to be taking certain steps to manage their energy consumption, the extent to which they felt the need or were able to do so varied. It was perceived to be particularly difficult for families. A range of energy management strategies were being adopted but these tended to be based on ‘common sense’ rather than evidence that these behaviours were making any real difference. Although it was felt that smart technology had the potential to provide *Legacy PPM* respondents with information about their energy consumption, there were a range of barriers that they felt could prevent their good intentions translating into behaviour change which would reduce their consumption. These included lacking confidence in getting to grips with the IHD, not being clear what the colour coding represents, not knowing how to use the IHD to identify which appliances use more/less energy, not knowing how to set a personal budget or what level of savings they might reasonably expect to achieve, as well as the perception that they are already doing all they can to minimise their consumption or that they are only using what they need to use.

The experiences of *Smart PP* respondents confirmed that these barriers were, at that point in time, real - in many cases, these respondents were not engaging with their IHDs beyond the default screen which contained account balance information and predicted number of day's credit remaining but not information on how much energy was currently being consumed.

Encouraging consumer engagement

There was a clear set of expectations among *Legacy Meter* respondents about what information and support they would require to help them make the transition from legacy to smart meters, with their energy company being perceived to play a central role. The experiences of *Smart PP* respondents suggested that, while they were largely satisfied with the support they received when making the change, nevertheless they were not fully engaging with the technology and therefore not realising its potential especially with regards to reducing their energy consumption. This was not a piece of usability research so it is not possible to draw conclusions on whether any modifications to the technology would have increased engagement in it, rather the research explored the ways in which customers could be supported to engage with the technology.

Ways of helping people develop effective energy management strategies by adopting energy saving behaviours were explored further in the focus groups among *Prepayment Meter* respondents (i.e. those prepaying for their energy via a legacy or a smart meter). The extent to which such respondents were willing or able to engage with the issues varied considerably. This is likely to be related to the fact that many of them met the criteria for 'vulnerable consumers' which include 'low literacy, numeracy and/or financial capability'.

Social landlords were perceived to have a role in encouraging on-going engagement especially in regard to helping respondents develop more effective energy management strategies and behaviours. While respondents acknowledged a role for various methods of providing this engagement, their preference was for face-to-face contact.

Respondents' knowledge of which of their electrical appliances used most energy was patchy. Providing information on typical running costs encouraged some respondents to think about adapting their behaviour but the way this information was presented – for example, the typical cost of running an appliance for one hour - sometimes had the opposite effect. Translating the costs into 'typical annual costs' created greater impact.

Respondents were not always adopting behaviours that could result in energy savings. Linking such behaviours with information about the typical savings that could be achieved led some respondents to consider changing their behaviour although for others the rewards were not considered great enough to merit the effort.

Respondents' views on extending the functionality of smart technology were explored both in the depth interviews and the focus groups. Ideas presented and explored with the respondents included the idea of linking smart meter data to other devices and platforms, the development of applications based on a customer's usage data and the use of algorithms (e.g. that could work out which appliances customers have in their home) that could 'interrogate' this data and provide information to help customers manage their consumption. Respondent reactions suggested all of these approaches could increase levels of engagement with the information for those consumers able and willing to take advantage of the relevant technologies. In particular, applications/algorithms that would use customer data from their smart meter to work out which appliances a customer has in their home, together with information about how much energy each appliance uses had considerable potential to engage respondents and encourage behaviour change.

Legacy Credit customers and Smart PP

Although legacy prepayment meters were perceived by *Legacy Credit* respondents to offer certain advantages, the key barriers to paying for their energy this way were cost, inconvenience and social stigma. Smart meters and IHDs operating in prepayment mode were felt to address a number of these concerns although several significant barriers remained of which, cost remained the most significant. If prepaying for their energy meant that respondents would be paying less for their energy, many more were willing to consider doing so. The main 'selling point' of prepayment was seen to be the greater sense of control it offered consumers.

Conclusions

Positive impacts of, and barriers to, smart technology

The research has demonstrated that smart meters and IHDs have the potential to have a significant positive impact on customers who currently pay for their energy through legacy PPMs and any future PPM customers, in particular:

- the majority of customers will **no longer need to access their meters on a regular basis** – this represents a major benefit for anyone with difficult to access meters and was also felt to make it easier for them to monitor credit balances and reduce the chances of them inadvertently being cut off through not noticing they have used up all their credit
- it may be **easier for customers to budget for their energy**
- the range of payment options and the ability to top up remotely on a 24/7 basis was considered by respondents to make **topping up more convenient** as well as helping to address concerns about any social stigma
- credit balances and their predicted duration had the potential to reinforce respondents' appreciation of the cost of their energy and, for those motivated to lower their spend, **encourage them to think about ways of reducing their bills**.

The research also identified a number of barriers that could mean the full potential of smart meters and IHDs are not fully realised (it is important however to note that this was not a piece of usability research so it is not possible to draw conclusions on whether any modifications to the technology would have increased engagement with it), in particular:

- where respondents lacked the necessary competence and/or confidence with the technology and/or they found their IHD too complicated, **they struggled to get the best out of these devices**. This has implications for the type of support customers may need
- more vulnerable respondents on low incomes were sometimes **unable to take advantage of many of the remote top-up functions**. This included those who needed to pay by cash, those who could not afford any minimum top-up thresholds, those who lacked the necessary devices (mobile phones, smart phones, laptops, etc.) as well as those who lacked the competence/confidence to use such devices.

Many of the respondents who were already using smart meters and IHDs continued topping up by cash at PayPoints and this is likely to remain an important top-up channel for such customers.

The importance of effective energy management behavioural strategies

Smart meters and IHDs undoubtedly provide a great deal of useful information about energy consumption. However, a clear lesson from this research is that respondents needed **more than information**, they also needed **effective behavioural strategies in order to be able to act on the information the IHD is providing them with**. Without such strategies, customers may not bother trying to reduce their consumption or quickly give up in frustration. The implication is that customer support should not just focus on helping people use their IHD effectively but also provide them with a range of behaviours to help them better manage their energy consumption.

A number of respondents commented that there is likely to be a novelty effect whereby people start off engaging/experimenting with their IHD when it is first installed and then fall into a settled pattern of use. In other words, for some consumers, it may be challenging to engage them over the longer-term. This suggests there may be a **critical period** when smart meters and IHDs are first installed where behaviour change is likely to occur. The goal should be to encourage people to try and change their behaviour – especially with regards to reducing their energy consumption – during this critical period.

The research identified how energy consumers can be helped to develop more effective energy saving behaviours. **Knowing how much energy individual appliances use had the potential to change some respondents' behaviour**, however, this depended on how the information

was presented. The research suggests that information about how much energy an appliance typically uses expressed in £/h is unlikely to be especially effective. Such information may be more effective if it is specific to individual appliances and also expressed in £ per year. This conveys a much stronger sense of the potential savings.

Seeing how relatively simple changes to existing behaviour can result in comparatively large savings over the course of 12 months encouraged some respondents to consider adopting new behaviours. The research suggests that such information can be more effective where it is tailored to the consumer's circumstances, emphasises the cumulative effect of several behaviours and is expressed in terms of potential savings over the course of a 12 month period.

The research also suggests that combining information about the cost of running individual appliances with ways of reducing this cost may have the greatest impact: for example, an application or device that is based on a customer's energy usage data and which informs the customer of the cost of running an individual appliance over the last month/year, how this compares to the 'typical'/'average' cost of running similar appliances over the same period, and for those who are above 'average', suggestions for how to lower the running cost.

Helping consumers make the transition from legacy to Smart PP

There was a clear expectation that support would be provided by energy suppliers to help customers make the transition and that this support should take account of customers' preferred learning styles and communication channels. The installing engineer was perceived to have a key role to play although concerns were also raised about whether installers would have the time to do this adequately.

Providers of social housing/independent third parties were also perceived by respondents to have a role in encouraging their tenants to make best use of smart technology.

Face-to-face support, including advice about effective energy management strategies, was often felt by respondents to have the greatest potential to engage interest and change behaviour.

Meeting the needs of vulnerable consumers

Many legacy PPM customers are considered to be 'vulnerable'. This can result in lower levels of understanding of, and engagement with, the issues and this was certainly the case with many of the *Prepayment Meter* respondents taking part in this research. Key learnings about the potential impacts of Smart PP on vulnerable consumers include:

- the importance of maintaining a network of PayPoint outlets – the research suggests a proportion of prepayment customers will continue to top up this way
- higher minimum payment amounts for remote top up methods could render them inaccessible to some PPM customers on low incomes who need the ability to top up in very small amounts.
- the research has shown that top-ups sometimes failed to register, that respondents sometimes lacked the knowledge of how to rectify this, and that they sometimes lacked the confidence to contact their supplier to seek assistance. All customers, but especially more vulnerable ones, will need to know how to respond when a top-up does not register as well as an efficient means of sorting this out
- not everyone taking part in the research understood how to interpret the 'energy consumption gauge' and '£/h'. This might result in consumers thinking they need to cut back on energy use when they do not need to/should not do so, or not recognising that there is the potential for them to reduce their energy consumption whilst maintaining comfort and warmth, and thereby save money, where this exists

- the need to compensate for the fact that not everyone will have access to information and support via a range of different platforms. Literacy issues mean that written materials may also not be accessible to this audience. The most effective forms of support for vulnerable customers are likely to be face-to-face.

Legacy Credit consumers' views on smart prepayment

Smart meters and IHDs operating in prepayment mode address some of the concerns that most *Legacy Credit* respondents had about prepayment, especially in relation to topping up and social stigma.

The single biggest barrier is the question of **cost**: respondents had an expectation that if they pay for something up front, there will be a cost saving. Smart PP tariffs would, at the very least, have to be on a par with credit tariffs, if not discounted, for most *Legacy Credit* respondents taking part in the research to consider switching.

Other barriers identified by respondents included the fact that prepayment means that one's energy is no longer 'out of sight, out of mind', the desire on the part of many to 'spread the burden' by paying equal amounts over a twelve month period and a disinclination to give energy companies money 'up-front'.

On the positive side, and assuming cost was not an issue, Smart PP energy was felt by respondents to put the consumer firmly in **control** in terms of how much energy they use, the size of their bills and when and how they pay/top up. In the current climate, this perceived shift in the balance of control from the energy company to the consumer, was attractive.

Longer term, positioning Smart PP as the 'norm' was considered by respondents to have the potential to encourage greater uptake and could encourage consumers to take greater responsibility for their energy use with the potential to reduce consumption levels.

This research report is one of five which have been published concurrently¹, containing the findings of DECC's programme of 'early learning' smart meter research and small-scale trials. This was based on research with early recipients of smart or smart-type meters. It was aimed at extending the Government's and stakeholders' understanding of how best to deliver consumer benefits, and providing evidence from which to assess the need for any changes to the policy and regulatory framework.

A further Policy Conclusions report summarises DECC's view of the key findings, and sets them in the context of further progress, since the research was conducted, to establish the delivery framework for smart metering. This report also provides the Government's conclusions about future consumer engagement policy and delivery priorities, and the steps to implement them, working with Ofgem, Smart Energy GB, suppliers and other parties.

¹ <https://www.gov.uk/government/publications/smart-metering-early-learning-project-and-small-scale-behaviour-trials>

Introduction

Smart meters and IHDs have the potential to offer prepayment customers a range of benefits compared to existing prepayment meters (PPMs). In the future, credit customers may also find that smart meters operating in prepayment mode (Smart PPs) represent an attractive proposition.

Background

The Government's vision is for every home and small business in Great Britain to have smart electricity and gas meters by 2020².

Domestic consumers will also be offered an in-home energy display (IHD), which will display near real-time information about energy use. Smart meters³ offer a range of additional functions compared to existing meters and will be able to operate in both credit and prepayment mode.

According to social obligation reporting figures produced by Ofgem (Q2 2013)⁴ 16.1% of electricity and 14.3% of gas meters are prepayment meters. This represents a steady increase over the last four years as a proportion of the meter population. The profile of prepayment customers differs from that of energy customers overall. Research published by Consumer Focus⁵ provides further information on the profile of prepayment customers including:

- Over two-thirds of prepayment customers lived in rented accommodation in contrast to three-quarters of non-prepayment customers who were owner occupiers
- 48% of prepayment households had an income of less than £17,500 compared to 24% of non-prepayment customers
- Over a third of prepayment households had a household member with a long-term physical or mental health condition or a disability.

Further details on the profile of prepayment customers from the research conducted by Consumer Focus are summarised in the annexes (see Box 3 Contextual Details, p78).

Smart meters and IHDs have the potential to offer prepayment customers a range of benefits compared to existing PPMs including improved and more convenient payment processes,

² <https://www.gov.uk/government/policies/helping-households-to-cut-their-energy-bills/supporting-pages/smart-meters>

³ Smart meters are the next generation of gas and electricity meters that offer a range of intelligent functions. A smart meter is compliant with the Smart Meter Equipment Technical Specification (SMETS) and has functionality such as being able to transmit meter readings to suppliers and receive data remotely. Some suppliers have chosen to make an early start by rolling out smart-type meters to properties before smart meters were available. Smart-type meters offer some but not all of the functionalities included in SMETS.

⁴ <https://www.ofgem.gov.uk/ofgem-publications/87986/domesticsuppliersquarterlysocialobligationsdata-quarter2apriltojune2013.pdf>

⁵ <http://www.consumerfocus.org.uk/assets/1/files/2010/02/Consultancy-recommendations-to-Consumer-Focus.pdf>

remote top-up options and greater visibility of debt repayments (see Box 5, Contextual Details, p80 for further detail on possible smart prepayment benefits).

It is possible that the roll-out of smart meters will result in more customers turning to prepayment as suppliers may encourage customers to pay up front for their energy. Credit customers who may currently be put off the idea, perhaps because of its association with 'struggling to pay/being in debt', may value pay-as-you-go methods that offer them both convenience and control of their expenditure.

Research was needed to explore the reactions of legacy⁶ PPM and Credit customers to the idea of smart meters and IHDs, as well as the potential impact of such meters and IHDs on their behaviour.

A sample of customers, who were already using smart meters and IHDs operating in prepayment mode, was included in the research to reveal the extent to which the potential of the technology was being realised.

Aims and Objectives

The aim of the research was to explore the existing energy prepayment environment and the potential benefits of smart meter enabled energy prepayment.

The research set out to increase DECC's understanding of: consumer experiences and attitudes towards traditional energy prepayment; consumer reactions to the concept of smart prepayment; experiences of consumers who already use smart energy prepayment; and enablers and barriers for the realisation of smart prepayment benefits.

The research objectives were to increase understanding of:

- Prepayment energy customers' attitudes, knowledge and behaviours in relation to energy use at home.
- Current experiences of legacy prepayment, including how prepayment customers interact with their prepayment meters and how they use the information from them for budgeting and energy management.
- Customer experiences of smart prepayment and any differences that smart metering is/could be making to the way prepayment customers view and use energy.
- Enablers and barriers for behaviour change and other benefits for prepayment customers.
- Credit payment customer attitudes towards legacy prepayment and reactions to the concept of smart prepayment.

A more detailed list of research questions can be found in Box 6 (see Research Questions, p81).

During the research interviews and discussions, respondents were shown examples of IHDs as well as screen shots illustrating some of the functions and information the displays offer. The research did **not** seek to explore the usability of IHDs or to explore the impact of possible problems with the use of smart meters and IHDs, such as communication difficulties, or possible consumer concerns, such as data protection issues, although these were explored whenever

⁶ The term 'legacy' is used in this report when referring to meters that are currently found in most homes and do not have any smart capability.

they were raised spontaneously by respondents. This needs to be kept in mind when interpreting the findings.

Methodology

The research was qualitative in nature, carried out in two phases and was based on a series of in-home depth interviews and focus groups.

Phase 1: Depth Interviews

Research method

90 depth interviews were conducted with respondents in their homes, each interview typically lasting between 1 and 1.5 hours. The majority of the interviews were with the member of the household responsible for paying the energy bill/keeping the PPMs topped up. Ten interviews were filmed and, where it was possible to do so (five interviews), these interviews were conducted with another member of the household who was also involved in paying the bill/keeping the PPM topped up.

Interviews were conducted between 13th January and 19th February 2014. Six interviews (two from each sample sub-group; see below) were conducted as a pilot and to test the length of the interview. The remaining interviews were carried out in two tranches with a mid-point review to discuss and consider emerging findings. Copies of the discussion guides and the stimulus materials can be found in the Annex (Research Materials, p93).

Research locations

The depth interviews were conducted in 17 locations in England, Scotland and Wales chosen to reflect a mix of metropolitan, urban and rural settings (see Table 3, Sample structure, p84).

Sample structure

Three sub-samples were recruited across the 90 interviews and quotas were set on a number of variables e.g. age and disposable income (see screening questionnaires in annex for more detail on quotas) to ensure the samples were broadly representative of the wider population from which respondents were recruited. An explanation of legacy PPM, legacy credit and smart meters operating in prepayment mode can be found in the glossary of terms on p22:

- respondents who were paying for either their electricity or their gas (or both) through a legacy PPM (n=30)
- respondents who were paying for either their electricity or their gas (or both) through a smart meter operating in prepayment mode (Smart PP); (n=30)
- respondents who were paying for all their energy through a legacy credit meter (n=30)

All respondents were recruited using a screening questionnaire. Quotas were set on a number of variables to ensure the samples were broadly representative of the wider populations from which respondents were recruited. The *Legacy PPM* and *Legacy Credit* respondents were recruited from among members of the public who met the quotas and the *Smart PP* sample was recruited from lists of several thousand customers who had switched to a particular energy supplier that already provides Smart PPs along with an IHD. Details of customers who had switched in the second half of 2013 were provided by the supplier. There was no basis on which to set quotas for the *Smart PP* sample and respondents were recruited on a random

basis within a certain number of postcode area districts. Further details of the research samples can be found at Sample Details in the Annex, p83.

The following labels have been used throughout the report to refer to different sub-samples:

- *Legacy PPM*: respondents who pay for their energy through a legacy prepayment meter
- *Legacy Credit*: respondents who pay for their energy through a legacy credit meter
- *Smart PP*: respondents who pay for their energy through a smart prepayment meter operating in prepayment mode
- *Legacy Meter*: respondents who pay for their energy through any form of legacy meter (i.e. both *Legacy PPM* and *Legacy Credit* respondents)
- *Prepayment Meter*: respondents who pay for their energy through any form of prepayment meter (i.e. both *Legacy PPM* and *Smart PP* respondents).

Across the total sample, six respondents had energy monitors (see Glossary of Terms, p22); five were *Legacy Credit* customers and the other was a *Legacy PPM* customer. Their experiences were very mixed; three were using the monitor while the other three were not. All *Smart PP* customers had an IHD. Energy monitors show electricity consumption on a hand-held display like an In-Home Display (IHD). Unlike an IHD however, which is installed with a smart meter by a professional engineer from a gas or electricity supplier and shows information on gas and electricity usage, an energy monitor can be installed by householders themselves. Further, an energy monitor can only show electricity usage information and not gas usage information and does not interact with a smart meter (and so cannot automatically update price information held by the meter, and cannot display Prepayment information or retrieve any historical consumption information which will be held on smart meters).

Outline of interviews

A summary of the issues covered in the depth interviews is provided in Box 1 below; copies of topic guides and stimulus materials can be found in the Annex (see Research Materials, p93).

Box 1: Outline of depth interviews

Legacy PPM and Credit Respondents	Smart PP Respondents
Current payment methods for energy and other goods/services	
Budgeting for, and managing energy consumption	
Accessing energy meters and the information that is available from them	
Response to the idea of smart meters and IHDs	Experiences of smart meters and IHDs
Response to a detailed description of smart meters and IHDs functioning in pre-payment mode	Extent to which respondents were aware of, and taking advantage of different functions/ information available from their IHD

Perceived benefits of smart meters and IHDs operating in prepayment mode	
Helping customers make the transition from legacy to smart meters	Experiences of making the transition from legacy to Smart PP

Phase 2: Focus Groups

Research method

A further 69 respondents took part in one of eight focus groups; each discussion lasted between 1.5 and 2 hours. The discussions were held between 12th and 19th March 2014. Two groups were held in each of four locations: Birmingham, Bradford, London and Newport (S Wales).

Sample structure

The eight groups were structured as shown below in Table 1. Respondents were recruited in the same way, using a screening questionnaire and the same variables and similar quotas, as the depth interviews. The *Legacy PPM* and *Legacy Credit* respondents were recruited from among members of the public who met the quotas and the Smart PP sample was recruited from lists of several thousand customers who had switched to a particular energy supplier that already provides Smart PPs along with an IHD. Details of customers who had switched in the second half of 2013 were provided by the supplier. Further details of the research samples can be found at Sample Details in the Annex, p83.

Further details of the research samples can be found at Sample Details (p83).

Table 1: Focus Group Sample Structure

Legacy PPM	all drawn from SEGs C2DE; equal numbers of men and women; half to have a household income below £16,000 pa	1 group drawn from pre-family and family lifestages
		1 group drawn from post-family and retired lifestages
		1 group drawn from pre-family, family, post-family and retired lifestages
Legacy Credit	all drawn from SEGs C1C2D; equal numbers of men and women	1 group drawn from pre-family and family lifestages
		1 group drawn from post-family and retired lifestages
		1 group drawn from pre-family, family, post-family and retired lifestages
Smart PP	2 groups with an equal number of men and women and a mix of lifestages in each	

Outline of focus group discussions

An outline of the issues addressed in the course of the discussions is provided in Box 2. Copies of the discussion guides and the stimulus materials can be found in the Annex; (see Research Materials, p93).

Box 2: Outline of focus group discussions

Legacy PPM Respondents	Smart PP Respondents	Legacy Credit Respondents
Response to idea of Smart meters and IHDs		Response to idea of Smart meters and IHDs
Response to/perceived impact of, Smart PP and IHDs	Experience of, and engagement with, Smart PP and IHDs	Response to/perceived impact of, Smart PP and IHDs
Reaction to energy saving measures/strategies	Reaction to energy saving measures/strategies	Perceptions of, and barriers to, legacy PPM and the impact of Smart PP on these
Views on helping customers make the transition	Views on what more could have been done to help customers make the transition	Views on helping customers make the transition

Interpreting the Findings

The findings in this report are indicative of the broader picture in terms of the range and diversity of opinions and experiences of energy consumers. Nevertheless, great care is needed when trying to generalise to the wider population of energy consumers.

This is a qualitative study which means the opinions of a relatively small number of people have been explored in considerable depth. The researchers used a topic guide to ensure that the relevant issues were covered; they also followed up particular points to ensure the point being made was understood, and they may also have explored relevant points that were made by the respondent. The views of different respondents from the same sub-samples have been used to 'triangulate' the findings. 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 rather than to 'measure' how many respondents had expressed a particular view. One reason for this is that people do not always express their answers in black and white terms. Another reason is that it is not possible to explore every issue in every interview. Some issues may only have arisen in certain interviews.

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 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' respondents 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 would normally be made clear by stating something along the lines ‘one respondent 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’.

The findings from the depth interviews and the group discussions were broadly the same and this provides a further degree of confidence in the robustness of the findings. Unless otherwise stated, the findings reflect both phases of work.

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 respondent, 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. The quotes have also been colour-coded:

- red identifies *Legacy PPM*
- blue identifies *Legacy Credit*
- green identifies *Smart PP*.

Glossary of Terms

Term	Definition
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 will also provide consumers with more accurate information and bring an end to estimated billing. 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 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. Smart meters can work in prepayment or credit mode.
Smart prepayment (Smart PP, smart meter operating in prepayment mode)	For the purposes of this research customers defined as having ‘smart prepayment’ had had a smart meter installed operating in prepayment mode that is compatible with government’s smart meter specifications (SMETS1) offering a range of functions including remote top-up, emergency credit and friendly credit.
Legacy meter	A ‘traditional’ meter, currently found in most homes and smaller non-domestic sites that does not have any smart capability. Legacy meters will be replaced by smart meters during the smart meter roll-out.
Legacy credit	As above where the customer pays for their energy in arrears through estimated or actual meter reads (collected by a meter reader or provided by the customer) provided to their energy supplier.

Legacy prepayment	Prepayment meters work in exactly the same way as their name would suggest; instead of paying for electricity or gas after it has been used, it is paid for in advance. This system works by accepting tokens, usually in the form of plastic keys which can be bought and then energy supply is 'topped up'.
In-Home Display (IHD)	A standalone unit which records and displays electricity and gas usage data from smart meters. Where smart meters are operating in prepayment mode, this also displays account balance information,
Energy monitor	Also called "clip-on" and similar to an In-home display (IHD) in that it shows information on energy consumption on a small display. Energy monitors usually consist of a handheld display unit, a sensor/clamp that attaches to one of the cables at your meter that sends information from the sensor/clamp to the display unit. Unlike an IHD however, which is installed with a smart meter by a professional engineer from a gas or electricity supplier and shows usage information on gas and electricity usage, an energy monitor can be installed by householders themselves, can only show electricity usage information and does not interact with a smart meter (and so cannot automatically update price information held by the meter, and cannot display Prepayment information or retrieve any historical consumption information which will be held on smart meters)
Emergency credit (EC)	When a customer's credit balance reaches is low, they are given the option of using Emergency Credit; this is an amount, typically between £5 and £10 that they can use before the supply is cut off. When they top up, this amount is deducted from their top-up amount.
Friendly credit	Friendly credit: this is an extension to EC offered by suppliers where the meter supports this (some older meters do not); essentially it means the supply will not be cut off during the night or on Sundays or Bank Holidays when PayPoints might be shut; customers have until 10.00 am the next day to top up.
Vulnerable Consumer	DECC's and Ofgem's definition of this group in relation to smart metering is energy consumers with low incomes and those who face additional barriers to accessing the benefits of smart metering because of personal circumstances or characteristics. For the purposes of this research, vulnerable consumers include those who meet one or more of the following criteria: low income, long term health condition (including mental health), low literacy/numeracy, living in social rented housing, living in a lone parent household.

Smart Meters and In-home Displays

This chapter considers respondents' awareness of, and expectations for, smart meters and IHDs. The perceived benefits of, and concerns about, the technology are summarised. The potential impact of smart prepayment in relation to accessing meters, topping up and energy consumption information are considered.

Awareness and Expectations

Levels of awareness were low although expectations were largely positive.

Amongst the *Legacy Meter* samples, there was limited awareness of smart meters and almost no awareness of IHDs. What awareness there was largely stemmed from media coverage, recent advertising, promotions and word of mouth, including knowing other people who had a smart meter. In many cases, awareness did not extend beyond recognising the name. A few respondents had experience of an energy monitor⁷.

I think there's been stuff on the news? Yes, I hear the name smart meter, what it's for I'm not sure. (Legacy Prepayment Depth)

I think you somehow attach them to your meter, or attach them to your system somehow, I think they plug in. And somehow you can monitor how much per minute, per period of time, you're using. And what I'm hoping, and I don't know for sure, is that you can perhaps monitor the telly, even an individual appliance, I don't know if that's at all possible, I don't know how sophisticated it is. (Legacy Prepayment Depth)

There were some misconceptions as to what a smart meter and IHD might be able to do, for example, being able to remotely control heating and appliances or being able to provide energy consumption data by individual appliance and/or room. Some respondents assumed smart meter and IHD/energy monitors were one and the same i.e. a meter with a digital display that is more prominently positioned.

Initial expectations, based on a brief explanation of smart meters and IHDs (see Figure 1), were largely positive. It was hoped/expected that the technology would result in greater transparency and provide a basis for comparing tariffs/suppliers based on consumers' actual energy use. Having said this, the views of some respondents were shaped by their less than positive perceptions of energy suppliers. This led some to question whether the introduction of smart meters would really result in more individually tailored tariffs, faster

Well, obviously they're telling lies, aren't they? They're saying there's going to be no charge for it and then they're going to charge you for it, so they're contradicting themselves. (Legacy Prepayment Depth)

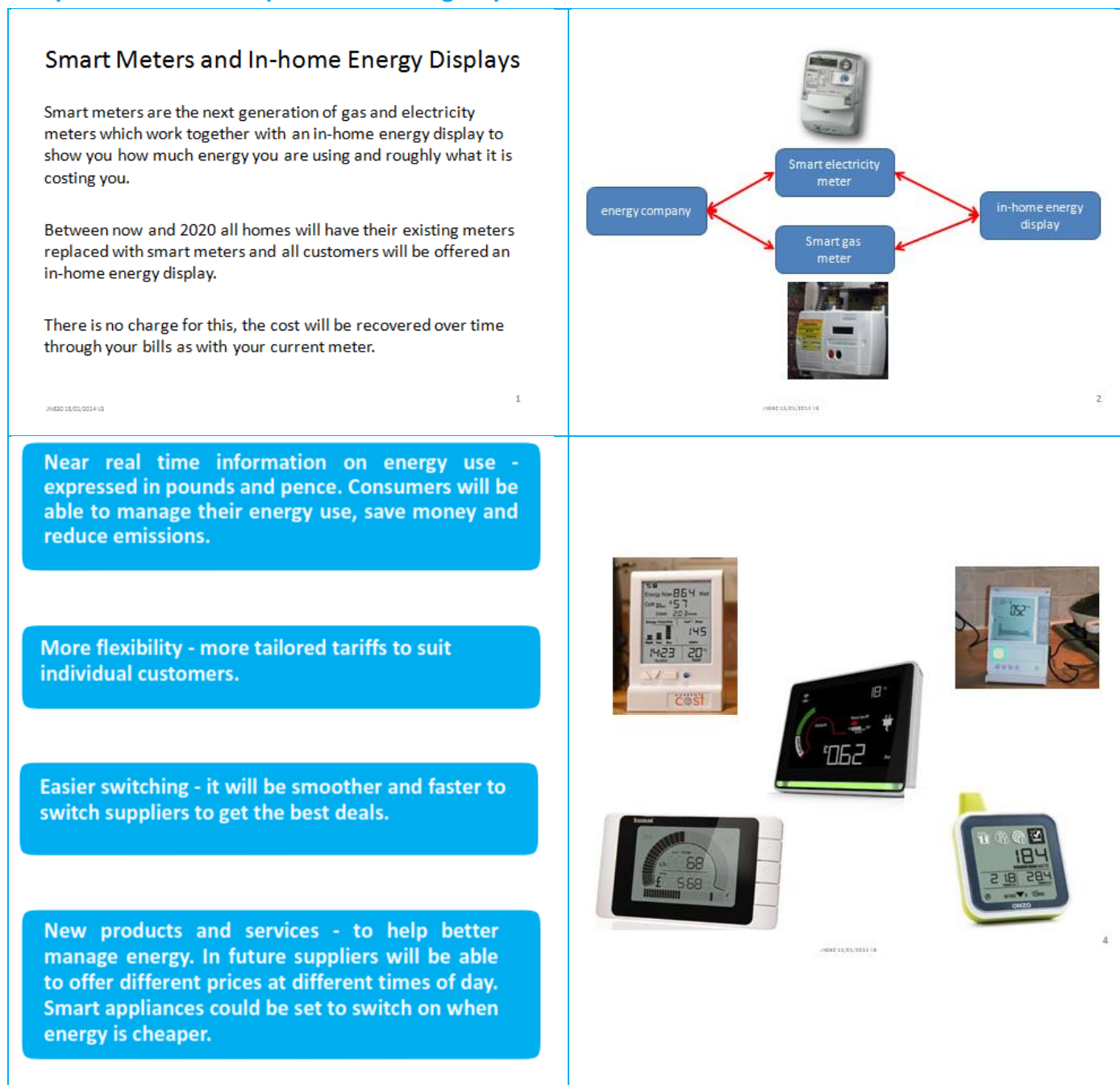
⁷ Energy monitors work with existing, non-smart, electricity meters. They offer a similar range of features and information as an IHD. Unlike IHDs installed by a professional engineer at the same time as a smart meter, the monitor will have been installed by the customer themselves. It might have been supplied by their energy company or they may have bought one.

switching, that savings would be passed on or that there would not be a charge for having their meters changed.

Respondents were shown pictures of IHDs as well as having two they could handle. For the most part, the IHDs were perceived to be non-intrusive and, providing they were easy to use, they were acceptable to respondents.

I think that's fine, I don't think it will look out of place, because you could even [put] them on the mantelpiece. That wouldn't look out of place on the mantelpiece. (Legacy Prepayment Depth)

Figure 1: Background information about Smart meters and In-home energy displays shown to respondents in the depths and focus groups



One visually impaired respondent commented that the screen was too small for her to be able to read⁸.

A small number felt that both the physical device and the examples of display screens they were shown were dated in appearance and compared unfavourably to smart phones.

I'm still amazed at how primitive they look. It's like an old 90's calculator, especially the one on the top right, it's not very attractive, I can see there's wires everywhere. These guys have graduated, it's a lot more user friendly. I used to have one like that [referring to an energy monitor] which I got rid of a few years ago. (Legacy Credit Depth)

IHD, including information relating to their use in prepayment mode, most *Legacy Meter* respondents would have a smart meter and an IHD installed if they were offered them. Some were enthusiastic – this was especially the case among the *Legacy PPM* sample; others were neutral in their response - while unsure of the benefits, they had no reason not to accept the change. A small number were rejecters; they felt the new technology offered them no obvious benefits and there was some concern that the constant visual reminder of how much energy they were using could be stressful, especially if they felt powerless to do anything about it.

I think it could be made a little bit bigger for people who are visually impaired so I could actually use it myself. I like it because it's small but I also wish it could be a little bit bigger so I could use it myself without having to rely on someone else. (Smart Prepayment Group)

A fairly common question raised by respondents was 'how much electricity does it take to run?'

By the end of the depth interviews, after respondents had been shown a series of screen shots illustrating the type of information that could be accessed from a smart meter and

I'd snatch their hand off, definitely want one. I want one badly, I really do, it would just save me so much hassle. (Legacy Prepayment Depth)

I think it's useful, or much of it is useful. I don't think it would rock my world. I don't think it's going to open up many different possibilities to me but it's better to have that kind of information than not. And if everyone is going to get these smart meters, at least everyone has the option or the ability to track their usage a bit better or manage their usage a bit better. I don't really see a downside to it. (Legacy Credit Depth)

Perceived Benefits of, and Concerns about, Smart Meters and IHDs

Smart meters and IHDs were perceived to offer a number of benefits including a greater degree of control over energy bills and consumption. A number of low level concerns were noted. There was an expectation that while interest in the new technology may be high initially, this could be short-lived especially if it failed to deliver any tangible benefits.

Towards the end of the depth interviews, after respondents had been introduced to the type of information that could be accessed from a smart meter and IHD, respondents were given a number of cards. Each card described a possible benefit that smart meters and an IHD might

⁸ Separate research commissioned by DECC and Consumer Focus explored the accessibility needs of different groups of consumers:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/175653/access_to_smart_meter_benefits_for_bps_consumers.pdf
<http://www.consumerfocus.org.uk/files/2011/04/Getting-to-grips-with-smart-displays-research-review.pdf>

offer. Some of these benefits related to using the meters in either credit or prepayment mode while other benefits related to using the meters in prepayment mode.

Respondents were invited to sort the cards into three piles:

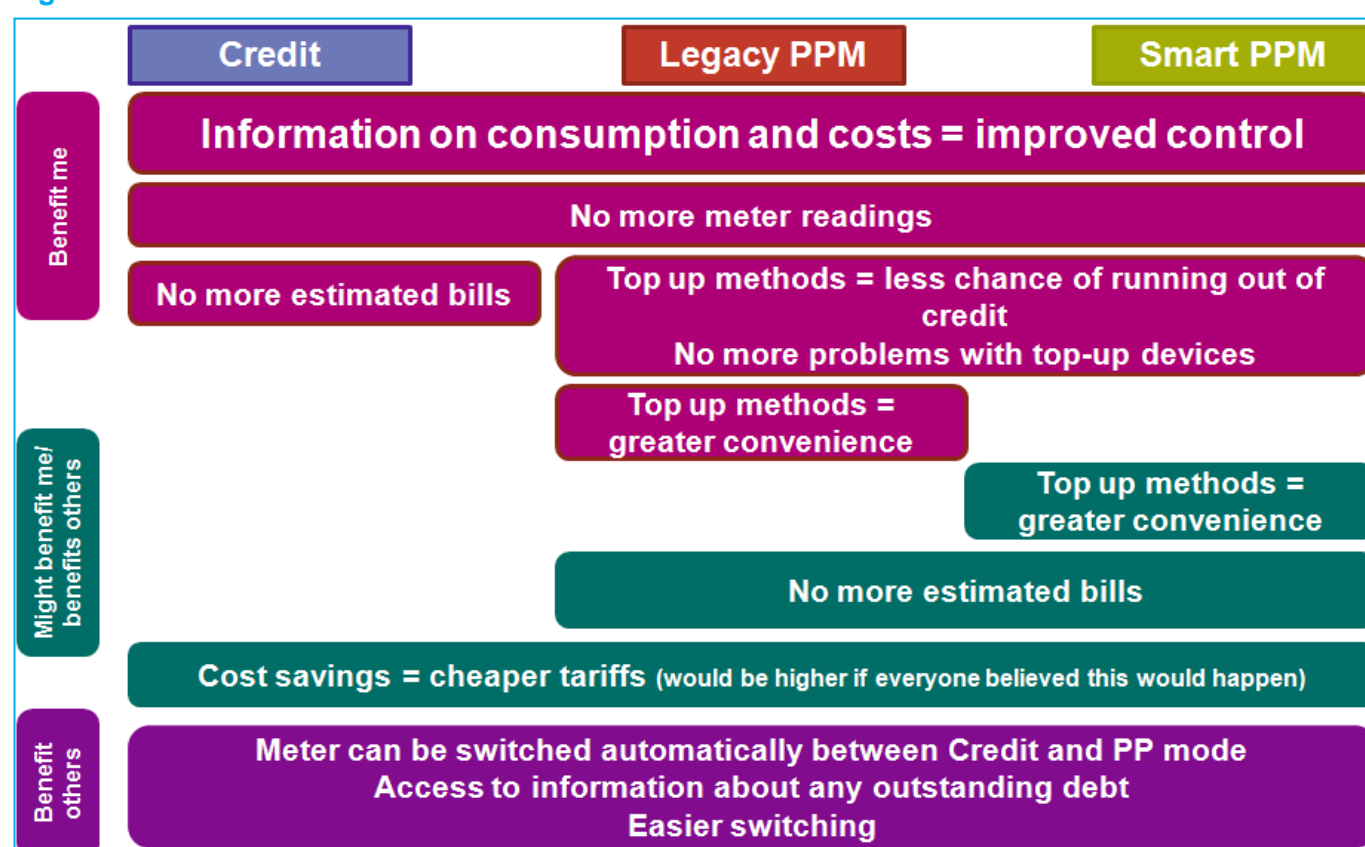
- anything that would be a benefit to themselves
- anything that might benefit other people but which would not benefit themselves
- anything that they did not consider to be a benefit either to themselves or to other people.

Some respondents expressed a degree of cynicism in relation to one or two of the cards based on their perceptions of energy companies, and questioned whether what was written on the card would ever happen. In particular, the suggestion that cost savings that might accrue through the use of smart technology could result in cheaper tariffs was sometimes challenged; not everyone was convinced that any such savings would be passed on to customers. Some also questioned whether energy companies would be interested in offering 'easier switching'. Nevertheless, most respondents felt that all of the cards described things that would either be of direct benefit to themselves or, if not, might benefit other people.

The results of the sorting exercise are summarised in Figure 2 which shows the extent to which benefits were perceived to apply to respondents themselves as opposed to other customers. The perceived benefits fell into three groupings:

- 'Benefit me': things that were selected by the majority of respondents as benefitting themselves
- 'Benefit me'/'Benefits others': things where respondents were more equally divided between those who perceived it as benefitting themselves and those who felt it was more of a benefit for others
- 'Benefit others': benefits that were perceived by most respondents as mainly benefitting other people.

Figure 2: Perceived Benefits of Smart Meters and IHDs



The single greatest benefit that smart meters and IHDs were felt to offer to all customers was that the information available on energy consumption and costs would provide a greater degree of control. The fact that meter readings would not be required was also perceived to be a universal benefit (*Legacy PPM* customers still have their meters read). *Legacy Credit* customers also considered the fact that they would not receive estimated bills in the future as benefitting themselves; *Prepayment Meter* respondents (i.e. those prepaying for their energy either through a PPM or a smart meter operating in prepayment mode) had a more mixed view with some feeling it would be of benefit to themselves while others felt it was more of a benefit to others.

Additional benefits for *Prepayment Meter* respondents related to topping up their meters: the range of top-up methods was perceived by *Legacy PPM* respondents as making them less likely to run out of credit and remote top-up was perceived as an advantage in that they would avoid problems with top-up devices. Both of these views were confirmed by those respondents who were already using Smart PPs. *Legacy PPM* respondents also considered the range of top-up methods to offer them greater convenience. However, existing *Smart PP* respondents did not always agree and were just as likely to see this as a benefit for others. This was because most of them were continuing to top up at PayPoints (see Topping up, p31).

The suggestion that smart meters offer suppliers cost savings which may be passed on in the form of cheaper prepayment tariffs was not always selected by respondents as something that would benefit themselves mainly because a number expressed doubts that their supplier would pass on any savings.

Three benefits were perceived as applying mainly to other people. Most respondents were not interested in being able to switch from their present method of payment to paying either by credit or prepayment. Only a small number of respondents were currently in debt to their energy supplier so access to debt information was not applicable to themselves. Finally, switching energy supplier was not something that most respondents were looking to do.

Very few concerns were raised spontaneously by respondents; during the interviews and discussions, researchers did not prompt on this but followed up any concerns that were raised by respondents themselves. Typically, respondents were happy to have a smart meter and IHD installed as long as the equipment worked, was easy to use and understand, and provided accurate information although, as a small number commented, how will the customer know the information is correct and accurate?

I mean, they say it's accurate but then how can you be 100% sure that the information you've been given is correct? (Legacy Prepayment Depth)

A small number of *Legacy Meter* respondents taking part in the depth interviews expressed

concerns about top-ups not registering and the fear this might result in their being cut-off. A number of Smart PP customers had experienced such problems; in most cases, these were resolved relatively quickly (see Topping up, p31).

A small number of low level concerns (i.e. things respondents mentioned in passing but which they were not overly worried about) were occasionally expressed in relation to data privacy/ 'snooping', the overall cost of the programme and whether the benefits are worthwhile, and the battery life of the gas meter (this arose when the researcher explained why information about gas consumption was refreshed every half an hour).

While the idea of a smart meter and IHD often captured respondents' interest, a number of legacy respondents commented that this might be short lived, especially if it did not deliver easily observable benefits.

I think the kids and my husband will look at it and think, 'oh, oh look, if you turn this off it's going down'. But I think it will be a novelty to start with and then it will wear off. (Legacy Credit Depth)

I think I would have one fitted. I like the budget bit on it where you can set yourself the budget so I think I'd probably use that, but like D said, I think I'd probably kind of chuck it in the drawer after a month or two depending on how much money it was saving me. (Legacy Prepayment Group)

Smart Prepayment

Smart meters and IHDs were seen as potentially addressing a difficulty many Legacy PPM respondents faced on a regular basis, inaccessible meters. The ability to top up remotely was perceived to be a further advantage by Legacy PPM respondents although many Smart PP respondents were continuing to top up at PayPoints. Displaying usage data in '£ per hour' and colour coded information about how much energy one is using, were considered engaging and useful, providing respondents knew how to interpret the information.

Accessing meters

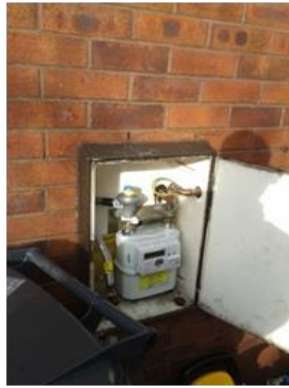
Legacy PPM respondents were often accessing their meters several times a week, both to monitor and top up their credit balances and, in many cases, opting to use the Emergency Credit facility. Meters were often positioned in difficult to access locations including:

- in cupboards, often concealed by stored items and with no/limited lighting



Smart Meters and In-home Displays

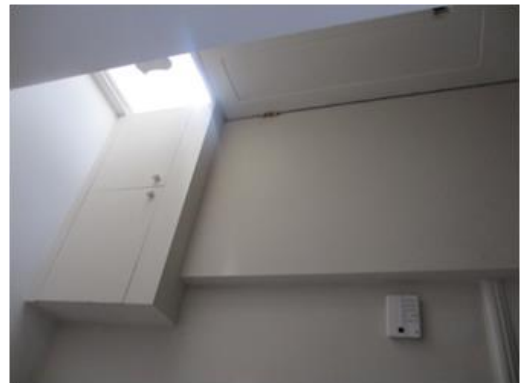
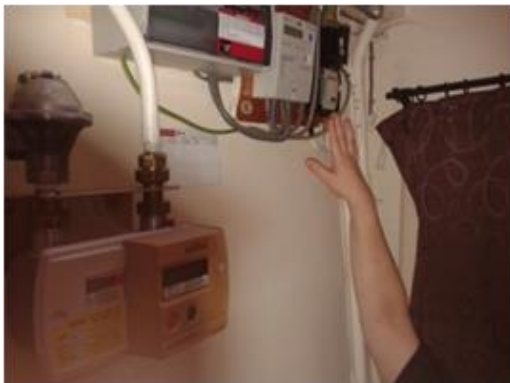
- in cellars or garages and outside in meter cupboards; this was awkward if respondents needed to access their meters at night/during bad weather



- low down (especially gas meters); customers may need to get down on their knees



- high up (especially electricity meters); customers may need to stand on chairs etc.



For *Legacy PPM* respondents an immediate and important perceived benefit of switching to smart meters and an IHD was the fact that they would no longer need to access their energy meters.

This is what I have to do, I have to get on my hands and knees. I hate this, I really do. I shouldn't have to do this. [] I will get to a time when I can't do this. (Legacy Prepayment Depth)

That's brilliant, that you wouldn't have to go out in the cold. I know a lot of people don't have to but to me, with everyone looking at you, especially there, because it's a really busy road. The bus stop is there and everything, I'm there on my knees doing that, oh god. (Legacy Prepayment Depth)

Smart PP respondents in the depth interviews often confirmed this was a significant benefit and, in some cases, was one of the main reasons why they had decided to switch to a smart meter.

It makes a big difference because I can go to the corner shop just here and I can top up on my card. I don't have to read the electric meter and I don't have to crawl on the floor in the cupboard at the bottom for the gas meter, because the gas meter is actually on the floor and I can't bend you see because I'm a bit disabled at the moment. (Smart Prepayment Depth)

I had a key before and I had to go outside in the dark to put more electric on the meter, which could be really inconvenient. (Smart Prepayment Depth)

Topping up

The ability to top up their meters via a range of methods and to do so at any time of day or night (see Figure 3) was also considered by *Legacy PPM* respondents to offer them distinct advantages over their current set-up.

That's just blinding...

...Yeah that to me would be just so, convenience is key, isn't it really? It is. I mean, if you could do it from anywhere, anytime, that would just be brilliant. It's like we are both at work and we're like, 'oh god, don't forget we've got to top it up', and we do actually do this and we are both like possibly leaving work and saying, 'oh god, don't forget about the card and key'. We'll have to come in from work and then go back out again, whoever is there first, because it's going to run out soon. But to be able to just be like, 'oh god, we've got to top it up', and then call, phone...

...Get your phone out, smart phone. (Legacy Prepayment Depth)


using cash as they did not have a bank account and/or a bank card.

Some concerns were expressed over security especially with the idea of topping up via text messaging and some respondents expressed a preference for topping up face-to-face.

However, the extent to which *Legacy PPM* customers will take advantage of the different topping-up options was highlighted by the experiences of the *Smart PP* respondents taking part in the research. Many were continuing to top up at PayPoints.

Figure 3: Information provided to respondents about different ways of topping up a Smart PP

Topping up



Different ways of topping up your prepayment meter:

- cash/cheque etc e.g. at local PayPoint outlets
- telephone
- text message
- smartphone app
- by internet

This means you can top up 24/7

The actual top-up method they thought they would use depended on what devices they had as well as their confidence with the technology and whether there was any minimum top-up amount. Some thought they would continue to top up at a PayPoint

Cash at the PayPoint because I don't have a banker's card. I'd still do the PayPoint. (Legacy Prepayment Depth)

Telephone, text message - I don't know. My first would be cash or telephone, because I'd be speaking to someone over the phone, and get a reference number. (Legacy Prepayment Depth)

Their reasons for doing so included:

- out of habit/for social reasons, for example, passing the PayPoint every day while taking their children to school
- prefer/need to deal in cash, for example, in some cases, respondents did not have a bank account
- they may lack the confidence/competence in terms of 'new' methods or not have the relevant technology e.g. not everyone had internet access or a smart phone
- minimum top-up levels were a potential barrier for those on more limited incomes; while a minimum top-up of £1-2 at a PayPoint was unlikely to present difficulties, the higher minimum amounts for topping up online, via text messaging or via an automated telephone service could and did represent a barrier for some.

I haven't done it because if I have to get bread and milk, I might as well do it, but if I couldn't get out for some reason, I'd try that way, I haven't so far. (Smart Prepayment Depth)

It's just easier for me, I'm not into all this technology so it's just easier for me to go with the shopping. (Smart Prepayment Depth)

Some *Legacy PPM* respondents expressed concerns about top-ups not registering and a number of those who had switched to Smart PPs had encountered such problems. These are summarised below and emphasise the need to ensure that vulnerable customers know how to obtain support when required:

A few respondents reported initial problems that had been resolved

In one case, this involved having the meter replaced (this was done within about 1½ hours of the respondent reporting the problem) and in another case a malfunctioning IHD had to be replaced. In another case, the engineer who had installed the meter had entered an incorrect code and this had to be rectified.

A couple of respondents reported a sharp increase in their energy consumption after switching to a smart meter

One had complained to her supplier and was told she had to keep a written record of all appliances she had on and for what period over several weeks before anything would be done about it. The second customer, an elderly woman living alone, was distressed by the large increase in her energy cost but did not have the confidence to contact the supplier about it.

A few respondents reported on-going problems with top-ups not registering

They had to enter the vend code either via the IHD or the meter itself before the top-up registered. In at least three of these cases, they had not raised this problem with their supplier but were continuing to top-up their energy by entering the vend code.

One of these respondents illustrates the potential for vulnerable customers to experience problems with the technology. The respondent was a woman with osteoporosis which meant she had to stay warm to prevent her condition flaring up. At time of the interview she had been without gas and heating for the previous three days because the remote top-up was not working. She had tried entering the vend code via the IHD to no effect; as a result, her condition had flared up. She was unsure where the fault lay but she was reluctant to call the supplier as she could not afford to make the call. She had used her electric oven the day before to try and keep warm.

Energy consumption information

During the depth interviews and focus groups, *Legacy Meter* respondents were shown examples of how energy consumption information might be displayed on an IHD (see Figure 4).

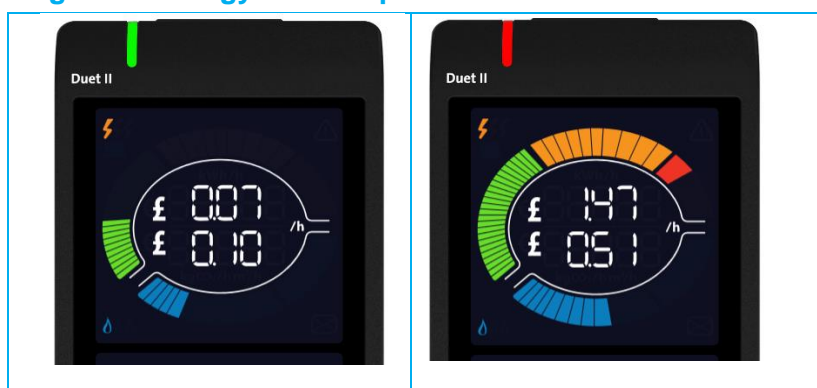
Displaying usage data in £ per hour was something that all respondents could easily relate to, rather than kWh which no one understood.

Colour coded visual information about how much energy was being used at any one moment was often felt to be very useful providing respondents understood how to interpret the display.

However, not everyone understood how to 'read' this information and it was possible for respondents to assume that they should avoid letting the display reach the red level even for a short period of time (as opposed to it staying in the 'red' for longer periods).

I can never work it out – the units used and the megawatts and kilowatts and all that, it's just beyond me. This pay as you go, I put it on, I can see what credit I've got. I know when I've got to top up again and I know if I'm abusing it. It's a lot simpler. (Smart Prepayment Depth)

Figure 4: Energy Consumption Information



I'm not sure what that means, does that mean it's using a lot or does it mean you are running out or...? (Legacy Prepayment Depth)

I think that it's saying that you've gone past like the safest stage, you've gone into the quite dangerously expensive stage and you've gone slightly into the dangerous zone now. (Legacy Prepayment Depth)

The fear was that some vulnerable customers may respond inappropriately by turning lots of appliances off just because the display has briefly gone into the red.

I think my friend has got one of those and they were obsessed with it because there's like traffic lights. It changes different colours amber, red. If they're in the red they're on a high usage, if they're in the green they're alright and amber... I'm sure they were watching it for hours. (Legacy Prepayment Group)

I'm just thinking of my dad, he's on a pension, running the house on his own. If he saw that clocking up, he would rather sit in the cold than watch the money clock up. He would have his hat and his coat on. (Legacy Credit Group)

Even where respondents did understand how to interpret this information, they sometimes felt it could make them over-vigilant and could become stressful.

One *Legacy Credit* respondent, who was using an energy monitor, described how she and her partner had changed the display to show a running daily total of energy consumption as they found this less stressful and more helpful.

Which is why we changed our display [referring to the energy monitor] because we had it on the per hour thing and we were freaking out. So we've changed it to a running total through the day because, £1.47, you are not paying £1.47 per hour for 24 hours of that day, whereas that just really freaked me out when I saw that. That might actually only be the kettle and the toaster on for two minutes and then it goes back to £0.07 per hour. But we found that really confusing and so, yeah, we now have a running total through the day and that gives us a much better thing. It doesn't make you paranoid, it just helps you kind of manage things and it has helped us change when we put things on and how we do things, to save money. (Legacy Credit Group)

There was an expectation that changes in energy consumption as displayed on the IHD would be more or less instantaneous. When it was explained that while this would indeed be the case for electricity, gas consumption data would only be updated every 30 minutes and the reasons for this⁹, most respondents did not consider this an issue. This was because they felt that gas is limited to heating and/or cooking and typically involves a small number of appliances which tend to be switched on at predictable times and for more predictable periods. It was pointed out that customers need to be aware of this delay otherwise they might assume there is a fault with their IHD. One suggestion was for an 'over-ride button' that could be used to get an immediate reading if this was required.

⁹ This is because it is unsafe to connect a gas meter to mains electricity. Instead the meter has a battery built in and for this to last as long as possible, it only sends information about how much gas is being used once every half an hour.

Managing Energy Usage

In this chapter of the report, respondents' views on paying for their energy via a prepayment or credit meter are explored, together with the degree to which they were budgeting for, and trying to manage their energy consumption. The potential impact of Smart PPs and IHDs on managing energy use is also considered.

Paying in Advance for Goods and Services

Outside of the energy sector, there was a clear expectation that if customers choose to pay for something earlier than they might otherwise need to, they benefit by a reduction in the cost.

Mobile phones: Contract or PAYG?

Most respondents taking part in the research had a mobile phone and although there appeared to be some overlap between paying for energy via a PPM/Smart PP and paying for a mobile phone on a PAYG basis, the picture was fairly mixed (see Table 6, Sample Details, p91). Whichever payment method was used by respondents, this was felt to offer them the best value for money in terms of the cost, the overall package and how people used their phones.

A PAYG phone was sometimes selected to limit expenditure where the owner had a limited income. For example, respondents reported that they may choose not to top up their phone until they could afford to do so. However, a PAYG phone might also be chosen where the owner made limited use of their phone and/or where 'free extras' had limited value and/or where respondents were unconcerned about having the latest handset. In some cases, respondents did not want to be 'locked into' a contract.

In contrast, those who had opted to pay for their phone on a monthly contract reported that they mainly did so in order to benefit from the 'free extras' including 'free minutes', the choice of handset and upgrades. For those who wanted to have a smart phone, having it on a contract basis was felt to be the only option because of the cost of the handset. Respondents also spoke about not wanting the 'hassle' of topping up or risking running out of credit; some considered it an essential item to which they required constant access. Some felt that provided any limits were not exceeded, paying a set monthly amount makes budgeting easier.

Other products and services

Respondents often struggled to think of any other products or services they paid for in advance. While some services had to be paid up-front such as line rental for a landline phone or subscription TV services, where respondents had a choice, the decision was often shaped by potential savings that might be made from paying in advance, for example, two months free

gym membership if one paid for a year in advance. The main examples of products and services where they had opted to pay in advance were:

- Insurance: respondents' decisions sometimes depended on whether they could afford to pay a single premium vs. the cost of spreading payments over the course of a year
- Landline: although customers had to pay the rental a month in advance, some had opted to pay 12 months in advance in exchange for a discount (part of a broadband package)
- Travel cards/season tickets: travel cards allowed unlimited travel for the period in question while season tickets resulted in a discount on the full cost of the fare
- Bulk buying: some respondents were buying in bulk in order to achieve savings.

Attitudes towards paying in advance

A range of views were expressed about paying for items in advance. At one end of the spectrum, some respondents indicated that their preference was to pay for as many things as possible in advance in order to avoid bills and the possibility of falling into debt. At the other extreme, a few respondents spoke about always trying to delay paying for things until the last possible moment, typically waiting for final demands before settling bills.

Whatever their attitude, there was a clear expectation that if a customer chooses to pay for something earlier than they might otherwise need to, they benefited from a reduction in the cost. The notable exception to this was when it came to energy bills.

Generally, if you pay for something up-front you pay less for it in the long run, like with the phone. If you buy the handset up-front, it's cheaper than if you pay over 24 months, so it seems really contrary to cost more to pay up-front for energy. (Legacy Credit Group)

Perceived Advantages/Disadvantages of Prepayment Meters

Similar positives and negatives were associated with PPMs by both Prepayment Meter (both those using a Legacy PPM and Smart PP) and Legacy Credit customers; the main difference was in the weight attached to these perceptions. Given the choice, most Prepayment Meter customers would continue using PPM while many Legacy Credit customers rejected the idea.

The perceived advantages and disadvantages associated with paying for energy via a PPM were explored in all of the depth interviews (i.e. with *Legacy PPM*, *Legacy Credit* and *Smart PP* respondents) as well as with *Legacy Credit* customers taking part in the group discussions. Without exception, *Smart PP* respondents had been paying via a legacy PPM prior to switching to a smart meter and based their responses on this. The extent to which *Legacy Credit* respondents were familiar with PPMs varied; some had personal experience in the past while others based their answers on what they had heard or knew about PPMs.

The main perceived advantages and disadvantages are summarised in Figure 5.

A key advantage was felt to be that customers will not face the prospect of having to find the money to pay for large bills.

PPMs in general were felt to increase the customer's level of awareness of how much they are spending on their energy. Being able to top up by varying amounts at times that suit the customer was felt to give them greater control and to make it easier to manage their finances. This was considered especially important for those on low incomes.

Being more aware of how much one is spending on energy might, it was sometimes suggested, provide an incentive to try and reduce consumption levels.

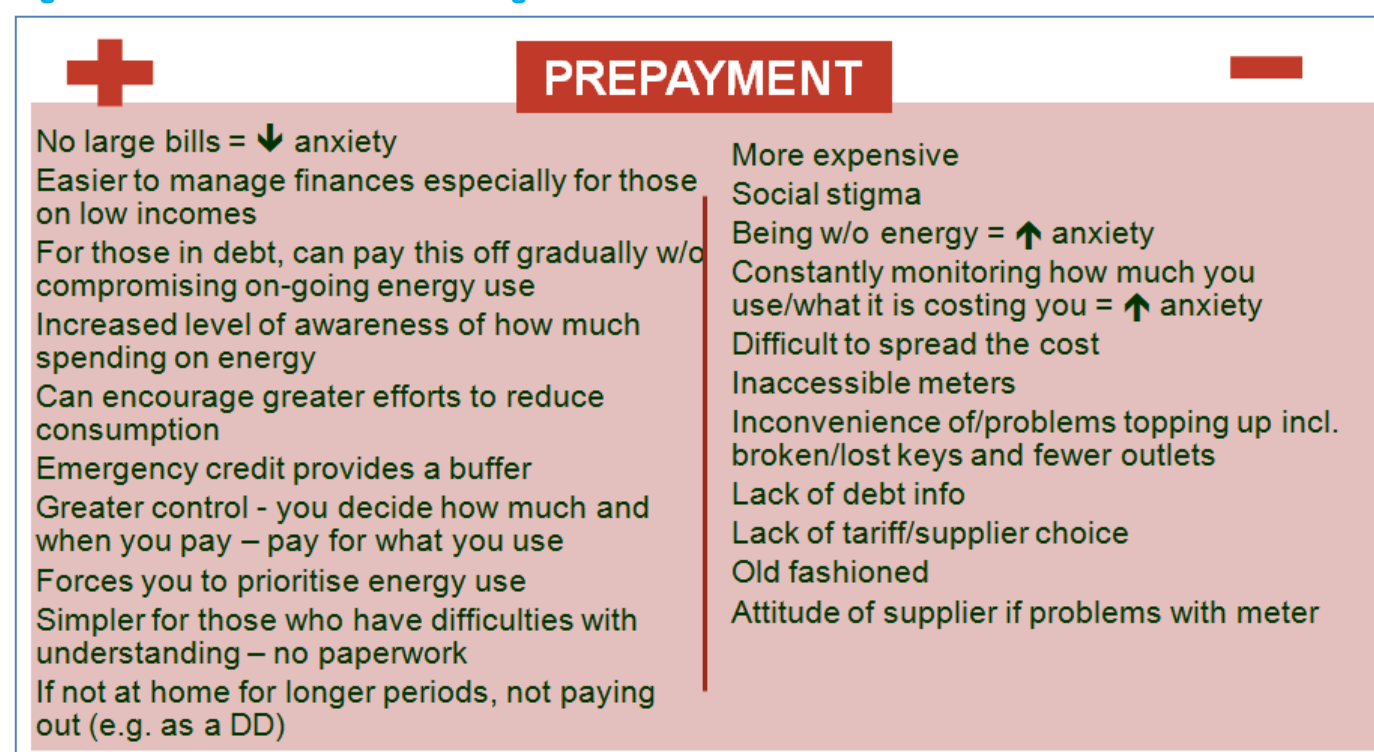
Because of the financial situation we're in, because we're on the benefit at the moment, so it's harder, like if it's quarterly, £500, £600, you would not be able to afford that in three months' time. So it's just easy to keep it just pay as you go. (Legacy Prepayment Depth)

"It probably makes you more aware of the energy you are using..."

...You'd turn your lights off, wouldn't you, rather than just leave it on?...

...You don't waste electric." (Legacy Credit Group)

Figure 5: Perceived Positive and Negative Features of PPM



For customers in debt to their energy companies, a PPM also provided them with a way of paying off their debt without compromising their on-going energy use (every time they topped up, a percentage went to repaying the debt). They could thereby effectively forget about their debt.

While running out of energy was a concern for everyone, the Emergency Credit (EC) facility for those who were aware of it (not all *Legacy Credit* respondents were), was seen as providing a buffer and giving the customer more time to top up their meter.

I was having problems keeping up with the payments and it was easier for me to just transfer over and they put the debt on the meter and then I paid it off over time, which just worked out to be easier for me. If I didn't have the money for the electric I knew that I could get help with it, rather than having to pay it all off in a three month period when there was no way I could find the money and I'm useless at budgeting so it was difficult to put the money aside. (Legacy Prepayment Depth)

Most *Prepayment Meter* customers believed that prepayment tariffs are more expensive than credit tariffs; however, in many cases, the perceived advantages were considered to outweigh the higher cost.

With the emergency credit with [energy company], if you did use it, they charged an extra £1 when you put the emergency on! So if you used your £1 emergency credit, they would charge you £2 when you topped it back up. It's like a standing charge. Why? It's just a rip-off really. (Smart Prepayment Depth)

I know you do pay slightly more but I much prefer pay as you burn. I can keep track of what I'm spending and I'm not getting into debt again. (Smart Prepayment Depth)

There was also some confusion over the cost of EC with some *Prepayment Meter* respondents believing (and resenting) that it was charged at an even higher rate.

One of the selling points that had been used to persuade customers to switch from legacy to Smart PPs by the Smart PP supplier whose customers took part in the research was that

the tariff was lower than that offered by other energy company PPM tariffs, in part, at least, because there was no standing charge. A number of respondents in the *Smart PP* sample confirmed they had achieved noticeable savings from switching in that they either had to top up less frequently or by a lower amount. However, others felt it had made very little difference. Some *Legacy Credit* customers also perceived PPM tariffs to be more expensive although not all were too sure about this or just how much more they might pay this way. Nevertheless, a concern that they would end up paying more if they switched to prepayment was felt to be a significant barrier.

Coupled with concerns about higher costs was the fear that one might run out of credit and be cut off.

While *Prepayment Meter* customers shared this concern, they had developed a range of coping mechanisms. However, for *Legacy Credit* customers, this was seen as another significant barrier and respondents felt the

prospect of constantly having to monitor their use and their credit balance would be a cause for anxiety. Those paying by monthly direct debit were also concerned about their ability to spread the cost of their energy over a twelve month period.

It also feels like it's on my mind as well then. It's not on my mind the way it works now. There's that thing, is it going to run out when I'm in the shower or halfway through the washing? (Legacy Credit Depth)

A number of respondents in all three sub-groups felt that there was a degree of social stigma attached to paying for one's energy via a PPM. As a payment method, it tended to be associated with people on lower incomes who were likely to be in receipt of benefits, living in 'council houses' and, in some cases at least, in debt and not very good at managing their affairs.

I considered it a sign of poverty being on prepayment meters and, you know, you weren't really a grown-up if you were on a prepayment meter. (Legacy Prepayment Depth)

I think they're mainly installed in council houses aren't they, so yeah.... (Legacy Credit Depth)

To me, there was a bit of a stigma about having prepayment meters. Well, it's normally for people who don't pay their bills and they have to have them installed because they have got into debt and I didn't want to go that low. (Smart Prepayment Depth)

The need to constantly be accessing energy meters, both to monitor credit balances and to top up, was perceived to be a disadvantage especially for those with meters in relatively inaccessible locations (see Accessing meters, p29).

Other disadvantages associated with legacy PPMs included:

- the inconvenience of having to top up on a regular basis including problems with lost or broken keys and, in some locations, the closure of PayPoint outlets (raised by all categories of respondents but especially by *Prepayment Meter* customers)
- for those *Legacy PPM* customers in debt, a lack of information about the rate this was being paid off at, the outstanding balance and the likely date the debt will be cleared; however, in some cases, those with an outstanding debt preferred not to know anything about it
- the lack of tariff choice; whereas customers with credit meters were known to have choices available to them, such as tariffs that were fixed for certain periods, these choices were not thought to be available to PPM customers (mentioned occasionally by both *Legacy PPM* and *Legacy Credit* customers)
- in one or two cases, having to top up a meter manually was felt by *Legacy Credit* customers to imply this was a rather 'old fashioned' method
- finally, some *Legacy Credit* customers were concerned that suppliers' attitudes and response if there was a problem with the meter would be less favourable when dealing with PPM customers.

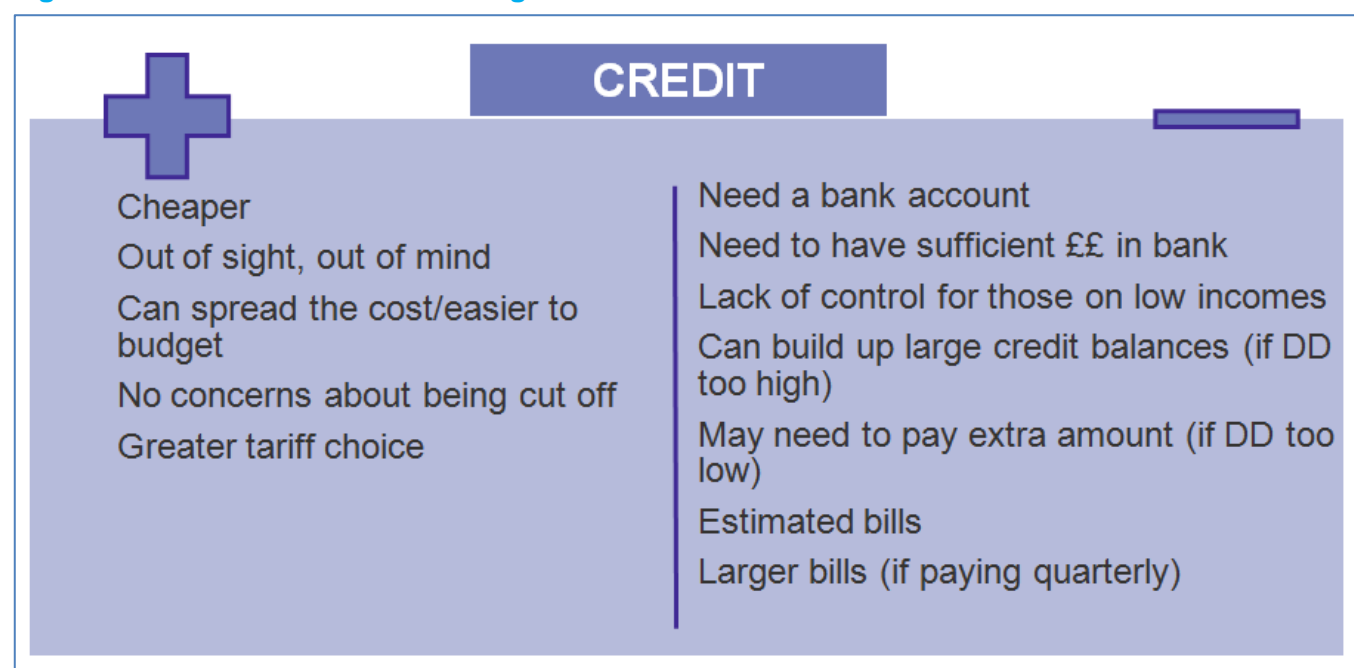
It takes so much off my debt of a Wednesday and it takes like a standing charge as well. But I still don't know how much it is now if I'm honest. I don't want to know either. (Legacy Prepayment Depth)

Perceived Advantages/Disadvantages of Credit Meters

Legacy Credit customers mainly identified positive features while Prepayment Meter customers mainly focused on the negatives.

A credit meter was perceived by those paying this way to offer some very clear advantages (see Figure 6).

Figure 6: Perceived Positive and Negative Features of Credit Meters



Credit payment was associated with cheaper bills, not just because of more competitive tariffs but also because of discounts associated with dual fuel and paying by monthly direct debit.

Well, I think it's cheaper that way because rather than paying a certain amount quarterly, I mean it all goes out of your account at the same time, I prefer doing it monthly plus you get a discount...

...A discount 4, 5, 6% discount when you are paying direct debit monthly. (Legacy Credit Depth)

Once the monthly or quarterly DD amount had been agreed, the customer could forget about it and it made it easier for customers to spread the cost of their energy over 12 months.

Customers did not have to worry about the possibility of being cut off. Moreover, credit customers were felt to have access to a greater choice in terms of their tariff.

It's quick and easy and it's a set amount and I just don't have to think about it. [] I found it's just easier and I can budget better. (Legacy Credit Depth)

The main disadvantages associated with this method of payment especially by *Prepayment Meter* respondents, were that the customer needs to have a bank account and to be able to afford to keep sufficient funds in the account to meet the cost of direct debits. For many of the respondents paying through a PPM/Smart PP, especially those on relatively low incomes, paying for their energy in this way was associated with a lack of control.

All respondents were aware that where a customer pays for their energy via direct debit, this can result in them building up large credit balances. There was a degree of resentment about this because energy companies were seen as benefitting at the customer's expense, especially where respondents had tried to negotiate a lower direct debit only to be rebuffed by their supplier. In contrast, where a direct debit has not been set high enough, customers might end up with an unexpected bill that they need to clear.

Credit meters were also associated with estimated bills; once again, for those on relatively low incomes, this could create difficulties especially where it turned out that bills have been underestimated. Where bills are paid on a quarterly basis by cheque or cash, this can result in large bills especially during the winter months.

Information available from energy meters

The information provided by a meter depends on whether it is a meter capable of displaying only total consumption units or a meter capable of displaying a wider range of prepayment related information. Information expressed in kWh or cubic meters was considered meaningless and appeared to feed feelings of disengagement. Although Legacy PPM respondents were accessing their meters on a regular basis, they had limited awareness or understanding of the information it might provide over and above what they needed to know to keep it topped up.

The information that could be accessed from energy meters depended in part on whether the meter was an older meter capable of displaying only total consumption units or a newer meter capable of displaying a range of prepayment related information.. Without exception, respondents across the sample considered that information expressed in kWh or cubic meters was meaningless.

As noted above (see Accessing meters, p29), *Legacy PPM* respondents were having to access their meters on a regular basis and it might therefore be assumed they would be more aware,

I only literally use it just to check how much I've got on there and that's it. (Legacy Prepayment Depth)

and taking advantage of any information that was available from their meters. In reality, many *Legacy PPM* respondents were only aware of the information they needed to know in order to use their meter: their balance, any EC used, how to reactivate the supply, etc.

Those in debt were more likely to know that the meter could show what proportion of a top-up was taken as a repayment. Some respondents were aware that other information was available by pushing different combinations of buttons; this was sometimes because they had been instructed to do this by their supplier when they had a problem.

The A, I think, is your emergency and things like that, you press A. The B is for, again, the likes of reading any meters or anything like that. I've seen a man come in and press the B and it brings up all these and I take it's got them for purposes, whatever, so I don't deal with the As and the Bs, I just put the money in and that's it. As long as it works for me, that's the main thing. (Legacy Prepayment Depth)

Some thought that they may have been shown what information was available when the meter was first installed. Some thought they

may have been given an instruction booklet but typically this was not in evidence; those who 'inherited' their PPM were unlikely to have had this passed on. Once again, *Legacy PPM* respondents tended to adopt a passive approach beyond the things they needed to know to keep their meter topped up.

Respondents who had switched to a Smart PP rarely had cause to access their meters and where they had done so, this was often after they had experienced problems and had been asked to do so by customer services. As a result, these individuals had some limited awareness of what information could be accessed directly from their meters. Others had little idea although they often assumed it would be the same information that was available via their IHD. Some respondents were aware that there was a numerical keypad with their meters without necessarily being aware of what it was for.

Many *Legacy Credit* respondents were not accessing their meters with any degree of frequency. Those with external meters may never need to access them; those living in apartment blocks may have had restricted access (for example, access to the meters was occasionally controlled by a concierge who held the key). Those accessing their meters did so if they needed to take a reading for an online tariff or because they were monitoring their use, or if a meter reader called. Apart from the number of units used, *Legacy Credit* respondents were unaware of any other information they could access from their meters.

To be honest, I have not got a clue about it, all I know is that when I do a meter reading, it's the first four digits on this when I read it. Apart from that, I don't know. (Legacy Credit Depth)

Additional information needs

When *Legacy Meter* respondents were asked if there was any additional information that they would find helpful in managing their energy consumption, many struggled to suggest anything. Where suggestions were forthcoming, they mainly related to how much energy they consumed over a given period as well as which appliances/rooms used most energy; for example, 'which is the most energy efficient way of cooking pasta: using boiling water from the kettle vs. heating water from scratch in a saucepan?', 'what is the impact of leaving things on standby?'

Legacy PPM respondents had some suggestions relating to topping up; for example, a record of the frequency and size of top-ups along with information about the nearest PayPoints.

Methods of Paying and Budgeting For Energy

Whichever method was currently being used to pay their energy bills, most respondents felt it offered them greater control. For various reasons, it was not unusual for Legacy PPM respondents to experience short periods without energy; there was evidence that switching to a Smart PP reduced the frequency with which this happened. Legacy PPM respondents felt that smart meters and IHDs would make it easier for them to budget for their energy use and might motivate them to use less energy. Smart PP respondents confirmed that the information available to them made it easier to manage their money and plan their top-ups.

Prepayment customers

Prepayment Meter customers (both those with legacy meters and those with smart meters) fell into one of three groups:

- those who inherited their PPM – many local authority and Housing Association (HA) properties had installed PPMs before respondents had moved into their current properties
- those who opted to have them (often due to financial concerns)
- those who had no choice due to having incurred a debt.

It was here when we bought the house. (Legacy Prepayment Depth)

We couldn't afford the big bills - they said, 'right, you're having the prepayment meter' - so it's the best thing we ever did. (Smart Prepayment Depth)

I put prepayment meters in when I moved into the house so I could keep on top of the bills. I bought the house on my own and I had my mortgage and that and I would rather keep on top of the bills, pay as I use, rather than have a monthly bill come in. (Smart Prepayment Depth)

Some respondents had never paid for their energy by any other method, while others had used credit meters at some point. In at least one case (an owner occupier who had inherited PPMs for both fuels), they were unaware they could switch to credit meters.

A small number of respondents would have preferred to have credit meters but either they could not switch (for example, due to an outstanding debt or a bad credit rating) or they did not want to pay the cost (some suppliers charge to replace a PPM with a credit meter). However, many respondents were very satisfied with their PPMs and had no desire to change to paying by credit.

All *Smart PP* customers had switched from a legacy meter to Smart PP in the second half of 2013 following a visit from a sales representative; where the local authority/housing association had facilitated the introduction, this had increased customers' confidence in making the change.

There was considerable variation in both the frequency and the size of top-ups being made by *Prepayment Meter* customers (i.e. both those using a legacy PPM and those with a smart meter operating in prepayment mode) which was linked to income levels and when respondents were paid/received their benefits:

- a small number topped up monthly with occasional additional top-ups
- others were topping up either fortnightly/weekly, often on the day they were paid, with occasional additional top-ups
- those with the smallest incomes were topping up by small amounts every few days/whenever they had some 'spare' cash.

Well, we get paid monthly, so what we normally do is we either put enough in to last a week or two weeks, or sometimes I'll put in enough for a month. Sometimes I'll just go and get 50 quid straight on each one and put them straight in, so it's done then, because I know I get paid monthly. (Legacy Prepayment Depth)

I always top them up every Tuesday and I put enough in. Once I first got the meter, I worked out how much I was using and then I always put enough in so it lasts me till the next Tuesday. (Smart Prepayment Depth)

If I've got £2.00 in my pocket in change, I can just go and put it on my card, you know, and keep topping it up and topping it up and topping it up. (Smart Prepayment Depth)

Most respondents had a reasonable idea of how much they needed to top up by and tried

to budget accordingly however, although respondents often expressed an intention to top up in advance, the reality was often more chaotic due to limited funds and money management skills:

- credit balances were often low at the time of the interview and a proportion were using Emergency Credit
- some respondents spoke about having to juggle their money as different bills came in
- in some cases, they reported having to go without other things (e.g. food, bus fares) or delaying using certain appliances (e.g. the washing machine)
- they may need to dip into savings, use overdraft facilities or borrow money from family and/or friends.

Some weeks it's a struggle. It depends on what bills come in, what's got to be paid. So I have to work it out and just sort of like be careful in the week if those come in a certain week, and just be careful and then the next week I'm okay. But I don't go mad on the electric or gas or put the heating on just because I've got enough in there, you know. (Smart Prepayment Depth)

In contrast, one or two respondents spoke about topping up by the same amount every month and building up credit in the summer to last them through the winter; however, these were exceptions to the norm.

Attitudes towards the cost of energy were largely passive: there was a lack of engagement with the issue and little evidence of switching as a way of reducing bills. Respondents sometimes displayed a lack of confidence in trying to find ways of reducing their bills including, in some cases, staying with a particular supplier even though it was perceived to be the most expensive.

Those who had switched to Smart PP had, almost without exception, done so on a reactive basis – either in response to a visit from a sales representative or having received an

introduction from their local authority or housing association - and they usually took the information they were provided with at face value. Only one respondent spoke about checking it out via a price comparison website before deciding to make the change.

I got a couple of calls from [Housing Association] saying that these people just specialise in people like you, who pay as you go, and I found that attractive. (Smart Prepayment Depth)

Most had used Emergency Credit at some point (see Glossary of Terms, p22 for an explanation). For some, this was part of their routine allowing them to delay topping up until the next 'pay day'; others aimed to avoid using it wherever possible (especially with gas due to concerns about the supply being cut off and having to then reconnect it).

Probably every week and in the past I've always been, I've lived on the border or within emergency credit for as long as I can remember. (Legacy Prepayment Depth)

There was some confusion over whether customers were charged at a higher rate when they go into Emergency Credit or whether they are charged a levy on top of how much they actually use; a number commented that their energy appears to run out much faster when they are in Emergency Credit. Not all respondents were familiar with the concept of Friendly Credit (see Glossary of Terms, p22) and not all meters are capable of providing it. While respondents welcomed the fact they would not be cut off at inconvenient times, the downside was they would end up with less credit when they eventually topped up.

No. It doesn't give us a warning, the only way we know if the electric's gone, is if you've got the telly on and the telly goes off. (Legacy Prepayment Depth)

Many Legacy PPMs require the customer to opt in to Emergency Credit; otherwise, they are cut off as soon as their credit balance reaches £0. Any visual/auditory alerts from Legacy PPMs were easily missed especially where the meter was sited in an inaccessible location or outside. Some respondents had meters that did not provide them with any warning that their credit balance was low.

Moreover, the fact that some older meters do not have the ability to offer 'friendly credit' means that EC can run out in the middle of the night. Some respondents were concerned that if they opted into EC before their credit balance reached £0, they lost any remaining credit balance. For all of these reasons, it was not uncommon for *Legacy PPM* respondents to have experienced brief periods without power.

I was left without power all over the Christmas holidays [referring to an occasion before switching to a smart meter]. (Smart Prepayment Depth)

A small number had experienced longer periods without energy when they had lacked the funds to top up. This had a range of consequences with a number reporting that they had lost freezer contents, while one respondent had lost a tank of tropical fish.

So what's your experience been of using Emergency credit?...

...I haven't had to use it on this one...

...You haven't? No, okay. What about in the past when you were with [energy company]?...

...Yes, we used it all the time. (Smart Prepayment Depth)

Smart PP customers confirmed similar experiences prior to switching to a smart meter. However, they reported that they were less likely to get caught out since making the change; alerts were harder to miss and the supplier in question offers more Emergency Credit than some other suppliers as well as Friendly Credit (not all suppliers offer this).

In addition, a number also reported that they were being charged at a lower rate for their energy compared to their previous supplier and this also meant that they did not have to top up or use Emergency Credit as frequently.

Nevertheless, despite the lower tariff and the advantages associated with smart technology, some may still have disconnected themselves due to a lack of funds.

We did have one day only last week where we didn't even have any emergency electric left until the next morning when some money went in the bank. (Smart Prepayment Depth)

Credit customers

Most respondents had always paid their energy bills through credit meters although some had experience of Legacy PPMs earlier in their life (for example, when a student). They were mainly paying by monthly or quarterly direct debit (43 out of 56 respondents) and often paid all and/or most of their bills this way.

Some of those paying quarterly bills by cheque and/or cash felt this gave them some leeway in terms of when they paid; this was important for those on tight budgets. Four respondents were paying using a payment card where they made regular cash payments with the sum being deducted from their bills.

For those *Legacy Credit* customers who were better off, budgeting was not really an issue and one of the things they particularly liked about the way they paid for their energy was that they could forget about it. For those on more limited incomes, a set monthly direct debit allowed them to manage their budget.

Respondents reported adopting a variety of strategies to help them budget; for example:

- paying a variable direct debit linked to monthly meter readings submitted by the customer
- advance 'top-up' payments made by a customer who spends time abroad (he would pay money into his energy account to ensure he had sufficient credit for periods when he was out of the country; in effect, a form of prepayment)
- one respondent described carrying out a regular spreadsheet analysis of his energy usage and expenditure; if he thinks he is going to exceed his energy budget, he makes adjustments to other outgoings
- for those using a payment card, this offered a cash equivalent to a monthly direct debit while providing greater flexibility about when payments were made
- a disabled customer paying quarterly bills would phone his supplier and ask for longer to pay if he was short of money (he is on their priority register) or if it is a temporary shortfall, he will pay using his credit card; if he has spare money, he might make an advance payment.

Compared to *PPM Meter* respondents, *Legacy Credit* customers tended to be more proactive in their approach to their energy bills; a few had switched to get lower bills and some were providing regular meter readings to ensure they did not end up having to make a top-up payment.

I do look probably every 12 months online and [price comparison website provider] phone me up as well so I do try and have a look and see if I've got a cheaper tariff. (Legacy Credit Depth)

Perceived impact of Smart Meters and IHDs on budgeting for energy use

Legacy PPM respondents were shown a number of screen shots of information that could be displayed on an IHD (see Figure 4, p33 and Figure 7 below) and invited to comment on the usefulness of the information. Overall, they felt the information would make it much easier for them to budget for their energy use. Displaying usage data in £/h made far more sense than kWh. Information on credit balances and the predicted number of days credit remaining, credit alerts, the amount of EC used, a record of previous top-ups and historical spend data were felt to:

- make it easier to manage one's money and to know when and by

Well, depending on when I was getting some money next, it would help me to calculate that, actually, I don't have to top up perhaps as much as I think I do. Or I can put that money, say a tenner of that money, towards another bill, because I know that I've got more than enough to cover a set period. (Legacy Prepayment Depth)

how much to top up, thereby reducing the chances of having to access Emergency Credit and/or accidentally being cut off

- reinforce how much it is costing (they know this already from making regular top-ups) and when they are using the most
- for those motivated to lower their spend, encourage them to think about ways of reducing bills.

I think it would be a good idea to show you that on it. That way you know that you're using a lot, to go and check what you've left on and maybe turn the sockets off when you're finished with them. (Legacy Prepayment Depth)

Among the *Smart PP* sample, the main motivation for switching was to access cheaper energy. Typically, these respondents had been visited by a sales representative, sometimes following a letter of recommendation from their landlord. The key sales message was a promise of cheaper energy. Some respondents reported significant savings, usually expressed in terms of not having to top up so frequently or by so much; however, others felt the cost of their energy was roughly on a par with their previous supplier.

The IHDs that *Smart PP* respondents were using displayed the same/similar information as that shown in Figure 7 albeit the screen designs were different. Respondents confirmed that the information available via the IHD made it easier for them to manage their money and plan their top-ups.

Figure 7: Information that helps budgeting for energy use



What difference does it make, having this?...

...I can budget better, I know how much I need to top up by and I know I'm probably not going to run out whereas before, we'd get near the end and I'd need to put another £10 in. (Smart Prepayment Depth)

They also reported that they were going into EC less frequently compared to when they had a legacy PPM however, in some cases at least, this may have been more a function of a lower tariff which meant their money 'went further' as opposed to using information from their IHD to better manage their money.

Managing Energy Consumption

While everyone claimed to be taking certain steps to manage their energy consumption, the extent to which they felt the need or were able to do so varied. It was perceived to be particularly difficult for families. Awareness of which of their appliances used the most energy was patchy. A range of energy management strategies were being adopted but these tended to be based on 'common sense' rather than evidence that these behaviours were making any real difference. Although Legacy PPM customers could see how smart technology could provide them with information about their energy consumption, there were a range of barriers that they felt may prevent good intentions translating into behaviour change which would reduce their consumption. The experiences of Smart PP respondents confirmed that these barriers were real - in many cases, these respondents were not engaging with their IHDs beyond the default screen which showed the information of primary interest to them, their credit balance.

Energy management strategies

Across the three sub-samples, everyone was aware of the continuing increase in the cost of their energy and most claimed to be taking steps to avoid waste, such as turning off lights, not leaving devices on standby, and fitting energy saving light bulbs. To a large extent, this was considered common sense – but it was also difficult for respondents to know what else they could do. Indeed, for some who felt they could easily afford to pay their energy bills, they had no interest in doing more, and others were resistant to the idea on the grounds that they were 'too lazy', what they currently did was 'too much of a habit to break' or that any measures they might adopt would make little difference to consumption/bills.

But then it doesn't make a difference anyway. You turn lights off, you turn plugs off, it doesn't make a difference anyway in the first place. (Smart Prepayment Group)

Keeping energy consumption under control was felt to be a particular problem for families: for example, young children need to be kept warm, teenagers have lots of electrical appliances; neither age group was seen as energy conscious. It was also observed that adult 'children' who were still living at home could be as careless as children/teenagers when it came to using energy.

I would hazard a guess as the TV being quite a high usage but, other than that, I don't know how much turning the light on is going to cost or anything. (Legacy Credit Depth)

I'd just think, 'well, I've got to put it in', I'll just stick it in. I'll just put the money in, pay whatever they ask me to, and I am naughty for that because I do. You know, anything for an easy life. I don't need to know the ins and outs and things like that. Just pay the money, get it over and done with and that's what I do if I'm honest. (Legacy Prepayment Dept)

Some also took the view that they have to use the amount of energy they use regardless and they cannot use any less than they do.

I'm not in control. (Laughs). The kids will play on one computer in the bedroom, then the other one is charging his i-pad and mobile phone. But it's what kids do, they don't understand the concept of it and to save money. I don't want them to have to worry about that as a child, so I don't let them. (Legacy Prepayment Dept)

Some respondents thought that they had a reasonable idea of which of their appliances used most energy but when prompted, they

often lumped together a range of higher and lower rated appliances; others admitted they did not know how much energy different appliances used. Many felt that more information would be helpful (this was explored further in the group discussions; see Awareness of energy consumption and costs, p58).

Heating was known to consume a large amount of energy and most respondents aimed to try and manage this however they were sometimes unsure of the best approach; for example, was it better to leave the heating on all the time at a low level or turn it on for short periods at a high level?

Gas was felt to be more predictable. It typically involves a limited number of appliances which tend to be on at fixed times/intervals and a limited range of choices therefore have to be made about how to use it. Electricity was felt to be less predictable. It typically involved many appliances using different amounts of energy which are turned on/off in a largely unpredictable fashion; it is therefore much harder to know where savings might be achieved.

Choices in managing energy consumption also reflected differences between what was perceived to be 'necessary' use – to keep warm, washed and fed – and what was considered to be 'lifestyle' use – such as leisure related appliances.

A range of energy management strategies were described by respondents; these tended to be based on common sense and things that were assumed to make a difference ('they say that...') rather than being based on any hard evidence. The extent to which respondents were adopting such strategies varied depending on their method of payment and their financial circumstances. There were some differences between *Prepayment Meter* (both *Legacy PPM* and *Smart PP*) and *Credit meter* customers which are summarised in the next two sections.

Prepayment customers

Their financial circumstances meant that most respondents who were paying for energy via a legacy PPM/Smart PP had little choice but to adopt a range of strategies. This sometimes included cutting back on other things in order to ensure they had energy.

Sometimes you sacrifice for the living expenses now. Yeah, now at the moment we are cutting down so many things [] to pay out for the electricity and the gas, that's how that is. (Legacy Prepayment Depth)

Examples included:

- Heating:
 - only turning it on when the children are at home
 - limiting its use to the bare minimum/not using it at all/having it on just once a week to help dry the laundry
 - only heating one room/using a stand-alone heater
 - using alternative forms of heating, such as a log burner
 - wearing extra layers/using blankets/going to bed early
 - only using it to heat water and only turning it on as needed/only heating the water every other day
 - adjusting to 'being cold most of the time'.
- Electrical appliances
 - not leaving appliances on standby (NB numerous respondents commented that Sky advises customers against switching off their set box at the mains)
 - turning off ovens/kettles/showers at the wall/removing plugs (some respondents assumed that it was not just appliances on standby that continued to use energy)
 - using timers (e.g. to limit time in the shower)

We've just got used to it. See, anybody that comes in, they'll be, 'oh, it's freezing in here', but we've got used to it. We've got used to this. (Legacy Prepayment Depth)

- cooking in bulk and freezing
- using the microwave or halogen oven instead of the gas/electric oven/hob
- using appliances at night (those on E7)
- not using appliances as frequently/not using them at all (e.g. tumble dryers, ovens)
- not replacing appliances when they break down but doing without (e.g. dishwashers, tumble dryers)
- leaving lights off/using lamps rather than spotlights/removing light bulbs from fittings
- having a shower at the leisure centre/not using the electric shower.

Home improvements were largely outside the control (many were tenants) and the pocket of these respondents. A number were aware that their homes were energy inefficient but commented that their landlord was unwilling to improve them.

Credit customers

The extent to which *Legacy Credit* customers taking part in the research felt the need to adopt energy saving measures varied according to their financial circumstances.

Some preferred not to know how much energy they used as they felt unwilling and/or unable to reduce this; some readily traded off higher consumption against convenience (e.g. using a tumble dryer in the summer).

You see these people on TV who do certain bits to their home but they are splashing out loads of money to do things to the home to try and reduce the amount they use. I know it works in the long run but it's having the upfront [resource], having the time to do it and having the expertise to do it which we haven't got. (Legacy Prepayment Depth)

I don't think about it. I mean, I have been looking at the meter and checking my readings and then I put them online to [energy company] but other than that I'm not really bothered, it just goes out of the account. (Legacy Credit Depth)

I'm a bit naughty, I use my tumble dryer sometimes in the summer just for underwear and I shouldn't really because I know how much it uses but I just think it saves time really. It saves me hanging out everything on the line if I quickly shove them in there even when it's a boiling hot day. My husband does moan at me but I still do it sometimes. (Legacy Credit Depth)

Some acknowledged that they could be doing more but were too lazy to make the effort.

I've probably taken the lazier route of just saying leave them all on all the time, which is probably down to laziness and partly down to having things like modem's always on and the Sky box, the kind of things that I don't want to turn off. I could probably be a bit more efficient in that respect. (Legacy Credit Depth)

Nevertheless, some were adopting a range of strategies including:

- turning down/off radiators in unused rooms/only putting the heating on 'if needed'
- not using a gas fire (too expensive)
- using appliances at night (those on E7 tariffs)
- only taking showers, not baths
- putting on extra layers
- when appliances need replacing, buying more energy efficient ones.

Some respondents in this sub-sample had invested in home improvements, such as insulating their loft or installing double glazing.

Perceived impact of smart meters and IHD on managing energy consumption

Visualising how much energy is being used, along with the cost of this, was felt by *Legacy PPM* respondents not only to raise their awareness of how much they are using but also to encourage them to think about whether they can better manage their use.

Having the option to set a budget and track use against this (see

Figure 8), and seeing how much energy has been used over different periods (see Figure 7, p25, bottom row), was also seen as encouraging people to consider ways of reducing their consumption.

Some parents felt the IHD would engage their children and encourage them to be more energy conscious.

Figure 8: Setting a budget and tracking consumption



I think if you know that you've set yourself a budget and you are trying to live, like, within your means, you will soon see that you are not because if you try and break it down on a daily, okay it's a bit much to try and break it down on a daily basis, I'm going to use this much per day. But if you are trying to live within your means and you don't have an awful lot of money, I do think that you would try and cut down in some way or another, to live within those means and that budget that you've set on your thing. (Legacy Prepayment Depth)

But as soon as they come through the door, it's literally everything goes on, all the lights go on, all the plugs get turned on and it's just, it's completely different. So it would be interesting to see just what we are using and how much we could save by getting them to turn off the lights and plugs and not have the plugs on for no reason. (Legacy Prepayment Depth)

However, there were a number of barriers that may prevent intentions translating into behaviour change even for those motivated to reduce their usage. These included:

- lacking confidence in getting to grips with the IHD
- not being clear what the colour coding represents (it is important to appreciate it is **how long** it remains in the red)
- not knowing how to use the IHD to identify which appliances use more/less energy
- not knowing how to set a personal budget or what level of savings they might reasonably expect to achieve; also, concern that having set a budget, will they get cut off if they exceed this?
- the perception that they are already doing all they can to minimise their consumption or that they are only using what they need to use.

The experiences of respondents who already had Smart PP confirmed that these barriers had been real for them. Reducing energy consumption was not being used as a selling point and did not figure in the reasons respondents gave for switching. Moreover, the levels of engagement with their IHD varied depending on how confident they were in using it as well as their motivation to lower their bills and many were not engaging in information on the IHD beyond that on account balance¹⁰.

¹⁰ It should be noted that when a smart meter is operating in prepayment mode, the IHD will have more information for customers to absorb compared to when the meter is operating in credit mode (for example, information on account balances) so there are potentially additional challenges in getting engagement in usage data among smart PP customers.

In a small number of cases, *Smart PP* respondents were engaging with their IHD and actively trying to monitor and reduce their energy use.

I think when we first had it, I used to have the heating on a low setting 24 hours a day and when I saw how much I was spending, I thought I'd try something different. That seems to have worked out cheaper...

...[] So what did you change it to?...

...Having it off at night, when the kids are at school and just having it on low or sometimes a bit higher, if it's a bit colder...

...What impact did that have?...

...Cheaper bills!...

...Roughly what sort of difference?...

...I think it's about £20 a month on the gas. (Smart Prepayment Depth)

So have you managed to work out or get an idea from this which of your appliances uses the most?...

...Yes definitely, we exactly know that the washing machine takes 30p. I know that for a fact. (Smart Prepayment Depth)

Well, I have been toying with the kettle and the halogen oven and looking at the hand-held set and seeing how much it uses to boil a cup of tea or cook a piece of chicken or something...

...And have you found that useful?...

...Yeah, it's interesting...

...So have you changed anything in terms of how you do things from having done that?...

...I cook certain things in the halogen...

...Because you know that is going to save you energy?...

...Yes." (Smart Prepayment Depth)

While discovering that some appliances use less energy than expected can have a liberating effect, very few respondents had used their IHDs in any systematic way (such as by turning off all other appliances) to try and establish how much energy each one used.

In many cases:

- the IHD was simply a substitute for a previously less accessible meter which helps them manage their money more conveniently
- they continued to top up at a PayPoint
- the most passive respondents only accessed the default overview screen which displays their credit balance and the predicted number of days remaining (see Figure 9; top left hand screen); some even had it turned off most of the time and only switched it on occasionally to check their balance
- some respondents had explored other features and were aware of at least some of the IHD's capabilities but had not felt the need or did not know how to take advantage of them.

I haven't really, to be honest, looked at everything. I need to but I haven't. I'm frightened of doing something. If it came to the crunch, then I would have to read the book and press a few more buttons or I would wait for one of the kids to come home because I'm not very good with technology. (Smart Prepayment Depth)

Does it actually help you manage your use of energy?...

...I wouldn't say so, no...

...It probably would if we knew how to do ...

...If we knew how to use it, yeah he's right because they said you could have a thingie, where you used so much, where you can ...

...Yeah, so much a day and you can have a limit...

...But we've still not got our heads around how to do it. (Smart Prepayment Depth)

The default screen of the particular IHD being used by *Smart PP* respondents only displayed their credit balance and predicted number of days of credit remaining. The

colour coded lights indicated the amount of remaining credit and not whether consumption levels were low, medium or high. Information about their current usage was shown on a separate screen; on this screen, the coloured lights indicated whether the customer was using a low, medium or high amount of energy (see Figure 9, left hand screens). Many respondents were not aware of this second screen and those who were, were not always accessing it.

Respondents also had the option of setting a budget and trying to stay within this. Although some *Smart PP* respondents said they were aware of this function, no one was using it. Most had not explored it and those who had, found it complicated to set up and were unaware of what the rewards might be.

When shown a single screen that combined current usage with credit balances (see Figure 9, right hand screen), this was felt to have greater impact and value, although some respondents struggled to understand what the top half of the screen was depicting.

Of the two, which do you think is the most useful? Seeing them both together like this or separately?...

...No both together like that. Yes definitely. If it was separate I wouldn't think that there was another part, so where else to go, if you know what I mean? But finding that on one thing and knowing what it is, then I don't have to press and look for, go into settings and all that. That's all brilliant. (Smart Prepayment Depth)

Figure 9: Smart PP IHD Default Screen and Current Usage Screen and a Screen that Combines the two



Encouraging Consumer Engagement

This chapter begins by considering the expectations of *Legacy Meter* respondents about what information and support they would receive to help them make the transition to smart technology. This is compared with the experiences of *Smart PP* respondents who had already made the change. Methods of encouraging on-going engagement with their smart meters and IHDs are also considered. This includes the role of social landlords as well as the likely impact of information about comparative energy consumption across appliances and measures that could save energy/money. Finally, the impact of extending functionality as a means of encouraging greater engagement, as well as providing additional help with efforts to save energy, are considered.

Introducing and Setting up Smart PP

There was a clear set of expectations among *Legacy Meter* respondents about what information and support they would require to help them make the transition from legacy to smart meters, with their energy company being perceived to play a central role. The experiences of *Smart PP* respondents suggested that, while they were largely satisfied with the support they received when making the change, nevertheless they were not fully engaging with the technology and therefore not realising its potential especially with regards to reducing their energy consumption.

Expectations of *Legacy Meter* respondents

There was a very clear set of expectations among *Legacy Meter* respondents in both the depth interviews and the focus groups about what should happen when their meters were switched over:

- Information and support should be provided by the customer's **energy supplier** and should reflect a range of preferred **learning styles**
- **Installer:** the person who installs the equipment was seen as having a key role to play in introducing the customer to their smart meter and IHD; respondents commented that appointments should allow sufficient time for the installer to

It depends, people work differently but I think I'd probably have someone show me rather than tell me. I think that'd be easier to understand and it'd go in a lot quicker, do you know, like people have different ways of understanding. (Legacy Prepayment Depth)

So it's getting the engineer, giving them time to spend with the client, with myself or whoever's having it fitted to explain it and for them not to be impatient. You know, 'oh, I've got so many of these I've got to fit today'. Each individual takes different time to absorb information. A young person may take five minutes, 'oh, no problem, I'll sort this out', someone older may not take the information in so quickly. (Legacy Credit Depth)

demonstrate how to use the IHD as well as encouraging the customer to enter their own settings. One respondent suggested that an important role of the installer would be to transfer any credit balances from the old to the new meters. At the same time however, respondents questioned whether installers would be allowed sufficient time to properly brief the customer. There was an expectation that installers would have daily targets to achieve and this would mean that if an installer was behind their target, this element would suffer

- **Manual:** a clear and easy to read manual would be left behind by the installer either in hard copy or electronic form (e.g. DVD); this might be supplemented by a quick start guide or 'idiot's guide'
- **IHD:** ideally, the IHD would provide on-screen prompts and a help function
- **Dedicated helpline:** a freephone/local call rate number with direct access to people with the necessary technical knowledge and skills; there was no desire among respondents to have to go through the normal customer service channels (having to negotiate various menus, being put on-hold, speaking to staff who are unable to answer your questions, etc.)
- **Online support:** this would be available in a range of formats e.g. FAQs, simple written instructions, short video clips showing how to use different IHD functions, as well as an interactive helpdesk; one suggestion was for an equivalent of the 'mayday' button on a Kindle which connects the user with a service representative via a live video link.

If there was a quick user guide online with the key functions that people might want to use and then maybe a bit more in-depth, black and white version of everything it can do. (Legacy Credit Depth)

Because I've phoned up the energy company before and they go, 'oh, I don't know what you are on about, I don't know what you've got to press, hold on a sec', and they have to go to someone else and someone else. [] Maybe they could do some kind of hot line for a few months. Rather than phoning the energy company up, just have a smart, you know the actual ...

...So maybe for the first three or four months afterwards, if there was a number you could call up...

...Yeah, because otherwise you've got to go through your energy company, 1 for this, 2 for that, and it's just a palaver. But if they do it just for the smart meter, like their own hot line, help line whatever you want to [call it]. (Legacy Prepayment Depth)

For me, I'd imagine they'd probably do it on their website, on the energy supplier's website, like frequently asked questions or something, in relation to that. Like, I have this device, how do I do it and click onto it but I don't really like the videos, whereas with manuals, I'd prefer to read it. (Legacy Prepayment Depth)

Concerns were raised about how elderly/disabled/non-English speaking/poorly educated people would cope with the change

I suppose just an online video or a video clip or a text message because normally you would expect that you'd get a booklet that you will never read. (Legacy Credit Depth)

to smart meters. In both the depths and the groups, many respondents (especially women, of various ages) displayed a reluctance to engage with the technology and a few questioned how easy it would be to use. An analogy was drawn with how much people engage with all the facilities they have on their mobile phones.

Do you know what it reminds me of, my phone? A few months ago it upgraded itself. I was in bed doing it and I got really confused. So the next morning I got up early and went to the Apple shop, right, and the guy was lovely and for about an hour he was doing things and I thought, 'do you know what, I don't make half the use of it, of the things it could do, I haven't got a clue.' (Legacy Prepayment Group)

Experiences of *Smart PP* respondents

Introduction to smart meters and IHDs for these customers typically involved a visit from a sales representative and then, once they had decided to go ahead, an installer.

- Sales rep:** typically this was the first point of contact with the supplier and set the scene for what followed. The emphasis was on cost savings and convenience, that switching would be easy, and everything would be done for them. No reference appeared to have been made to ways to save energy

They did say it would show me how much I'd be spending per day, per week, per month, so that I could keep an eye on it...

...Did they suggest any ways you could try to reduce the amount you were spending?...

...No. (Smart Prepayment Depth)
- Installer:** they mainly created positive impressions (e.g. 'nice polite people', 'no mess', etc.). Most respondents reported that the engineer spent some time showing them their IHD and they often pre-set options such as credit alert levels; this may or may not have been done following initial discussions with the customer
- Manual:** most respondents had been given a copy, some had been taken through it, many had not looked at it and did not always know what had happened to it

I don't know where mine is...

...So glad you said that...

...Haven't looked at it...

...No idea where it is. (Smart Prepayment Group)
- On-going support:** at least one respondent had had a follow-up courtesy call which impressed them; a few had telephoned their supplier with problems - typically these related to topping up and in most cases had been resolved promptly (see Topping up, p31)
- Online support:** there was little evidence that respondents were aware of or had accessed their supplier's website.

Most respondents expressed satisfaction with the information and support provided. However, the concerns identified by legacy respondents were sometimes borne out by the experiences of a small number of *Smart PP* respondents who reported that the installer did not have the time to explain the new equipment to them. In at least three cases, respondents reported the IHD was given to them without any instructions. One customer did not use it for several days until she found out how it worked by watching videos on YouTube; another said she had to ask her friend how to use it; the third respondent commented that she and her husband still had not worked out how to use all the functions.

So you were left to work it out yourself?...

...Yeah, still not worked everything out! [laughs] We just know how to get the money on it and sometimes that don't go on. (Smart Prepayment Depth)

Despite expressing satisfaction with the support and information they had received, it was clear that many respondents were not familiar with all the features and/or information available and were unable to take full advantage of the IHD; those who had engaged most tended to be men.

In one of the *Smart PP* focus groups, hearing about facilities like being able to set a budget and trying to stay within it, led some to feel they should have been given this information by their supplier when the meters had first been installed.

Encouraging On-going Engagement: Social Landlords

Social landlords were perceived to have a role in encouraging on-going engagement especially in regard to helping respondents develop more effective energy management strategies and behaviours. While respondents acknowledged a role for various methods of providing this engagement, they felt that face-to-face contact would be most effective.

For those living in social housing, the idea that their landlord might play a role was not raised spontaneously by respondents taking part in the depth interviews. In some instances, *Smart PP* respondents indicated that their landlord had facilitated the introduction of the energy company offering smart meters but there was no suggestion that the landlord was involved over and beyond this. The group discussions were used to explore further how information and support could be provided to encourage people to engage more fully with their smart meters and IHDs and, in particular, the potential role of social landlords in this.

The information presented to *Prepayment Meter* respondents earlier in the discussions about opportunities to save money (see Encouraging On-going Engagement: Providing Information to Help Manage Energy Use, p58) piqued a lot of interest with some voicing an interest in having this in addition to instructions for using the IHD. One idea was that the installer would also check whether the customer was aware of these measures and possibly, would be able to put them into effect (e.g. checking for energy saving light bulbs, water saving showerhead fittings, etc.).

They could be checking that they've got the correct light bulbs in, you know, the energy efficient light bulbs, and stuff like that. (Legacy Prepayment Group)

The idea that a housing association might provide information on energy saving measures and linking this to information from their smart meter and IHD was appreciated. It was suggested that social landlords might also inform residents in a similar way about the programme of meter replacement and what it will mean for them.

This could be something like this, it could actually be sent out to, you know, homes before the person, so you know, you should be expecting such and such a person, but something really simple so they know you are coming or at least they know you are going to unlock your door. (Legacy Prepayment Group)

advantage of them. Comparisons were also made with the digital switchover, both with respect to the communication campaign that ran for several months leading up to the switchover and the additional support offered to more vulnerable/less technically able people.

While residents of local authority and housing association properties welcomed the idea of support from their landlords, most dismissed this as unlikely. Given that, on the whole, respondents reported that their landlords had not installed energy efficiency measures, they did not expect them to have the time or money to support tenants in this way. Indeed, a number of

Given the prolonged period for the introduction of smart meters (up until 2020), it was proposed in two of the groups that there could be an educational campaign running throughout this period that prepared customers for the changes and how they could take

Well, I think you should have the option of saying, if you need a bit more extra. Didn't they do that with the digital switchover?...

...Got a helpline and stuff...

...You sort of request a bit more in-depth...

...Yeah, I think my brother had somebody come round and set it all up for him and run it through. (Legacy Prepayment Group)

respondents were fairly outspoken in their criticism, perceiving their landlord to be non-responsive and disinterested in improving the energy efficiency of their properties.

The idea of a 'friendly neighbour' who was trained to give support was mostly rejected on the grounds of lack of trust; instead, one idea was for a 'trouble shooting contact' who was available for a period after the new meters had been installed; it was envisioned that this individual would be either from the energy supplier or the landlord.

They should have a trouble-shooter in each area or location, whoever the energy company is that supplied that meter, they should have a trouble-shooter and you should be able to call them. You should be able to call them and they try to be there that day or later, the next. (Legacy Prepayment Group)

Key to any on-going advice was that it should be independent, and the provider should be both knowledgeable and able to talk to 'ordinary people' without patronising them.

Someone who knew what they were talking about, and all these big fancy words, hang on a sec; let me get my thesaurus out. You know what I mean? Someone who'd talk straight to you...

...Who talks to you, not down to you...

[] Oh, they'd need to be very nice and probably not wearing a suit...

...Yeah, suits are too...

...Someone who's down to earth. (Smart Prepayment Group)

I think they should do some mandatory things. I think for things like your loft insulation etc, you know, I don't know how it works in big apartment blocks but they've got a duty of care to their tenants and I think some of it should be compulsory, some more onus on housing associations or private landlords because they do get away with quite a lot. You're the one that's got to sit there and be responsible for it [your energy] in terms of what you pay so I think they should have a bit more responsibility. (Legacy Prepayment Group)

Participation in group meetings based on neighbourhoods would, it was felt, depend on relations between neighbours and, for many respondents, the idea was ruled out.

I could see people in mine doing it because they're quite, I think everyone moved in at the same time and a similar sort of people live there, so I think they probably would be interested in something like this...

...[] All depending on where you live, they won't do it where we are. The ones over the road, I can't even park the car across the road, 'I own my house, you can't park your car there'. I've got to park it a little bit further up. (Legacy Prepayment Group)

Encouraging On-going Engagement: Providing Information to Help Manage Energy Use

The extent to which Prepayment Meter respondents were willing or able to engage with the issues varied considerably. Knowledge of which electrical appliances used most energy was patchy. Information on typical running costs encouraged some respondents to think about adapting their behaviour but the way this information was presented sometimes had the opposite effect. Translating the costs into ‘typical annual costs’ created greater impact. Respondents were not always adopting behaviours that could result in energy savings. Linking such behaviours with typical savings led some respondents to consider changing their behaviour although for others the rewards of changing their behaviour were not considered great enough to merit the effort.

The need for more information beyond that provided by Smart Meters and IHDs

Smart meters and IHDs provide a great deal of useful information about energy consumption. However, the research has shown that consumers need **more than information**, they also need **effective behavioural strategies in order to be able to act on the information the IHD is providing them with**. Without such strategies, customers may not bother trying to reduce their consumption or quickly give up in frustration. The implication is that customer support programmes should not just focus on helping people use their IHD effectively but also provide them with a range of behaviours to help them better manage their energy consumption. This was explored further in the focus groups among *Prepayment Meter* respondents (i.e. those prepaying for their energy via a legacy or a smart meter).

Engagement with the issues

When discussing their individual circumstances in a one-to-one situation, respondents were reasonably engaged with the subject matter however, when discussing the issues in a group context, levels of interest and engagement varied enormously within a group; in one case, two respondents left half way through the discussion. While it is not possible to state for certain why this was, a number of factors seemed to be involved. The focus of the depth interviews were on respondents experiences of managing their energy consumption as well as their reactions to smart technology. The issues addressed in the focus groups tended to be more hypothetical and somewhat more abstract. In addition, many respondents met the criteria for identifying vulnerable consumers (see Box 4 in the Annex, p79) which includes ‘low literacy, numeracy and/or financial capability’ – a number of respondents in the groups found some of the discussion challenging. As a result, and despite indicating a desire to reduce their consumption/size of bill, there was limited interest in the issues and a considerable sense of inertia – a feeling that they were already doing all they could and/or that whatever they did would only have a small impact. There was often a preference to adopt the easy option; to carry on as they are rather than think about changing their behaviour.

Awareness of energy consumption and costs

As noted earlier, only a few *Smart PP* respondents taking part in the depth interviews had used their IHDs to try and monitor and reduce their energy use (see Perceived impact of smart meters and IHD on managing energy consumption, p50). Occasionally, *Legacy meter*

respondents had noted the cost of running certain appliances, for example, by using an energy monitor or noting the change in their credit balance on their PPM. In all cases, the impression given was that they had not isolated that appliance first so, at best, this would have been an approximation.

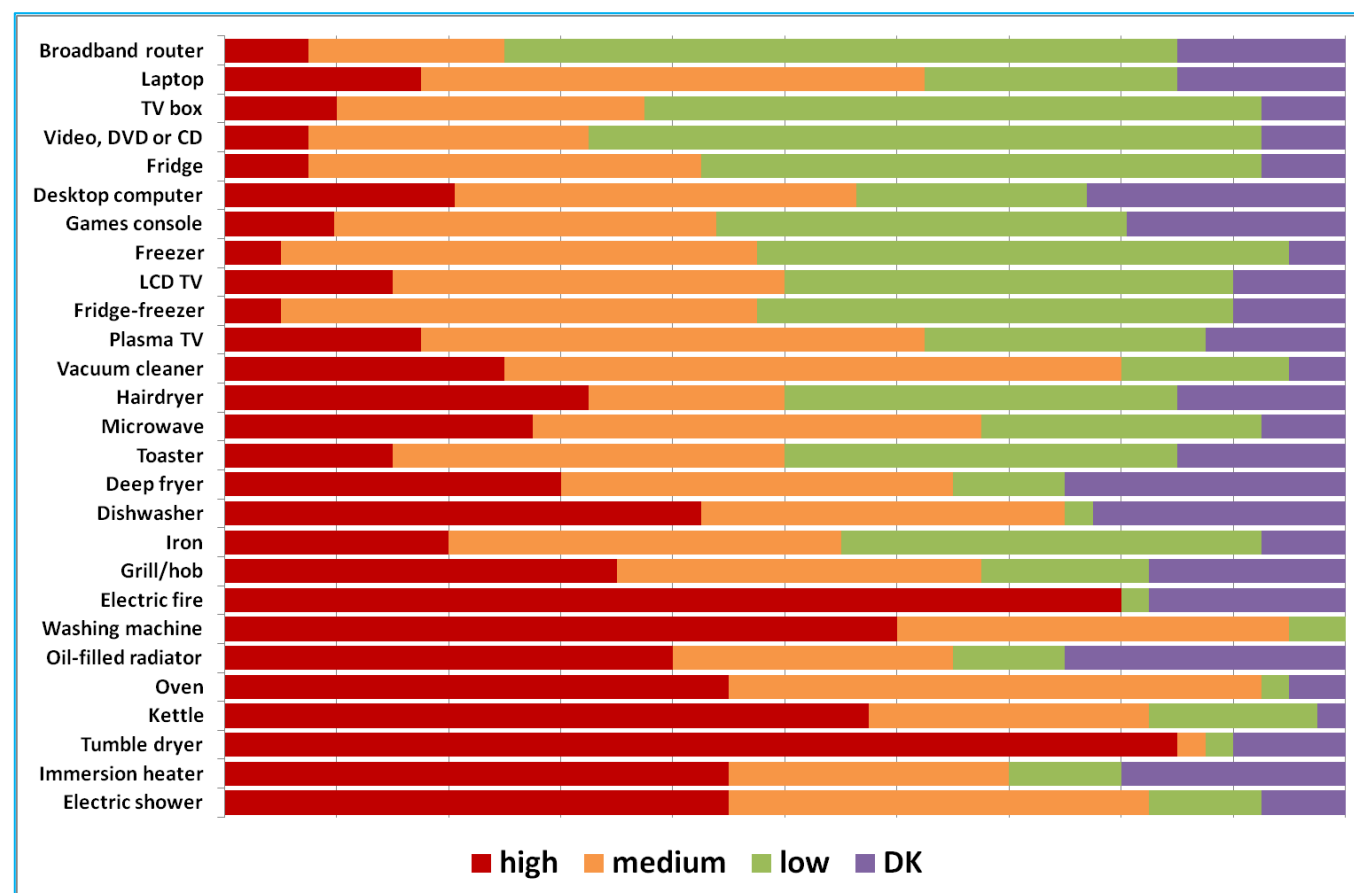
Knowledge of how much energy different appliances use was explored further in the focus groups with *Prepayment Meter* customers (those prepaying for their energy through either a Legacy PPM or a Smart PP). Respondents' knowledge of which electrical appliances used most energy was patchy. Judgements tended to be based on a mix of guesswork and 'received wisdom'. There were occasional mentions of energy ratings on appliances and reference to either an appliance's wattage or voltage, although as previously noted, most respondents did not understand watts, kWh, etc.

There was an assumption that appliances that involved heating up water, such as a washing machine, would use more energy. The typical length of time an appliance was used was also recognised by some to be a factor; for example, a toaster would typically only be on for a few minutes.

Respondents were given 27 electrical appliances and asked to group them into three categories based on how much energy they might use if left on for one hour. The categories were 'high', 'medium' and 'low'; respondents could also put appliances into a 'don't know' category. The results are summarised in Figure 10 where appliances are arranged in order from the lowest energy consumer (broadband router) to the highest (electric shower).

Figure 10: Grouping Electrical Appliances Based on Energy Consumption Bands

Base: *Legacy PPM* and *Smart PP* focus group respondents; n= 40



Only nine of the 27 appliances were correctly classified by 50 per cent or more of the sample (tumble dryer, kettle, washing machine, electric fire, vacuum cleaner, fridge, video, DVD or CD)

player, TV box, broadband router). The finding for other appliances is consistent with the idea that most respondents were guessing.

The typical cost of running each appliance for an hour is shown in Figure 11¹¹.

When asked how much it might cost to run an appliance in each category for an hour, respondents had no idea; moreover, where they were prepared to make a guess, they tended to overestimate; for example, £2 for appliances in the 'high' category and £0.25 to £0.50 for appliances in the 'low' category.

Respondents were then shown the typical hourly running costs (see Figure 11). This information created considerable interest from some respondents, some even noting down the costs for later reference at home. It also prompted a number of suggestions from respondents about how they might try and change their behaviour, for example, waiting for their partner to come home to eat so that they only use the oven once each evening, hanging out washing whenever possible, rather than using the tumble dryer, using alternatives to oil-filled radiators or storage heaters (although using an electric heater may not help here), using their microwave or halogen oven more often to heat food.

Figure 11: Typical Hourly Running Costs for a Range of Electrical Appliances

Appliance	Typical running cost for 1 hr
Electric shower	£1.17
Immersion heater	£0.41
Tumble dryer	£0.41
Kettle	£0.35
Oven	£0.28
Oil-filled radiator	£0.27
Washing machine	£0.22
Electric fire	£0.20
Grill/hob	£0.20
Iron	£0.19
Dishwasher	£0.17
Deep fryer	£0.16
Toaster	£0.16
Microwave	£0.14
Hairdryer	£0.14
Vacuum cleaner	£0.11
Plasma TV	£0.05
Fridge-freezer	£0.04
LCD TV	£0.02
Freezer	£0.02
Games console	£0.02
Desktop computer	£0.02
Fridge	£0.01
Video, DVD or CD	£0.01
TV box	<£0.01
Laptop	<£0.01
Broadband router	<£0.01

I think it would change your behaviour, like the oven, you might [] wait for your partner to come in rather than cook two separate [meals]. (Legacy Prepayment Group)

¹¹ Information about the typical power rating of different electrical appliances was taken from <http://www.cse.org.uk/advice/advice-and-support/how-much-electricity-am-i-using>. An average price of electricity of 13.52 pence/kWh was taken from <http://www.energysavingtrust.org.uk/Energy-Saving-Trust/Our-calculations>. Using these data, the typical cost of running each appliance for 1 hour was calculated. The appliances were then grouped into three bands: those where it would cost £0.20 or more, those that would cost between £0.10 and £0.19 per hour to run and that that would cost less than this.

There was considerable surprise at how high some of the costs were, especially an electric shower given that people are encouraged to shower rather than have a bath. There was even more surprise at how low some costs were compared to expectations, especially since many appliances would typically not be used for as long as an hour at any one time. This led some respondents to dismiss the figures as incorrect.

You put a roast in the oven that's going to be, no, no, no...

...You're going to use at least £3 to cook for about an hour and half, two hours, aren't you? A couple of quid at least. 20 pence? No. (Smart Prepayment Group)

In some cases, this was because they felt they knew how much it cost to run certain appliances based on how quickly their credit balances fell or from information gained from an IHD. However, as this was typically done in an unsystematic and uncontrolled way, their estimates were almost certainly incorrect since they had not allowed for the fact that a number of other appliances would have been in use at the same time. Nevertheless, expressing appliance consumption data in terms of £ per hour was seen as potentially undermining the case for trying to cut back because the costs seemed very reasonable.

It's the tiny, tiny, tiny things that add up to, that's what it is, isn't it?...

...In fact that is probably worse for me, seeing it like that - I'm thinking, 'oh that's not bad, I might take advantage'. (Legacy Prepayment Group)

I think that's a bit deceiving because I think if you think it's all going to be that cheap you're going to go home and you're going to put everything on and use everything more and it's going to make your bill more. (Smart Prepayment Group)

Some respondents appreciated that these figures, by themselves, did not tell the whole story with respect to their bill; this depended on length of use as well as frequency. However, it was difficult for respondents to appreciate how 'typical hourly costs' might scale up or how even appliances in the 'low' category could result in significant costs if left on all the time.

Translating the costs into 'typical annual costs' helped make things more meaningful and created greater impact; for example:

- using a tumble dryer for 3 hours a day, 4 times a week might cost £250 a year
- leaving a router on 24/7 might cost £85 a year.

Awareness of energy saving behaviours

Prepayment Meter respondents taking part in the group discussions were asked individually to fill out a short questionnaire to show which of several energy saving behaviours they 'had done/do all the time', that they 'sometimes did' or that they 'never did'. There was also the option to select 'not applicable'. The results are summarised in Figure 12 below.

About half of the respondents claimed to repair dripping hot taps, close curtains at dusk, use a bowl to wash up 'all the time', and to have fully insulated their loft, but as many did not use a bowl to wash up (rather than leaving the hot tap running) and more respondents never turned off at sockets/unplugged than always did.

We've got tellies in all three rooms, we've got two laptops mostly on stand-by, all the iPads are on charge, we all plug our phones in. (Legacy Prepayment Group)

either did not have the appliance (for example, dishwasher, non-electric shower) or, as tenants, did not see it as their responsibility (for example, loft insulation, draught exclusion).

Some behaviours were not applicable to a large proportion of the sample because they

I mean, it's not my job to draught proof windows. I've shut the curtains, I've put extra blinds up in the bedrooms and I've got good thick carpets and underlay but I suppose that's all I can do. I'm not going to start insulating the loft. (Legacy Prepayment Group)

Others had not adopted certain behaviours out of habit, professed laziness or preference. This included washing dishes under a running tap, filling kettles to the top even when making just one cup of tea, leaving appliances on standby or recharging, and keeping curtains open in the evening.

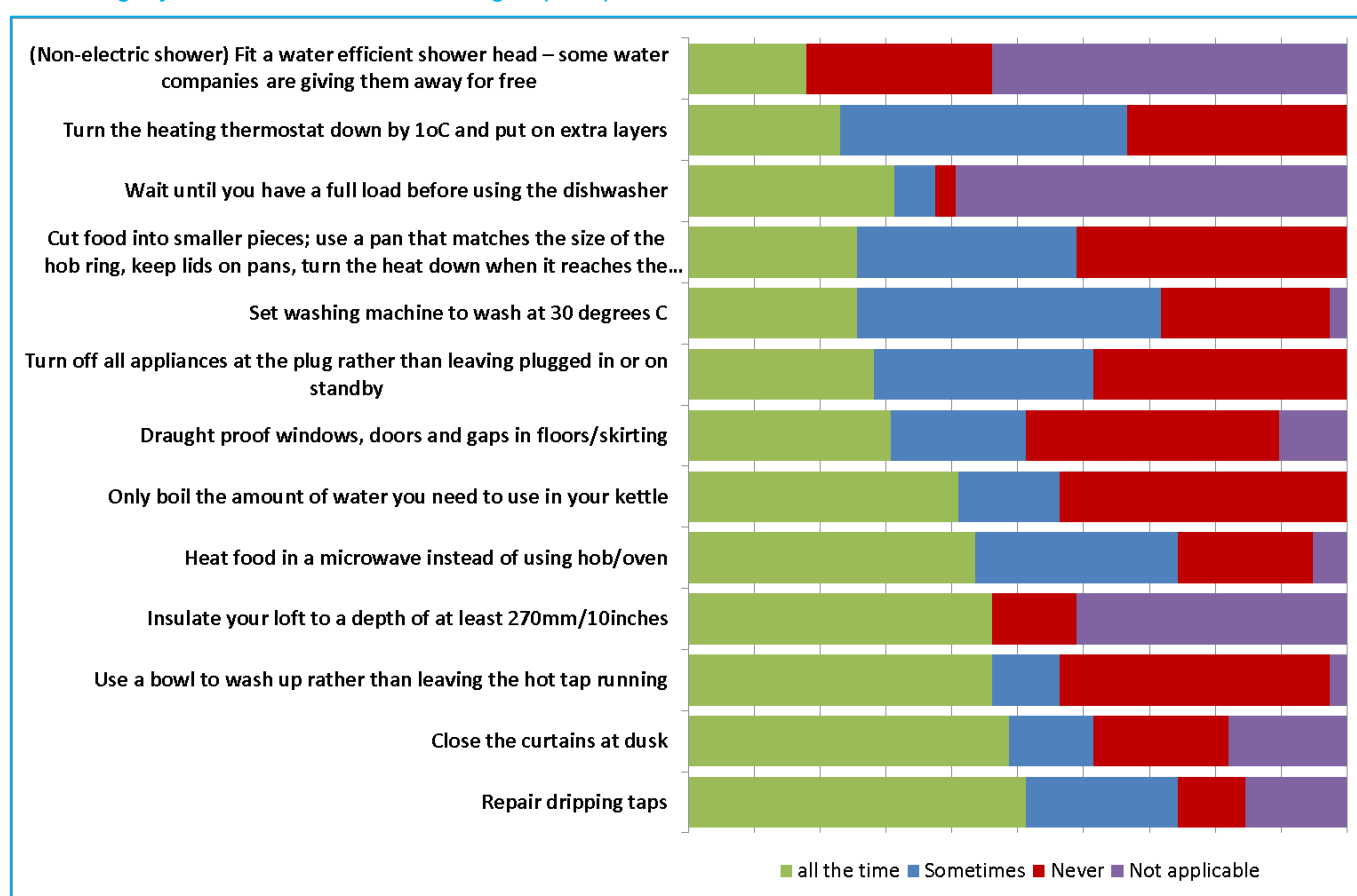
I'm just pure lazy, three bottles and a couple of plates and it goes in there and it's on [referring to dishwasher]. (Smart Prepayment Group)

Some behaviours were questioned for their effectiveness including washing clothes at a lower temperature, turning down the thermostat, and closing curtains. For example, one respondent questioned the impact of turning down his thermostat as the boiler was still on.

Just turning it down means it's still on, isn't it? Your gas is still on but it's not as hot, the radiators aren't as hot. (Smart Prepayment Group)

Figure 12: Extent to which Prepayment Meter Respondents were Adopting Energy Saving Behaviours

Base: Legacy PPM and Smart PP focus group respondents; n= 40



When asked which one of the things they were not currently doing 'all the time' they thought would have the greatest impact on their energy consumption, there was little awareness or consensus. Moreover, several respondents were fairly dismissive about the amounts they assumed could be saved by changing their behaviour.

Seeing the potential savings that might be achieved (see Table 2) led a few respondents to conclude that they might try and take some action including turning off appliances at the socket, running the washing machine and dishwasher on full loads, spending less time in the shower.

Some felt that seeing actual figures of potential savings had more impact than just being told about energy saving behaviours.

I think if it had examples, like number figure examples, if it showed you examples, that would be more appealing to you because you'd be like, 'oh right, okay'. (Smart Prepayment Group)

Some respondents even noted down some of the information.

I know it sounds really sad but I have written it down because [I was] really surprised and I will go round and turn things off and I will harass the boys about not being an hour in the shower and I will try although the tumble dryer isn't as expensive as I thought it was. (Smart Prepayment Group)

I just don't really care if I'm honest. I pay the same amount each month for my gas and electric, you know I'm pretty happy with it so I'll just carry on as I am. I mean, it is extortionately priced, the energy, but there isn't a load you can do. You might save yourself a couple of quid but for all that hassle that you go through, is it worth it? (Legacy Prepayment Group)

However, other respondents were disappointed that individual actions did not result in greater savings; they tended to view each behaviour in isolation rather than thinking about the cumulative effects of several actions.

Probably save a couple of pounds a week. But I suppose it'll add up. (Smart Prepayment Group)

For these respondents, the rewards often did not seem to be sufficient to merit the disbenefits of saving energy – as long as the amount they budgeted for to use for energy covered their use, respondents often seemed

reluctant to change their behaviour.

Table 2: Impact of Energy Saving Behaviours

Source: Energy Saving Trust website

Behaviour	Typical Savings/Effect
Turn the heating thermostat down by 1°C and put on extra layers	can reduce bills by 10%; typical level of savings £75 a year
Draught proof windows, doors and gaps in floors/skirting	save £20-£30 a year
Turn off all appliances at the plug rather than leaving plugged in or on standby	save £45-80 a year
Set washing machine to wash at 30°C	save up to £6 a year
Use a bowl to wash up rather than leaving the hot tap running	save up to £30 a year
Only boil the amount of water you need to use in your kettle	save up to £7 a year
(Non-electric shower) Fit a water efficient shower head – some water companies are giving them away for free	a family of 4 could save about £65 a year; if they have a water meter, they could also save a further £95 a year on their water bill
Insulate your loft to a depth of at least 270mm /10 inches	Insulating a loft that has no insulation could save up to £180 a year Topping up loft insulation from 100mm to 270mm could save around another £25 a year
Close the curtains at dusk	Stops heat escaping through the windows
Repair dripping taps	A dripping hot tap can waste enough hot water in 1 week to fill half a bath
Cut food into smaller pieces; use a pan that matches the size of the hob ring, keep lids on pans, turn the heat down when it reaches the boil	Speeds up cooking time and saves energy
Heat food in a microwave instead of using hob/oven	This uses less energy than using a hob/oven
Wait until you have a full load before using the dishwasher	Two half loads will use more energy than one full load

Extending Functionality

Respondents' views on extending the functionality of smart technology were explored both in the depth interviews and the focus groups. This included the idea of linking the information to other devices and platforms, the development of applications based on a customer's usage data and the use of algorithms that could 'interrogate' a customer's usage data and provide information that could help customers manage their energy usage. The findings suggest all of these approaches could increase levels of engagement with the information for those consumers able and willing to take advantage of the relevant technologies. In particular, applications/ algorithms that linked usage data to behaviour changes at an individual level had considerable potential to engage respondents and encourage behaviour change.

Linking information to other devices and platforms

In the depth interviews, the ability to link the information available through the IHD to other devices – laptops, tablets, mobiles, smart phones – was explored and this had some appeal depending on what devices people owned and their technical competence.

It's just more aggravation. I'm constantly getting spam texts and emails, my phone is forever blipping as it is. I think you just get to the point where, 'oh right the information, boring', and ignore it really. I mean, you've got to be some sort of obsessive who's away from the home but has got to have that information of, you know, the spend at that time. You know there are more important things in life really. No. (Legacy Credit Depth)

I would think maybe a smarter way is to have an app on your phone or your iPad or whatever. I think if you're moving into such a technology friendly and network friendly age, why can you not get that information through a website? I think that's a little bit gimmicky. If that's on some kind of network why can't I just obtain that information through a website or through an app? (Legacy Credit Depth)

Being able to access the same information via a mobile phone had appeal because, for those who had them, mobiles were often seen as 'constant companions'.

It was of more interest to *Prepayment Meter* customers especially those who worked and was of less interest for those who were home based. There was also less interest from *Legacy Credit* respondents largely as they thought it was less important for them to monitor their usage and they had no requirement to top up remotely.

Some respondents would welcome accessing all the information available through their IHD either online or on their smart phone – in a few cases as an alternative to the IHD.

Well, absolutely if we're going to have to have one, why not say, 'just give me an app', and I don't need this in the flat anywhere because I've got everything that is on there already. (Legacy Credit Depth)

For *Prepayment Meter* customers, there was considerable interest in:

- receiving credit alerts by text – especially if this also provided them with a simple way of topping up in response to the text
- in the same way, there was interest in a message informing them that they need to activate Emergency Credit, ideally with a way of doing this remotely rather than waiting until they got home.

That would be quite good because if you're out and about and you've got your gas cards on you and the machine sets a trigger off to your phone, so you need to get some gas and electric. That would be quite good. (Smart Prepayment Depth)

Extending functionality via applications/algorithms based on customer's usage data

For those depth respondents who were comfortable with the idea of using applications on devices such as their smart phone, extending the functionality of their IHD in this way was acceptable in principle; actual use would depend on the perceived usefulness, ease of use and whether there was a cost attached to individual applications.

In all the focus groups, respondents were invited to suggest their own ideas for any information/functions that could help customers better manage their energy consumption. Their suggestions included information on the energy use of individual appliances, a means of remotely turning off appliances, and a means of selecting the most cost efficient appliances i.e. comparative running costs vs. the purchase cost of appliance so that customers could see if paying more for a higher energy rated appliance would work out cheaper in the long term.

Their reactions to two further ideas were also briefly explored. Both involved the customer sharing their usage data (NB this would require the customer to have a device that would provide the necessary interface for 10 second updates though 30 minute consumption and tariff information can be retrieved without any additional devices although this was not discussed with respondents).

In the first example, the customer's data would be used to suggest which tariffs would be best for them, bring to their attention any deals or discounts they might be eligible for, indicate how the customer's energy use compares with similar households and provide suggestions for ways the customer could change their behaviour to save money.

The idea of identifying the best tariff had considerable appeal although some of the most disadvantaged respondents in the sample were resistant to the idea of switching suppliers, and lacked knowledge of whether it was possible or how to switch or whether it would really benefit them.

Say you were going to buy a kettle, you could have an app that not only tells you the price but which would be the most economical to use. Same for a washing machine, same for a microwave, because you can search now for...

...So not only would you have prices as a criteria but you would have what its projected energy consumption would be and then you could factor that and you could even find out how much it's going to cost you over the years, so you could have all that information...

...That is brilliant as well because if you know that this fridge just running for 24 hours a day, 365 days a year will cost you 70 quid over the year whereas this one could have cost you 90 quid, you'd think well...

...Because it will give it an A rating...

...I don't know what that means...

...It just means it's efficient but it doesn't tell you what it's actually going to [cost to run]. (Legacy Credit Group)

Knowing about 'deals and discounts' was of interest to many although some commented that it would depend on who was providing this information. The view was that ideally the information should come from a neutral, independent source and not, for example, from energy companies.

Reactions to the idea of comparing one's energy consumption with similar households were mixed; many doubted it was possible to arrive at meaningful comparisons. However, some respondents commented that their energy supplier already provides this information and if a respondent discovered their consumption was 'above average', this might make them try and find out why.

The second suggestion was for an algorithm that would use customer data from their smart meter to work out which appliances a customer has in their home, together with information about how much energy each appliance uses. It could compare this information with lots of other customers with similar appliances to identify appliances that are using above average amounts of energy and couple this with a range of suggestions for saving energy. For example, 'your fridge cost you £10 to run this month which compares to the average running cost of £5 per month; you might consider defrosting it on a more regular basis, making sure it is not situated next to something warm or replacing it with a more energy efficient model'.

Although some respondents took a rather cynical view, suggesting this was an opportunity for suppliers/manufacturers to market new appliances, others felt that information that was specific to their individual appliances was likely to have the greatest impact and could encourage them to change their behaviour.

Yeah because it pinpoints the problem a lot better. Instead of thinking I need to turn the lights off, yada yada, it pinpoints, right I need to do that. It would be a lot better. (Smart Prepayment Group)

Yet others felt that they would either be 'too lazy' to take much notice or they would have too little understanding of what they were being told.

It was also recognised that not everyone would have smart phones and be able to take advantage of any applications

But if you know their habits and stuff, you could say, 'from your last 12 months we reckon you could save £200 this year', or whatever, and they could see for themselves from this...

...[] I think if energy companies are getting all this information then at the end of every year they should be making recommendations based on your specifics. So I don't know, you spent £200 on tumble dryer, these are your peak times, if you switched it, this is how much you'd save. If they've got information they should use it. (Legacy Prepayment Group)

I think it's useful for people who have phones that can use apps, but I would say that not everyone would be able to use apps, so you'd need everything on there anyway and this would be an extra. (Legacy Prepayment Depth)

Legacy Credit Customers and Smart PP

This chapter considers the views of *Legacy Credit* respondents about prepaying for their energy and the impact of smart technology on these.

Attitudes to Pre-paying for Energy

Although prepayment meters were felt to offer certain advantages, the key barriers to paying for their energy this way amongst Legacy Credit respondents were cost, inconvenience and social stigma.

The perceived advantages and disadvantages of paying for energy via a prepayment meter were summarised earlier in the report (see Perceived Advantages/Disadvantages of Prepayment Meters, p36). While some *Legacy Credit* respondents had experience of paying for their energy in the past via prepayment meters and had experienced problems which put them off doing so again, others had also experienced issues with credit payments including having built up large credit balances.

A small number of respondents expressed an openness about returning to/going on to PPMs at the outset of the interview/discussion especially if the perceived downsides were overcome. This view was perhaps more typical where respondents were younger and/or had families and found it hard to cope financially. In contrast, older respondents in smaller households seemed less keen.

The key barriers were identified as **cost**, **inconvenience of running out of energy/topping up** and for some, **social stigma**.

As I said, I'm not 100% sure on the benefits of doing it. For me to consider it, the only reason I would do that would be if I was getting a discount on what I was currently paying. (Legacy Credit Depth)

I think the stigma comes around from a lot of council houses that have got prepayment meters, housing associations have got prepayment meters so obviously a lot of people think that they're below, you know, below the rest of society. (Legacy Credit Depth)

I can't imagine there would be anything that would make it palatable...

...For example, you said that you can't imagine having to go to the shop to get something, so if you didn't have to do that, if you could do it I don't know over the phone or something like that?...

It would still be the inconvenience. And, I can imagine as well, having to speak to India in a call centre to try and ask for more power. (Legacy Credit Depth)

The idea of the normalisation of PPM, that is, seeing lots of other people similar to themselves choosing to pay for their energy in this way, was felt to make respondents more likely to consider paying this way themselves (assuming the disadvantages were addressed).

Impact of Smart PP on Attitudes Towards, and Interest in Prepayment

Smart meters and IHDs operating in prepayment mode were felt to address a number of concerns although several significant barriers remained. Cost was the most significant barrier. If prepaying for their energy meant that respondents would be paying less for their energy, many more were willing to consider doing so. The main 'selling point' of prepayment was seen to be the greater sense of control it offered consumers.

The perceived impact of smart technology on prepaying for energy

The response of *Legacy Credit* respondents to the information provided by smart meters and IHD was broadly similar to that of *Prepayment Meter* respondents including the feeling that the information could increase levels of awareness of their energy use and cost but this, by itself, did not necessarily enable customers to do anything to influence these.

When it came to the idea of using their smart meter in prepayment mode, the availability of remote top-up addressed some of their concerns such as ease of topping up and any social stigma, and information about credit balances and credit alerts provided a degree of reassurance about running out of energy.

However, a number of significant barriers remained:

- **Perceived cost:** prepayment would need to offer significant cost advantages over credit before most existing *Legacy Credit* respondents would begin to consider it. This issue was explored further in the three group discussions with *Legacy Credit* respondents. The view was that it was not enough to equalise costs; to overcome the other perceived disadvantages of Smart PP, the cost needed to be lower. A differential of 5-20% was suggested by a few. The upper end of this range was sometimes acknowledged to be optimistic and a saving of 10% was felt to be more realistic
- **Spreading the burden:** A monthly direct debit (DD) allows customers to spread the cost of their energy equally over the course of a year whereas

There's two barriers to prepayment meter being the right choice for me. (1) The stigma. (2) The convenience because I thought you had to go out and go to a shop but taking one of those away by the internet, having it by telephone, text message Smartphone, that removes that inconvenience because I can do all those just sat on my sofa. (Legacy Credit Depth)

If you give me a big discount for prepayment I'd do prepayment, but obviously I'm not prepared to give electricity or gas companies an interest free loan just for the sake of it. There's got to be something in it for me. (Legacy Credit Depth)

I think that it's just an arbitrary figure, but if you were told you will save 10% that is something that you can, it's tangible like, 'oh you know, that's actually, I pay 100 quid a month, that's a tenner a month, 120 quid a year'...

...And then you can work it out - that's this much per month, over the year that contributes towards a holiday at the end of the year, you know, that kind of thing. So that kind of the rounded figure 10%, that is probably going to start people thinking. If it's something like 5%, I think it's not worth the hassle of really doing it even although there is not that much difference between the 5% and 10%. (Legacy Credit Group)

I think I'd like to try and have a constant bill. I think Christmas being bang in the middle of winter, I think it can be a tough time for many households so I think having higher energy bills in the winter could put people off. It would definitely potentially put me off, I'd definitely say so. (Legacy Credit Depth)

prepayment was associated with variable payments. Customers could switch to prepayment and continue to pay by monthly DD and some welcomed this idea but this still leaves open the question of doubt about keeping in credit/not being cut off. Furthermore, if customers see they have built up a large credit balance, this might tempt them to reduce the DD which defeats the object of spreading the payments (at the moment, it is largely 'out of sight' which is why customers may build up a large credit balance)

- **Out of sight, out of mind:** once a DD is in place, customers can forget about their energy bills whereas switching to prepayment means they constantly need to be thinking about, and physically engaging with, how much they are using, whether they might run out and whether they need to top up.

I don't know, I mean if I had to, I would do prepayment. The thing is, I pay my direct debit and then it's done for the month, so I don't ...

... You don't have to think about it...

... It is a big thing in our lives these days...

... Everybody has got busy lives now - it's just not like it used to be."(Legacy Credit Group)

The idea of an auto top-up facility (cf. Oyster cards) was rejected on the grounds that the amounts were too large and varied, making financial management difficult especially for those on more limited incomes

- **Energy companies:** negative perceptions of energy suppliers meant that some respondents rejected the idea of allowing energy companies access to their money any sooner than was necessary (even though monthly DDs mean most are already doing this. In other words, this was an emotional, rather than a rational response).

I would be less enthusiastic about that than paying for it afterwards, because I just think of big corporations getting your money before they've provided it. I know that might seem like a small quibble, but it's probably the difference in them making £10m in interest for a month if they get everybody's payment a month early. I would rather I earn the interest in my bank than they earn interest in their bank having my money a month early. (Legacy Credit Depth)

A small number of respondents taking part in the depth interviews did not rule out the possibility of switching to PPMs at some point in the future if their financial circumstances meant they needed to exercise greater control over their energy consumption and/or the size of bills. In other words, they perceived Smart PP as a necessary response to financial difficulties rather than a 'lifestyle choice'.

I wouldn't make a decision on that yet but I would definitely consider pay as you go. No nothing, no concerns really. Just my circumstances are changing and pay as you go might be a good option for me at this time in my life. (Legacy Credit Depth)

This was explored further in the focus groups; respondents were told to imagine that the cost of paying for their energy via a Smart PP would be no greater than the cost of paying via a smart meter in credit mode and may even be less expensive. Removing the cost from the equation appeared to have a marked effect on respondents' views. Although most had been reluctant to consider switching to a legacy PPM earlier on in the discussion, asked what they would do if given a smart meter and IHD, there was an equal split between those who would remain on credit and those who would consider prepayment. Moreover, more than half of those choosing to stay with credit meters could foresee themselves considering a switch to PPMs if the tariff was lower or they experienced a sudden drop in income.

The principle (often interrelated) arguments driving willingness to change were:

- having more **control over bills** and possibly **reducing bills** by making respondents more aware of how they use energy and changing this if necessary
- helping them **control their energy use**
- having greater **control over their money**; deciding how much they will pay, when they want to pay it and not over-paying
- no unexpected bills
- for some, the facility to set a budget and track their use against this.

Those who were against switching preferred to stay with a method that worked for them, that they did not have to think about and which did not give them another thing (topping up/getting cut off) to worry about. Behind this resistance there seemed to be a lack of understanding of and/or concern about using the technology for some respondents.

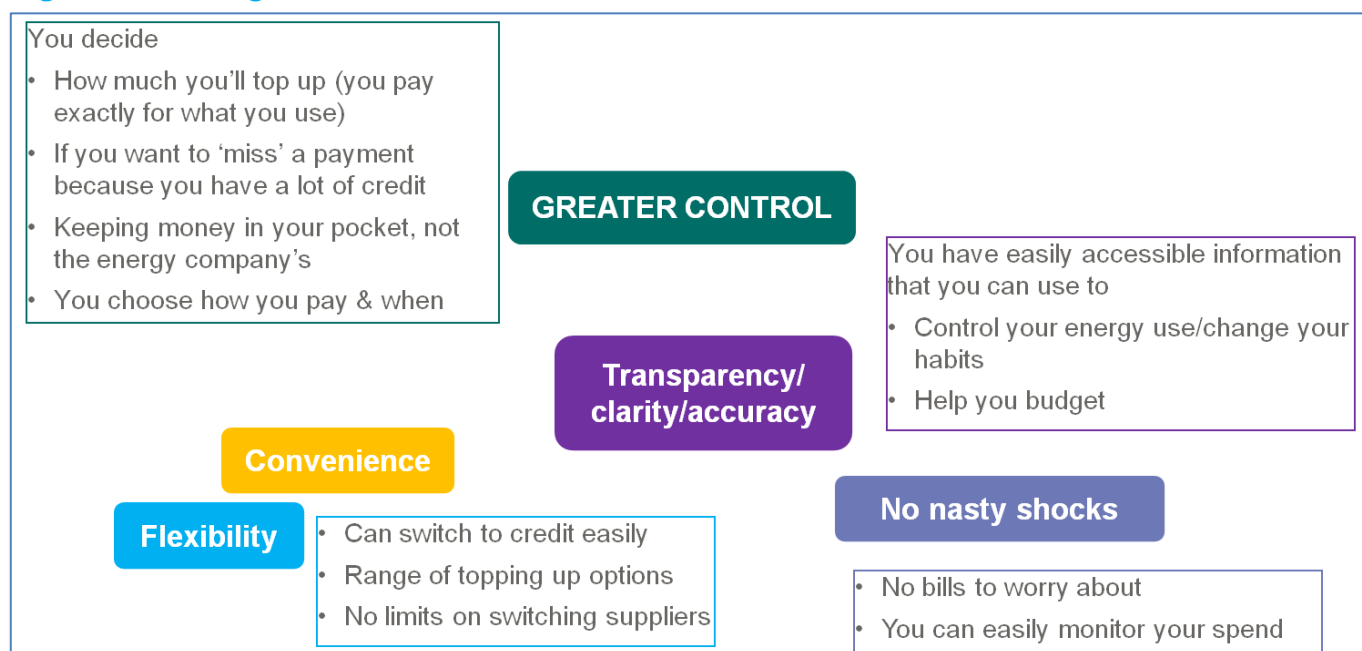
In one group, there was an interesting discussion about using Smart PP to encourage individuals to not only have **greater control** but also to have **greater responsibility** for their use of energy. This was seen as a way for society as a whole to lower its energy consumption – it could become the new ‘socially responsible norm’.

I think what we have to realise is that energy is a finite, it's not an infinite thing, and we are coming to a crunch point whether we like it or not, not so much now, but my daughter's generation are going to be acutely aware of ... I think the days when you could leave the TV on overnight and fall asleep in front of it, have gone. (Legacy Credit Group)

Selling the idea of smart prepayment

Towards the end of the group discussions with *Legacy Credit* customers, respondents worked in twos and threes to map out their ideas for how they would try and ‘sell’ the idea of Smart PP to other people similar to themselves. Four common themes emerged from this exercise and these are illustrated in Figure 13.

Figure 13: ‘Selling’ the Idea of Smart PP



Respondents also saw the need to 'rebrand' prepayment in order to overcome any remaining social stigma. Their suggested ideas for alternative names are summarised in Figure 14. These continue the themes outlined above with their emphasis on control and the customer being in the 'driving seat'.

Figure 14: Alternative Names for PPM



Conclusions

There are six key conclusions arising from this research:

- **smart meters and IHDs have the potential to have a significant positive impact on customers who currently pay for their energy through legacy PPMs**
- **there are a number of barriers that could mean the full potential of smart meters and IHDs are not fully realised**
- **information about how much energy individual appliances use has the potential to help consumers develop more effective energy saving behaviours**
- **customers will need information and support to help them make the transition from legacy to Smart PP**
- **the needs of vulnerable consumers will need careful consideration when making the transition to Smart PP**
- **only a small proportion of *Legacy Credit* respondents expressed any interest in switching to Smart PP; although smart technology addressed some of their concerns about legacy PPM, other barriers remained, of which, the cost of their energy was the biggest barrier**

Each of these conclusions is examined in more detail below.

The research has demonstrated that smart meters and IHDs have the potential to have a significant positive impact on customers who currently pay for their energy through legacy PPMs, in particular:

A key benefit of a smart meter and IHD when operating in prepayment mode immediately identified by *Prepayment Meter* respondents (both those with a Legacy PPM and a Smart PP) is that **they will no longer need to access their meters on a regular basis**. This represents a major benefit for anyone with difficult to access meters. It was also felt to make it easier for them to monitor credit balances and reduce the chances of them inadvertently being cut off through not noticing they have used up all their credit.

Respondents felt that the new technology would also make it **easier for them to budget for their energy**. Providing energy consumption information expressed in £/h instead of kWh was felt to make it much easier for respondents to understand. They felt that having constant access to information on their credit balances (including Emergency Credit when used), the predicted duration of such balances, credit alerts, and historical spend data would make it easier for them to manage their money, and to know when and how much to top up.

Moreover, the range of payment options and the ability to top up remotely on a 24/7 basis was considered by respondents to make **topping up more convenient**. This, in turn, should reduce the chances of them being without energy (except for those who lack the funds to top up) as

well as helping to address concerns about any social stigma as there is no reason why other people should know a customer is prepaying for their energy.

Credit balances and their predicted duration had the potential to reinforce respondents' appreciation of the cost of their energy and, for those motivated to lower their spend, **encourage them to think about ways of reducing their bills.**

The research has also identified a number of barriers that could mean the full potential of smart meters and IHDs are not fully realised

Although the research was not a test of the usability/functionality of IHDs nevertheless, it was clear that where respondents lacked the necessary competence and/or confidence with the technology and/or they found their IHD too complicated, **they struggled to get the best out of these devices.**¹² This has implications for the type of support customers may need.

The more vulnerable respondents on low incomes were sometimes **unable to take advantage of many of the remote top-up functions.** This included:

- those who needed to pay by cash
- those who could not afford any minimum top-up thresholds
- those who lacked the necessary devices (mobile phones, smart phones, laptops, etc.)
- those who lacked the competence/confidence to use such devices.

Indeed, many of the respondents who were already using smart meters and IHDs continued **topping up by cash at PayPoints and this is likely to remain an important top-up channel** for such customers; this has implications in terms of suppliers continuing to offer Emergency Credit and the amount offered, offering Friendly Credit, and transparency over how both of these are charged.

Smart meters and IHDs undoubtedly provide a great deal of useful information about energy consumption. However, a clear lesson from this research is that respondents needed **more than information**, they also needed **effective behavioural strategies in order to be able to act on the information the IHD is providing them with.** Without such strategies, customers may not bother trying to reduce their consumption or quickly give up in frustration. The implication is that customer support should not just focus on helping people use their IHD effectively (accessing both account balance and usage information) but also provide them with the means to act on this information e.g. through showing a range of behaviours to help them better manage their energy consumption.

A number of respondents commented that there is likely to be a novelty effect whereby people start off engaging/experimenting with their IHD when it is first installed and then fall into a

¹² As noted earlier (see footnote 10, p49) when a smart meter is operating in prepayment mode, the IHD will have more information for customers to absorb compared to when it is operating in credit mode (for example, information on account balances) so there are potentially additional challenges in getting engagement in usage data among smart PP customers.

settled pattern of use. In other words, for some consumers, it may be challenging to engage them over the longer-term. This suggests there may be a **critical period** when smart meters and IHDs are first installed; any behaviour change is likely to occur at this time. The goal should be to encourage people to try and change their behaviour – both with regards to reducing their energy consumption and/or better managing energy consumption in order to maintain comfort and warmth– during this critical period.

The research has identified how energy consumers can be helped to develop more effective energy saving behaviours

Knowing how much energy individual appliances use had the potential to change some respondents' behaviour, however, this depended on how the information was presented. The research suggests that information about how much energy a typical appliance uses expressed in £/h is unlikely to be especially effective:

- the amounts involved were less than respondents had expected and this tended to reduce the impact of the information
- different appliances are used for different durations which can make it difficult to translate 'cost per hour' into actual costs.

The research suggests that such information may be more effective if it is:

- **specific to individual appliances:** knowing how to use their IHD to arrive at appliance specific information would be useful but it still requires an effort on the part of the individual. A method/device which does this automatically is likely to have greatest impact for those who can access it
- **expressed in £ per year:** this conveys a much stronger sense of the potential savings.

Seeing how relatively simple changes to existing behaviour can result in relatively large savings over the course of 12 months encouraged some respondents to consider adopting new behaviours. However, some well publicised behaviours – such as only filling the kettle up with as much water as needed – appeared to offer relatively small savings.

The research suggests that such information can be more effective where it:

- **is tailored to the consumer's circumstances** e.g. measures which are under their control/responsibility (as opposed to their landlord's), as well as which relate to appliances they actually own; it is very easy for people to dismiss more general information as 'not relevant to me'
- emphasises the cumulative effect of several behaviours
- is expressed in terms of potential savings over the course of a 12 month period.

Finally, the research also suggests that combining information about the cost of running individual appliances with ways of reducing this cost may have the greatest impact: for example: an application or device that is based on a customer's energy usage data and which informs the customer of:

- the cost of running an individual appliance over the last month/year
- how this compares to the 'typical'/'average' cost of running similar appliances over the same period

- and for those who are above 'average', suggestions for how to lower the running cost.

Customers will need information and support to help them make the transition from legacy to Smart PP

Findings from the depth interviews revealed the **expectation that support would be provided by energy suppliers to help customers make the transition**. Moreover, respondents felt that this support should take account of customers' different **preferred learning styles and communication channels**. The installing engineer was perceived to have a key role to play. This was confirmed during the groups but concerns were also raised about whether installers would have the time to do this adequately.

Although existing *Smart PP* respondents felt in most cases that the installer had provided them with adequate instructions on how to use their IHDs, **this had not translated into behaviours whereby they were taking advantage of its full range of functions beyond information on account balance**. Indeed, many appeared to have limited knowledge of how they could be using their IHD. Furthermore, unless they had had a problem, they had not taken advantage of other forms of support, such as the manual or information online.

Providers of social housing/independent third parties were also perceived by respondents to have a role to play in encouraging their tenants to make best use of smart technology. Although residents of local authority and housing association properties taking part in the research were often receptive to this idea, they also questioned how likely it was to happen. The perception was that their landlords were often unable and/or unwilling to ensure properties were energy efficient, let alone spend time helping tenants understand and take advantage of the latest technology.

Face-to-face support, including advice about effective energy management strategies, was often felt by respondents to have the greatest potential to engage interest and change behaviour. However, they also commented that this will depend on who delivers it and how this is done. Key factors for success were identified by respondents as independent, informed advice delivered in an accessible manner.

The extent to which tenants might participate in local group sessions with their neighbours was said to depend very much on local circumstances.

The research has revealed that the needs of vulnerable consumers will need careful consideration when making the transition to Smart PP

Many legacy PPM customers are considered to be 'vulnerable' (see Glossary of Terms, p22). This can result in lower levels of understanding of, and engagement with, the issues and this was certainly the case with many of the *Prepayment Meter* respondents taking part in this research. There was evidence from the research that such customers are likely to struggle to understand how to get the most out of an IHD and will need additional support to help them make the transition.

Key learnings about the potential impacts of Smart PP on vulnerable consumers include:

- The importance of maintaining a network of PayPoint outlets – the research suggests a proportion of PPM customers will continue to top up this way

- Higher minimum payment amounts for remote top up methods would render them inaccessible to some PPM customers on low incomes who need the ability to top up in very small amounts.
- The research has shown that top-ups sometimes failed to register, that respondents sometimes lacked the knowledge of how to rectify this, and that they sometimes lacked the confidence to contact their supplier to seek assistance. All customers, but especially more vulnerable ones, will need to know how to respond when a top-up does not register as well as an efficient means of sorting this out.
- Not everyone taking part in the research understood how to interpret the 'energy consumption gauge' and '£/h' (see, for example, Figure 4, p33). This might result in consumers thinking they need to cut back on energy use when they do not need to/should not do so, or not recognising that there is the potential for them to reduce their energy consumption whilst maintaining comfort and warmth and thereby save money, where this exists
- The need to compensate for the fact that not everyone will have access to information and support via a range of different platforms. Literacy issues mean that written materials may also not be accessible to this audience. The most effective forms of support for vulnerable customers are likely to be face-to-face.

Only a small proportion of Legacy Credit respondents expressed any interest in switching to Smart PP; although smart technology addressed some of their concerns about legacy PPM, other barriers remained, of which, the cost of their energy was the biggest barrier

Smart meters and IHDs operating in prepayment mode address some of the concerns that most Legacy Credit respondents had about prepayment, especially in relation to topping up and the social stigma. Extending the functionality, for example, by linking data to other devices/platforms and the development of methods of building on their usage data to provide enhanced benefits/information on how to reduce their consumption, were also of interest (although these are not necessarily specific to using the technology in prepayment mode.) Nevertheless, a number of major barriers to adopting prepayment were still felt to remain.

The single biggest barrier is the question of cost: respondents had an expectation that if they pay for something up front, there will be a cost saving. Smart PP tariffs would, at the very least, have to be on a par with credit tariffs, if not discounted, for most *Legacy Credit* respondents taking part in the research to consider switching. When asked to imagine that cost was not an issue, *Legacy Credit* respondents in the focus groups were considerably more likely to consider switching to Smart PP.

Other barriers identified by respondents included the fact that prepayment means that one's energy is no longer 'out of sight, out of mind', the desire on the part of many to 'spread the burden' by paying equal amounts over a twelve month period and a disinclination to give energy companies money 'up-front'.

On the positive side, and assuming cost was not an issue, **Smart PP energy was felt by respondents to put the consumer firmly in control** in terms of how much energy they use, the size of their bills and when and how they pay/top up. In the current climate, this perceived shift in the balance of control from the energy company to the consumer, was attractive.

Longer term, positioning Smart PP as the 'norm' was considered by respondents to have the potential to encourage greater uptake and could encourage consumers to take greater responsibility for their energy use with the potential to reduce consumption levels.

Annex

Contextual Details

Some of the key differences in the profile of legacy PPM users compared to all other energy customers identified by the Consumer Focus research are summarised in Box 3.

Box 3: Profile of PPM customers

Source: <http://www.consumerfocus.org.uk/assets/1/files/2010/02/Consultancy-recommendations-to-Consumer-Focus.pdf>

Location	higher incidence in Scotland and northern England compared to Wales and southern England
Household composition	50% of households comprised adult couples/50% were based on single adults (with and without dependents in both cases)
Health	over a third of households had one or more individuals with a long term health condition or disability
Tenure	two-thirds were in rented accommodation in contrast, three-quarters of non-PPM customers were owner-occupiers
Household income	48% had an annual income of less than £17,500 in contrast, 24% of non-PPM customers had an annual income of less than £17,500
Benefits	68% were in receipt of one or more state benefits
Socio-economic group	74% were from SEGs C2DE (48% DE) in contrast, 41% of non-PPM customers were from SEGs C2DE (20% DE)

Box 4: Factors that Identify Vulnerability

Source: <http://www.consumerfocus.org.uk/files/2012/12/Tackling-consumer-vulnerability.pdf>

Lack of self-confidence
Low literacy, numeracy and/or financial capability
Low/insecure income
Being unemployed
Being responsible for high levels of care for another person
Having a physical impairment
Having mental health problems
Living in social rented housing
Living in a lone parent household

Box 5: Disadvantages of PPMs and the potential benefits of smart meters with prepayment functionality

Source: <http://www.consumerfocus.org.uk/files/2013/03/Smart-Metering-Prepayment-in-Great-Britain.pdf>

disadvantages of PPMs	potential benefits of smart meters
higher cost tariffs (prepayment remains one of the most expensive payment methods)	more competitively priced tariffs (e.g. smart meters offer suppliers cost savings which could be passed on in the form of cheaper tariffs)
risk of self-disconnection (16% of PPM users self-disconnect at least once per year)	a reduction in self-disconnection (e.g. remote top-up reduces the likelihood of disconnections arising from payment outlets being closed)
issues with PPM settings (e.g. incorrect tariff rates or debt repayment levels)	easier and quicker resolution of problems (e.g. remote diagnostics should result in problems being resolved without the need for a home visit)
inconvenience of top-up process (e.g. outlets are closed, access to the meter can be difficult)	greater choice and convenience when topping up (e.g. being able to credit the meter via a text message or smart phone app)
problems with payment devices (e.g. payment key/card lost, broken or stolen)	an end to problems caused by payment devices (smart meters can be topped up remotely without the need for the customer to physically insert a device)
misdirected/unallocated payments (there is no real-time validation when a customer tops up their key/card and it is possible for errors to occur which might result in unexpected bills)	reduction in misdirected and unallocated payments (through real time validation of customer's payment against supplier information)
lack of information/engagement (e.g. lack of understanding on the part of the customer about the usability of their prepayment meter)	new opportunities to improve customer engagement (e.g. with customers' consent, suppliers could send text, online, mobile or email messages to IHDs)
challenges and barriers to switching (e.g. PPM customers have poorer tariff choices compared to other customers; the need to have the meter changed for which there may be a charge)	reduced barriers to switching between payment methods (customers should be able to switch to and from prepayment immediately without the cost and inconvenience of a meter exchange)

Research Questions

Box 6: Research questions

In relation to prepayment customers (both those on traditional meters and those with smart meters as part of the foundation stage)
What are the reasons for prepayment customers having a prepayment meter?
What are their attitudes towards and experiences of energy prepayment?
What attitudes do prepayment households hold in relation to energy? How do they use energy at home?
How salient is energy for them and how much do they know about their energy usage?
How do they manage and budget for their energy usage?
How do they currently interact with their prepayment meters? What information do they obtain from the meter and how do they use this information?
What interactions do prepayment customers have with their energy suppliers? How do they feel about the customer service they receive?
What differences are there in the way they perceive energy prepayment and i) other energy payment methods and ii) other prepayment/pay as you go payment methods (e.g. mobile phones)?
In relation to credit customers
What are their reasons for their current choice of energy payment method?
What are their attitudes towards, understanding and experience of energy prepayment?
What differences are there in the way they perceive energy prepayment and i) other energy payment methods and ii) other prepayment/pay as you go payment methods (e.g. mobile phones)?
Have they/would they consider switching to a legacy prepayment meter? What are their reasons? Do they perceive any barriers to switching?
In relation to legacy customers (prepayment and non-prepayment)
How do they react to the concept of smart prepayment?
What do they see as the advantages and disadvantages of smart prepayment? What smart functions/services would they be more or less interested in?
What data/information from the smart meter would they be interested in and how would they prefer

to access this (e.g. IHD, phone app)?
What are the similarities and differences between attitudes towards legacy and smart prepayment?
Would they consider switching to smart prepayment? What would make them more or less likely to do so?
What smart prepayment information or support would they be interested in and from what source?
In relation to smart prepayment customers
Why did they decide/agree to switch to smart prepayment?
What type of engagement approaches have they experienced in relation to smart prepayment? What do they think of these approaches?
What functionality does their smart prepayment meter offer and which aspects do they use? How does this differ to any previous legacy prepayment meters they have had?
What difference do they think smart prepayment has made to the way they use and budget for energy?
What benefits have they experienced since switching to smart prepayment? How have these benefits been experienced?
What data/information from the smart meter are they interested in and how would they prefer to access this (e.g. IHD, phone app)?
What appear to have been the enablers and barriers for change? How could further smart prepayment benefits and energy savings be safely encouraged?
What additional smart functions/services would they be more or less interested in?
What additional smart prepayment information or support are prepayment customers likely to need and from what source?

Sample Details

A total of 155 households took part in the research. 90 depth interviews were carried out during phase 1. The majority of these were conducted with just the main bill payer although ten interviews were filmed and with five of these the interview was carried out with two respondents. During phase 2, eight focus groups were carried out. Nine respondents were recruited for each focus group, however, attendance varied and 65 people in total took part in the discussions.

The sample was divided into three sub-samples:

- respondents who were paying for either their electricity or their gas or both through a legacy PPM (n=56)
- respondents who were paying for either their electricity or their gas or both through a Smart meter operating in prepayment mode (Smart PP; n=43)
- respondents who were paying for all their energy through a legacy credit meter (n=56).

The legacy sample respondents were free-found; the Smart PP respondents were recruited from lists of customers who had switched to an energy supplier that already provides Smart PPs along with an IHD. Details of customers who had switched to this supplier in the second half of 2013 were provided by the supplier.

Locations

The depth interviews were conducted in 17 locations in England, Scotland and Wales chosen to reflect a mix of metropolitan, urban and rural settings. The groups were held in Birmingham, Bradford, London and Newport.

Table 3: Locations of Depth Interviews

			Legacy PPM	Smart PP	Legacy Credit	Total
			n	n	n	n
England	metro	Birmingham	2	9	2	13
		London	6	-	3	9
		Manchester	3	-	3	6
	urban	Blackburn	-	5	-	5
		Bolton	3	-	3	6
		Bradford	-	5	-	5
		Gillingham	3	-	3	6
		Halifax	-	5	-	5
		Peterborough	4	-	2	6
		Warrington	-	6	-	6
	rural	Ely	-	-	2	2
Scotland	metro	Glasgow	2	-	2	4
	urban	Paisley	2	-	2	4
	rural	Dalry	-	-	2	2
Wales	metro	Cardiff	2	-	2	4
	urban	Newport	2	-	2	4
	rural	Newtown	1	-	2	3
		total	30	30	30	90

Sample structure

For both the depths and the groups a purposive sample was recruited. Broad quotas were set on a number of variables.

Legacy PPM depth sample

In the case of the *Legacy PPM* sample, quotas were based in part on the profile derived from research conducted by Consumer Focus into the legacy prepayment sector¹³. The aim was to recruit as follows:

gender:	equal proportions of men and women
socio-economic groups (SEG):	75 per cent from C2DE
lifestage:	the Consumer Focus data does not report on lifestages as such but it found that 50% of prepayment customers have children under the age of 16; the aim therefore was to recruit about half the sample from the Family lifestage. More weight was also given to the pre-family lifestage compared to retired and empty nesters based on research conducted on behalf of Ofgem which suggests the highest penetration of PPMs is among people aged 16 to 34 ¹⁴ .
health:	at least a third of households to have one or more individuals with a long term health condition or disability
energy supply and payment method:	the majority of respondents were to use both electricity and gas and that at least half the sample were to have PPMs for both fuels. Any household that currently had a smart meter was identified and screened out (as far as this was possible).
tenure:	two-thirds to be in rented accommodation
annual household total income:	50% to be <£16,000
benefits:	at least two-thirds to be in receipt of some form of state benefit/tax credit
household bills:	the ITT suggested that it may be appropriate to recruit on the basis of 'financial concerns', including a proportion of customers with energy debt, if this is feasible. The Consumer Focus research does not address this directly although it does report that 12% of PPM customers had had the PPM installed in order to repay an energy debt and over half of these were still repaying the debt. The Ofgem research includes a more general question about financial concerns which suggests that around a quarter of energy consumers 'struggle from time to time' while one in ten find it 'a constant struggle', 'fall behind with some' or 'many bills'. The data are not broken down by payment method, however the last three response options were more likely to be selected by respondents from SEGs DE (23%) and those living in rented accommodation (21%). The Ofgem question was adopted along with a quota of 20% of respondents to select one of these three options ('struggle from time to time', 'find it a constant struggle', 'fall behind with some or 'many bills').

In addition, although no quotas were set, respondents' ethnicity was recorded. Where they owned a mobile phone, the proportion that were on a PAYG arrangement as opposed to a contract with monthly payments, was recorded.

¹³ <http://www.consumerfocus.org.uk/assets/1/files/2010/02/Consultancy-recommendations-to-Consumer-Focus.pdf>

¹⁴ https://www.ofgem.gov.uk/sites/default/files/docs/2013/07/customer-engagement-with-the-energy-market---tracking-survey-2013-dataset_0.xlsx

The details of the achieved sample are summarised in Tables 4 to 6. The main differences between the intended and achieved sample were as follows:

gender:	higher proportion of women in the sample; this may reflect the fact that in PPM households, a member of the family needs to regularly monitor and top up the meter and this may fall more often to female members of the household; it may also reflect the proportion of single parent families paying by legacy PPM
socio-economic groups (SEG):	higher proportion of ABC1 respondents in the sample
lifestage:	broadly as intended although some under-representation among pre-family and retired
health:	a smaller proportion reported having a member of their household with a long term health condition or disability
energy supply and payment method:	the majority of respondents were consuming both electricity and gas and paying for both forms of energy via a legacy PPM
tenure:	two-thirds were living in rented accommodation
annual household total income:	half the sample had an annual household income below £16,000
benefits:	two-thirds were in receipt of some form of state benefit/tax credit
household bills:	a higher proportion of respondents were struggling to pay their household bills
mobile phones:	approximately one in four respondents were paying on a PAYG basis.

Smart PP depth sample

There was no basis on which to set quotas for this sample and respondents were recruited on a random basis within a certain number of postcode area districts.

The details of the achieved sample are summarised in Tables 4 to 6. A comparison between the *Legacy PPM* and *Smart PP* customer samples is summarised below:

gender:	both samples contained a higher proportion of women compared to men
socio-economic groups (SEG):	higher proportion of ABC1 respondents in the <i>Legacy PPM</i> sample
lifestage:	broadly similar with a large proportion of respondents from the family lifestage
health:	a higher proportion among the <i>Smart PP</i> sample reported having a member of their household with a long term health condition or disability
energy supply and payment method:	a higher proportion among the <i>Smart PP</i> sample were consuming both electricity and gas and paying for both forms of energy via a Smart PP
tenure:	a higher proportion among the <i>Smart PP</i> sample were living in rented accommodation
annual household total income:	a higher proportion among the <i>Smart PP</i> sample had an annual household income below £16,000
benefits:	a higher proportion among the <i>Smart PP</i> sample were in receipt of some form of state benefit/tax credit
household bills:	a smaller proportion among the <i>Smart PP</i> sample were struggling to pay their household bills
mobile phones:	a higher proportion among the <i>Smart PP</i> sample were paying on a PAYG basis.

Legacy Credit depth sample

In the case of the legacy Credit sample, quotas were based in part on the profile derived from research conducted by Consumer Focus into the legacy prepayment sector (see Footnote 13). The aim was to recruit as follows:

gender:	equal proportions of men and women
socio-economic groups (SEG):	60 per cent from ABC1
lifestage:	equal weight to the four main lifestages
health:	at least a third of households to have one or more individuals with a long term health condition or disability
energy supply and payment method:	the majority of respondents were to use both electricity and gas; the sample should include those who pay by monthly DD, those who pay quarterly either by DD or by cheque/credit card and those who pay through a payment card. Any household that currently had a smart meter was identified and screened out (as far as this was possible – in the event, one respondent was recruited who had a smart meter).
tenure:	three-quarters to be owner occupiers

In addition, although no quotas were set, respondents' details were recorded on all the other variables used for recruiting the *Legacy PPM* sample. The details of the achieved sample are summarised in Tables 4 to 6. The main differences between the intended and achieved sample, and between the *Legacy Credit* and *Legacy PPM* samples, were as follows:

gender:	slightly more men than women were recruited; there were more men in the <i>Legacy Credit</i> sample compared to the <i>Legacy PPM</i> sample
socio-economic groups (SEG):	a slightly higher proportion of ABC1 respondents were recruited; there were more ABC1 respondents in the <i>Legacy Credit</i> sample compared to the <i>Legacy PPM</i> sample
lifestage:	a slightly higher proportion of respondents were from the post-family and a correspondingly smaller number were from the retired lifestages; the two samples were broadly similar although there were more post-family respondents in the <i>Legacy Credit</i> compared to the <i>Legacy PPM</i> sample
health:	the two samples were broadly similar
energy supply and payment method:	the majority of respondents in both samples were consuming both electricity and gas; most respondents in the <i>Legacy Credit</i> sample were paying their energy bills by monthly DD
tenure:	8 out of every ten <i>Legacy Credit</i> customers were owner occupiers compared to just one in three <i>Legacy PPM</i> customers
annual household total income:	three-quarters of the <i>Legacy Credit</i> sample had household incomes above £16,000 pa compared to 50 per cent of <i>Legacy PPM</i> customers
benefits:	a quarter of the <i>Legacy Credit</i> sample were in receipt of some form of state benefit/tax credit compared to two-thirds of <i>Legacy PPM</i> customers
household bills:	9 out of ten of the <i>Legacy Credit</i> sample stated that they were keeping on top of their household bills compared to just half of the <i>Legacy PPM</i> sample
mobile phones:	approximately one in four respondents in both the <i>Legacy Credit</i> and <i>PPM</i> samples were paying on a PAYG basis

Group samples

Similar variables and quotas were used to recruit the focus groups which were structured as shown below. Details of the achieved samples are summarised in Tables 3 to 5.

Legacy PPM	all drawn from SEGs C2DE; equal numbers of men and women; half to have a household income below £16,000 pa	1 group drawn from pre-family and family lifestages
		1 group drawn post-family and retired lifestages
		1 group drawn from pre-family, family, post-family and retired lifestages
Legacy Credit	all drawn from SEGs C1C2D; equal numbers of men and women	1 group drawn from pre-family and family lifestages
		1 group drawn from post-family and retired lifestages
		1 group drawn from pre-family, family, post-family and retired lifestages
Smart PP	2 groups with an equal number of men and women and a mix of lifestages in each.	

Table 4: Sample Details - demographics

	Legacy PPM					Smart PP					Legacy Credit					Overall
	Depths		Groups		Total	Depths		Groups		Total	Depths		Groups		Total	
	Quota	Achieved	Quota	Achieved		Quota	Achieved	Quota	Achieved		Quota	Achieved	Quota	Achieved		
n=	30	30	27	26	56	30	30	18	13	43	30	30	27	26	56	155
Gender*																
Male	14 to 16	10	12 to 15	10	20	6 to 10	10	7 to 9	6	16	14 to 16	18	12 to 15	12	30	66
Female	14 to 16	24	12 to 15	16	40	20 to 24	20	7 to 9	7	27	14 to 16	13	12 to 15	14	27	94
SEG																
ABC1	6 to 8	11			11		5			5	17 to 19	22	12 to 15	15	37	53
C2DE	22 to 24	19	27	26	45		25	18	13	38	11 to 13	8	12 to 15	11	19	102
Lifestage																
Pre-family	6 to 8	5	6 to 8	8	13		2		4	6	6 to 9	6	6 to 8	7	13	32
Family	13 to 17	18	6 to 8	9	27		15		6	21	6 to 9	9	6 to 8	4	13	61
Post family	3 to 5	6	6 to 8	7	13		9		1	10	6 to 9	11	6 to 8	8	19	42
Retired	3 to 5	2	6 to 8	2	4		4		2	6	6 to 9	4	6 to 8	7	11	21
Ethnicity																
White		27		22	49		30		10	40		29		21	50	139
BME		3		4	7		0		3	3		1		5	6	16
Disability																
Yes	10+	5		2	7		13		5	18		6		4	10	35
No	up to 20	25		14	39		17		8	25		24		22	46	110

* Some columns sum to more than n where paired depths were conducted.

Table 5: Sample details – supply and payment method

	Legacy PPM					Smart PP					Legacy Credit					Overall
	Depths		Groups		Total	Depths		Groups		Total	Depths		Groups		Total	
	Target	Achieved	Target	Achieved		Target	Achieved	Target	Achieved		Target	Achieved	Target	Achieved		
n=	30	30	27	26	56	30	30	18	13	43	30	30	27	26	56	155
Supply																
Elec + Gas		26		25	51		29		12	41		26		26	52	144
Elec only		4		1	5		1		1	2		4		0	4	11
PPM																
Elec + Gas		25		18	43		30		17	47					0	90
Elec only		5		6	11		0		1	1					0	12
Gas only		0		1	1		0		0	0					0	1
Payment																
DD											20 to 25	26		17	43	43
Other											5 to 10	4		9	13	13

•

Table 6: Sample details – tenure, income, financial management, interest in reducing energy consumption, type of mobile phone

	<i>Legacy PPM</i>					<i>Smart PP</i>					<i>Legacy Credit</i>					Overall
	Depths		Groups		Total	Depths		Groups		Total	Depths		Groups		Total	
	Target	Achieved	Target	Achieved		Target	Achieved	Target	Achieved		Target	Achieved	Target	Achieved		
n=	30	30	27	26	56	30	30	18	13	43	30	30	27	26	56	155
Tenure																
Owner	<11	10		4	14		4		2	6	>21	24		17	41	61
Tenant	>19	20		22	42		26		11	37	<9	6		9	15	94
H/h income																
>£16,000pa	14 to 16	15	12 to 15	13	28		9		3	12		23		16	39	79
<£16,000pa	14 to 16	15	12 to 15	13	28		21		10	31		7		10	17	76
Benefits																
Yes	>20	20		18	38		24		1	25		8		7	15	78
No	<11	10		8	18		6		12	18		22		19	41	77
H/h bills																
keeping on top	<25	16		9	25		25		10	35		27		18	45	105
struggling	>5	14		17	31		5		3	8		3		8	11	50
Interest in reducing consumption																
yes				25	25									26	26	51
no				1	1									0	0	1

Annex

Mobile																
PAYG		7		11	18		15		7	22		7		7	14	54
Contract		23		15	38		14		6	20		23		15	38	86
none					0		1			1				4	4	5

Research Materials

Phase 1: depth interviews

Screening questionnaires

This version of the recruitment questionnaire is to be used with customers who have a 'standard' (i.e. non-smart) prepayment meter and customers who have a 'standard' credit meter and who pay for their energy either monthly or quarterly by direct debit, cash/cheque, credit/debit card, payment card or via Fuel Direct.

There is a separate version for customers who have a 'smart' prepayment meter.

Hello, my name is.....I am working on behalf of Creative Research and Acumen. I wonder if you would be interested in taking part in some market research we are conducting. The research is on behalf of the Department of Energy and Climate Change and is about the public's views on how they currently pay for their energy as well as looking at how new technology might be used to offer customers an improved service. It involves taking part in an interview in your home with a researcher to explore your experiences of your current energy meter as well as your thoughts on smart prepayment meters. This would last for approximately 1½ hours. In return for your time, I can offer you £40 as a contribution towards your expenses.

<u>Recruiter: please fill in the following details</u>			
<u>RESPONDENT DETAILS</u> Explain that you need to record the respondent's contact details so that they can be contacted in the event of a change of plans (e.g. the moderator is ill) and also for quality control procedures. Reassure respondents that no personal details or responses will be passed on to anyone not directly concerned with the research without their express permission.			
Name:			
Address:			
Postcode:			
Telephone:			
Email address:			
<u>Read out DATA PROTECTION card</u> Check that respondent is in agreement with this procedure.			
YES		NO	CLOSE
<u>METHOD OF RECRUITMENT</u>			
FROM RECRUITER'S DATABASE		FREE FOUND (In Street/House to house etc.)	
OTHER (PLEASE WRITE IN):			
<u>RECRUITER DECLARATION</u> I DECLARE THAT THIS IS A TRUE RECORD OF AN INTERVIEW WITH THE NAMED RESPONDENT WHICH WAS CONDUCTED IN ACCORDANCE WITH THE INSTRUCTIONS AND THE MRS CODE OF CONDUCT. I AGREE TO BE BOUND BY THE DATA PROTECTION ACT 1998. SIGNATURE: _____ PRINT NAME: _____ DATE: _____			
For Creative Research use only Respondent ID			

Once this questionnaire has been completed, it constitutes sensitive personal data – please see notes at the end regarding how it should be treated

KEY DEMOGRAPHICS

D1 SOCIAL GRADE OCCUPATION OF HEAD OF HOUSEHOLD:					
ASK THE FOLLOWING FIVE QUESTIONS TO CLARIFY HEAD OF HOUSEHOLD INFORMATION:					
IF RETIRED, ASK FOR PREVIOUS OCCUPATION, IF PRIVATE PENSION RECEIVED			IF LOCAL AUTHORITY OR CIVIL SERVICE OR ARMED FORCES, ASK GRADE/RANK		
IF SELF-EMPLOYED OR MANAGERIAL, ASK FOR NO. OF EMPLOYEES RESPONSIBLE FOR			ASK FOR DETAILS OF TRAINING/QUALIFICATIONS		
			INDUSTRY (WRITE IN)		
NOW CODE SOCIAL		BC1	1	PPM: 7 BC1 / 8 C2 / 15 DE Credit: 18 BC1 / 12 C2DE	
		C2	2		
		DE	3		
D2 Gender				D5 Customer type – ask Q4 and then code here	
male	1	Recruit equal numbers	PPM	1	
female	2		Credit	2	
D3 Age (write in and code below)		_____ yrs	'Smart' PPM	3	see separate questionnaire
18-25	1	Recruit a good spread	D6 Location type		
26-35	2		Metropolitan	1	
36-45	3		Urban	2	
46-55	4		Rural	3	
56-65	5		D7 Location		
66-75	6		Manchester (M1-4)	1	
75+	7		Bolton (BL1-3)	2	
D4 Lifestage: ask Q5-7 and then code here			Birmingham (B1-4)	3	
pre-family	1	PPM: 7 / Credit 7	Peterborough (PE1-5)	4	
young family	2	PPM: 7 / Credit 4	Ely (CB6-7)	5	
older family	3	PPM: 8 / Credit 4	London (NW1,3,5,6,8)	6	
post family	4	PPM: 4 / Credit 7	Gillingham (ME1,4,5,7)	7	
retired	5	PPM: 4 / Credit 8	Glasgow (G1-4)	8	
Location (cont)			Paisley (PA1-3,5)	9	
Newport (NP18-20)	12		Dairy (KA24)	10	
Newtown (SY16,17)	13		Cardiff (CF10,11,24)	11	

SCREENING

S1. SHOW CARD A Can I just check, do you or any of your immediate family work in any of the following professions or occupations?					
Market Research or Marketing	1	CLOSE	Generation, distribution, or sale of gas or electricity	4	CLOSE
Public Relations or Journalism	2		Consumer advice	5	
Advertising	3			6	
			None of these	7	CONTINUE
S2a. Have you <u>ever</u> attended a GROUP DISCUSSION or IN-DEPTH INTERVIEW before?			S2b. What was the subject under discussion?		
No	1	GO TO Q1	IF PREVIOUS SUBJECT RELATED TO THIS PROJECT, THANK & CLOSE. OTHERWISE ASK Q2c		
Yes	2	GO TO S2b			
S2c. How long ago was that?			S2d How many group discussions & depth interviews have you attended in the last 3 years?		
Less than 6 months	1	THANK & CLOSE	1-6	1	GO TO Q1
More than 6 months ago	2	GO TO S2d	7 or more	2	THANK & CLOSE
Explain that you need to ask some questions about respondent's energy supply.					
Q1. Code below energy supply respondent has at home					
mains electricity		1	PPM/Credit: 25+ to have <u>both</u> types		
mains gas		2			
neither		3	CLOSE		
Q2. Are you either solely or jointly responsible for paying your energy bills and dealing with your energy supplier(s)?					
respondent solely responsible		1	Continue		
respondent jointly responsible		2			
respondent not responsible for paying energy bills/dealing with energy supplier		3	CLOSE		
Q3. Who supplies your gas? And who supplies your electricity?					
	Gas	Electric	Both		
Respondent does not have gas	1				
British Gas, Nwy Prydain, Scottish Gas	1	2	3		
EDF Energy (previously London Energy, Seeboard Energy and SWEB)	1	2	3		
npower	1	2	3		
E-ON (previously Powergen)	1	2	3		
Scottish Power, Scottish Power Manweb	1	2	3		
Scottish and Southern Energy (SSE), Scottish Hydro Electric, Southern Electric, Swalec, Atlantic Electric and Gas	1	2	3		
Other WRITE IN:	1	2	3		
No quotas; recruit as found NB if customer is supplied by Utilita, you must CLOSE					

Q4a. How do you normally pay your electricity bills? Read out and code all that apply. And how do you normally pay your gas bills? Read out and code all that apply. (If no gas supply, leave blank)			
	Elec	Gas	
Monthly direct debit	1	1	PPM: Must pay at least one type of bill by prepayment meter otherwise close Credit: all must have one or more codes 1-4 for <u>both</u> types of energy – between 5-10 should have codes 3-4. Ask Q4b-c
Quarterly direct debit	2	2	
Quarterly cash or cheque/debit or credit card e.g. by post, online, by phone	3	3	
Payment card where you make regular payments and this is deducted from your bills	4	4	No quotas; as found. Ask Q4b-c if also codes 1-4/Ask Q4d if also code 6 Credit: CLOSE PPM: ask Q4d
Fuel direct where a fixed amount is taken from your benefits by DWP to help clear an outstanding debt	5	5	
Prepayment meter where you purchase cards/tokens in advance and insert them in a meter	6	6	
ASK ALL CREDIT CUSTOMERS			
Q4b. Energy companies have started installing a new type of meter, called a smart meter, in some customer homes. Smart meters are able to communicate directly with energy suppliers by sending and receiving information about the amount of energy being used. Smart meters are installed by a professional engineer from your gas or electricity company. Customers who have a smart meter are also offered an in-home energy display which shows how much energy they are using. As far as you are aware, do you have a smart meter?			
Yes	1	ASK Q4c	
No	2	GO TO Q5	
Q4c. Some customers have an energy monitor which works with existing, non-smart, meters. Unlike energy monitors installed by a professional engineer at the same time as a smart meter, the monitor will have been installed by the customer themselves. It might have been supplied by their energy company or they may have bought one. Can I check, as far as you are aware, do you have an in-home energy display that was installed at the same time as a smart meter or an energy monitor that works with your existing non-smart meter?			
Energy monitor that works with existing meter	1	Go to Q5	
In-home energy display that works with a smart meter	2	CLOSE	
Don't know	3		
ASK ALL PPM CUSTOMERS			
Q4d. Most prepayment customers have a card or a key which they use to top up at a PayPoint, Payzone or Post Office. Some energy suppliers (e.g. British Gas) have a system where you can top up over the internet – it still requires the customer to insert their card into the meter. Can I check, do you have a key or a card <u>that you have to insert into your prepayment meter</u> in order to top up your account.			
Yes: respondent tops up their PPM by inserting a key/card into the meter	1	GO TO Q5	
No: respondent can top up their PPM without having to insert a key/card into the meter	2	CLOSE	
Explain that you need to ask some questions about the respondent to ensure we talk to a good cross-section of different people.			
Q5. Record marital status			
Single or in a relationship but NOT living with partner	1		
Married/ In a long term relationship and live with partner	2		
Divorced/separated/widowed	3		
Q6. Do you have any children aged under 12 who live at home with you? And do you have any children aged 12-16 who live at home with you?			
	Yes	No	
Children aged under 12	1	2	
Children aged 12-16	1	2	

Q7 Use answers to D3, Q6 & Q7 to code respondent's lifestage. Code here and at D4			
Pre-family young single adult – must be living independently and not with a partner; must be responsible for paying their own bills; aged under 35; no children	1	CODE AS Pre-family @ D4 PPM: 7 / Credit 7	
Pre-family young adult couple – married or in a permanent relationship and living with partner; must be responsible for paying their own bills; aged under 35; no children	2		
Single parent – 1 or more children living with them; all children under 12	3	CODE AS Young Family @ D4 PPM: 7 / Credit 4	
Family couple – either married or in a permanent relationship and living with partner; 1 or more children living with them; all children under 12	4		
Single parent – 1 or more children living with them; at least one child aged 12-16 (may have younger/older children as well)	5	CODE AS Older Family @ D4 PPM: 8 / Credit 4	
Family couple – either married or in a permanent relationship and living with partner with 1 or more children living with them; at least one child aged 12-16 (may have younger/older children as well)	6		
Post family single – aged 45 and above and either never had any children or all children aged 17 and above, single or not living with partner	7	CODE AS Post-family @ D4 PPM: 4 / Credit 7	
Post family couple – aged 45 and above and either never had any children or all children aged 17 and above, married or in a permanent relationship and living with partner	8		
Retired single – reached state retirement age and living alone	9	CODE AS Retired @ D4 PPM: 4 / Credit 8 NB if living in sheltered accommodation you can only recruit them if they are responsible for choosing their energy supplier and paying their bills	
Retired couple – reached state retirement age and either married or in a permanent relationship and living with partner.	10		
Q8. SHOWCARD B Which of the following best describes your ethnicity?			
White British	1	Black African	8
White Other	2	Black Caribbean	9
Indian	3	White and Black African	10
Pakistani	4	White and Black Caribbean	11
Bangladeshi	5	Black other	12
White and Asian	6	Chinese	13
Other Asian	7	Other mixed	14
		Other ethnic group	15
		Rather not disclose (do not read out; code if refused)	16
No quotas but please aim for a spread across the sample			

Q9. In which type of property do you live? Read out and code			
Detached house/bungalow	1	No quotas but aim for a spread	
Semi-detached house/bungalow	2		
Terraced house/bungalow	3		
Purpose built flat	4		
Maisonette	5		
Other: write in	6		
Q10. And do you own or rent the property? Read out and code			
Own outright	1	PPM: max of 10	
Own and have a mortgage	2	Credit: a minimum of 22	
Rent from the local authority/council	3	PPM: at least 20 Credit: no more than 8	
Rent from a housing association	4		
Rent from a private landlord	5		
Other: write in	6		
Q11. SHOWCARD C Would you say your household's total income, before tax and any other deductions, is above or below the amounts shown here? This includes earnings from employment or self-employment, income from benefits and pensions, and income from other sources such as interest from savings. If you have a partner please include any income and benefits they receive. If you have a son or daughter or other relative who makes a contribution to paying the household bills, please include the contribution they make. You can work it out either on a weekly, a monthly or a yearly basis, whichever is easiest for you. If your income fluctuates, please base it on the average household income over the last three months.			
	Above	Below	
Weekly disposable income: £300	1	2	PPM: 15 code 1/15 code 2 Credit: no quotas
Monthly disposable income: £1,300			
Yearly disposable income: £16,000			

Q12. SHOW CARD D Are you and/or your partner in receipt of any of the following benefits or tax credits? Tick all that apply.				
Attendance Allowance	1	Housing Benefit	6	PPM: a minimum of 20 in receipt of one or more Credit: no quotas
Carer's Allowance	2	Income Support	7	
Child Tax Credit	3	Jobseeker's Allowance	8	
Council Tax Benefit	4	Working tax credit	9	
Disability Living Allowance	5	Universal credit	10	
		None of these	11	
Q13. SHOWCARD E Which of the statements on this card best applies to you?				
I am/We are keeping up with all the household bills without any difficulties	1	PPM: at least 6 with codes 3-5 Credit: no quotas		
I am/We are keeping up with all the household bills, but it is a struggle from time to time	2			
I am/We are keeping up with all the household bills, but it is a constant struggle	3			
I am/We are falling behind with some household bills	4			
I am/We are having real financial problems and have fallen behind with many bills	5			
Q14a Do you or your partner or any other member of your household have any physical or mental impairment or an				

illness or condition that has a substantial and long-term adverse effect on your ability to carry out normal day-to-day activities? Long-term means that the effect of the impairment has lasted or is likely to last for at least 12 months. Normal day-to-day activities include everyday things like eating, washing, walking and going shopping.		
Yes	1	PPM: at least 10 with code 1 Credit: no quotas
No	2	
Q14b Write in name/description of respondent's/partner's impairment, illness or condition		
NB: please check that respondent's condition will allow them to take part in an interview. If they require any special aids (e.g. a signer for someone who is deaf/has a hearing impairment) you must check with the office before setting up an appointment.		
Q15. Do you have a mobile phone? If yes: do you pay for your calls on a pay-as-you-go basis or do you have a contract and pay for each month based on how much you have used?		
Does not have mobile phone	1	PPM: no quotas Credit: at least 14 to be code 2 and 14 to be code 3
Has pay-as-you-go mobile phone	2	
Has contract mobile phone	3	

If respondent is in quota and willing to take part in an in-home interview, arrange a date and time for the interview. The interview will last for 1.5 hours and the incentive is £40. The purpose of the interview is to explore respondents' views on how they currently pay for their energy as well as looking at how new technology might be used to offer customers an improved service.

When scheduling appointments please allow researchers time to travel between appointments.

Once an appointment has been agreed, explain to respondent that a proportion of the interviews are being filmed. The film will only be used to illustrate the findings of the research and to share these with people involved in developing the new technology.		
Where an interview is filmed, a higher incentive will be paid and the value will depend on how many people take part. If one person takes part, an additional £15 will be offered. Where 2 or more people take part, an additional £25 will be offered.		
Ask if respondent is happy for their interview to be filmed.		
Yes – happy to be filmed	1	Explain that details will be confirmed nearer the time
No, would prefer not to be filmed	2	Continue

SHOW CARD A

1. Market Research or Marketing
2. Public Relations
3. Journalism
4. Advertising
5. Generation, distribution, or sale of gas or electricity
6. Consumer advice
7. None of these

Show Card B

- | | |
|--------------------|-------------------------------|
| 1. White British | 8. Black African |
| 2. White Other | 9. Black Caribbean |
| 3. Indian | 10. White and Black African |
| 4. Pakistani | 11. White and Black Caribbean |
| 5. Bangladeshi | 12. Black other |
| 6. White and Asian | 13. Chinese |
| 7. Other Asian | 14. Other mixed |
| | 15. Other ethnic group |

Show Card C

Weekly household disposable income:	above / below £300 a week
Monthly household disposable income:	above / below £1,300 a month
Yearly household disposable income:	above / below £16,000 a year

Show Card D

- | | |
|--------------------------------|--------------------------|
| 1. Attendance Allowance | 6. Housing Benefit |
| 2. Carer's Allowance | 7. Income Support |
| 3. Child Tax Credit | 8. Jobseeker's Allowance |
| 4. Council Tax Benefit | 9. Working tax credit |
| 5. Disability Living Allowance | 10. Universal credit |
| | 11. None of these |

Show Card E

1. I am/We are keeping up with all the household bills without any difficulties
2. I am/We are keeping up with all the household bills, but it is a struggle from time to time
3. I am/We are keeping up with all the household bills, but it is a constant struggle
4. I am/We are falling behind with some household bills
5. I am/We are having real financial problems and have fallen behind with many bills

DATA PROTECTION

The Data Protection Act requires that we collect and use the information you provide to us in a manner that respects and protects your confidentiality.

Your personal details (such as name, address, phone number) will not be disclosed to anyone else without your permission other than Creative Research, the company carrying out the research.

The recordings/transcripts will only be listened to/watched/read for research purposes. Excerpts from the recordings/transcripts may be used to illustrate the research findings. This will always be done in a way to protect your identity (e.g. comments will not be attributed).

The recordings/transcripts will be listened to/watched/read by people from the client organisation working on this project. In these circumstances, where possible we will go through the material first to delete any references to people's names or anything else that could identify them.

Anyone from the client organisation who listens to/watches/reads the recordings/transcripts will sign an undertaking that they will respect the anonymity of those taking part.

Any other material or information generated by you, such as ideas written down on paper, will be subject to the same strict controls.

You have the right to **withdraw your consent** at any point in the interview/discussion. You may also withdraw from the interview/ discussion at any point. Please sign to indicate your agreement with this procedure.

Recruiter Guidelines

Background

The research is being conducted on behalf of DECC – the Department of Energy and Climate Change. Over the next six years, all homes in the Great Britain will have their existing gas and electricity meters replaced with a new generation of ‘smart’ meters. These will provide consumers with information about their energy use along with a range of additional functions.

The new meters can be automatically switched between ‘credit’ and ‘prepayment’ modes. In credit mode, customers will receive monthly or quarterly bills which they can pay by a variety of methods while in prepayment mode, customers pay for their energy in advance.

The purpose of this research is to explore reactions to the idea of a smart prepayment meter. During the course of the interview, respondents will be shown the range of functions that might be available with a smart prepayment meter.

The interviews will take place in respondents’ homes. This is because we want to discuss with them their current metering arrangements as well as showing them what the new meter might offer. Each interview will last 1.5 hours and an incentive of £40 is available.

Interviews should be with whoever is responsible for paying the energy bill. In the case of couples, both are welcome to take part in the interview. If other members of the family are involved – for example, if teenagers sometimes top up an existing prepayment meter – they are also welcome to get involved. Please note: irrespective of who takes part, only a single incentive payment is available.

The Task

A total of 90 interviews need to be set up. These are divided between three groups of customers:

- 30 existing prepayment customers (PPM) i.e. people who are currently paying for their energy through a prepayment meter
- 30 existing credit customers (Credit) i.e. people who are currently paying for their energy either monthly or quarterly by direct debit, cash, cheque, debit or credit card
- 30 existing smart prepayment meter customers (Smart PPM) – one energy company, Utilita, has installed a number of smart prepayment meters and they have provided contact details for recruitment purposes.

This questionnaire and instructions relate to the first two groups. Please refer to the Smart PPM Customers questionnaire for details of this part of the sample.

Exclusions and Eligibility

Please do not recruit anyone who works or whose immediate family works in any of the professions or occupations listed at S1 / on Card A (see S1). The usual exclusions relating to previous participation in research apply (see S2a-c). All respondents must be responsible, either solely or jointly, for paying their energy bills (codes 1-2 @ Q2).

Quotas

Please ask all of the questions of everyone. There are different quotas for PPM and Credit customers. There are more quotas for PPM customers – these have been based on some large scale quantitative research and most of them should fall out naturally. Quotas are expressed as the number of respondents out of 30 (we will accept ± 1 – i.e. if the quota is 8 respondents, we will accept 7-9).

Key Demographics

SEG (D1)

- PPM: 7 BC1* / 8 C2 / 15 DE
- Credit: 18 BC1 / 12 C2DE

*The data shows that a quarter of prepayment meters are found among SEGs BC1; it may be that some of these are living in privately rented accommodation.

Gender (D2): aim to recruit equal numbers of men and women for both PPM and Credit

Age (D3): there are no quotas as such but aim to recruit a good spread

Lifestage (D4): you should ask Q5-7 and use the instructions at Q7 to assign respondents to the appropriate lifestages. If someone has taken early retirement i.e. they are below 60/65, you should class them as 'post-family' or 'family' and not 'retired'.

- Pre-family: PPM 7 / Credit 7
- Young family: PPM 7 / Credit 4
- Older family: PPM 9 / Credit 4
- Post family: PPM 4 / Credit 7
- Retired: PPM 4 / Credit 8

Customer type (D5): you should base this on respondents' answers to Q4

- 30 PPM
- 30 Credit

Location type (D6): tbc

Location (D7): tbc

Energy Supply: Q1-4 are about respondents' energy supply

- Q1: code whether respondent has mains electricity and mains gas; the majority of respondents (25+ out of 30) should have both. In some rural locations, respondents may not have mains gas. If respondent has neither mains electricity nor mains gas – CLOSE
- Q2: code whether respondent is solely or jointly responsible for paying their energy bills. NB if respondent lives in sheltered accommodation, you should only recruit them if they are responsible for choosing their energy supplier and paying their bills (see note under retired lifestages at Q7).
- Q3: record which energy supplier(s) the respondent gets their energy from. There are no quotas however: **if respondent gets their energy from a company called Utilita, you must not recruit them**. The respondent may be eligible as part of the Smart PPM sample but check with your supervisor before recruiting them.
- Q4: record how respondents currently pay for their energy; some people may use different methods for electricity and gas; some may use a mix of methods e.g. a payment card plus cash/cheque. Please note that a payment card is not the same as a prepayment meter. A payment card is a way of encouraging customers to pay smaller amounts on a regular (usually weekly basis). This is then used to settle their bill; if the bill is for more than the amount paid onto the card, the customer will get a bill for the balance.
- PPM: all respondents must have a prepayment meter for either electricity or gas or both – if someone has a prepayment meter for their gas but pays for their electricity by some other means, they should be recruited to the PPM sample.
It is very unlikely but you may come across someone who has a smart prepayment meter so please be sure to ask about how they top up their prepayment meter. If they can top it up without having to insert a key/card into the meter, you should not recruit them.
 - Credit: all respondents must have codes 1-4 @ Q4; they must not pay for any of their energy by prepayment meter. Recruit 5-10 respondents with codes 3/4, the rest with codes 1/2.
It is not very likely but you may come across someone who has had a smart energy meter installed by their supplier. This involves having a new, smart meter installed and an In-home Display which shows how much energy you are using. **You must check for this.** One way of doing this is to ask if the meter sends readings directly to the energy supplier i.e. there is no need for someone to read the meter. If this is the case, it will be a smart meter. **Do not recruit anyone who has a smart meter.**

Some respondents may have an **energy monitor** – this is not the same as a smart meter and you can recruit these respondents. Some energy companies have supplied customers with energy monitors and some other customers may have bought one. They work with the existing meter and they are only available for electricity, not gas. They consist of a small device that you attach to the wire near your electricity meter, and a display that you put in your home. In this situation, the meter still has to be read. **If respondent has an energy monitor you can recruit them.**

Demographics: Q5-10 ask for demographic information to help ensure we get a good mix of people.

Q5: record their marital status

Annex

- Q6: record whether respondent has any children aged under 12 and between 12 and 16 living at home with them. Please note: where the parents are separated, if the children live with the other party, they do not count as 'living at home with you'. Conversely, someone who lives with a partner, has no children of their own but their partner's children are living in the same home, should be recorded as having children
- Q7: using the answers to D3, Q5 and Q6 plus the instructions provided at Q7, first code respondent into one of 10 lifestages and then code at D4 into one of 5 lifestages. Be sure to recruit according to the quotas set out above for D4
- Q8: record respondents' ethnicity. There are no quotas here but please aim for a spread across the sample.
- Q9: record the type of property the respondent lives in; there are no quotas but recruit a spread
- Q10: record whether or not respondents own their property (outright or with a mortgage) or if they are renting (from the local authority, a housing association or a private landlord).
- PPM: at least 20 respondents should be renting
 - Credit: at least 22 respondents should own their property either outright or on a mortgage

Finances: Q11-13 are about respondents' finances

- Q11: find out if the total household income is above or below the figures stated. It includes wages and any benefits that are received by any members of the household. Where other members of the family who are living together and contributing to the bills, their income should also be included. Some respondents will find it easier to work this out on a basis of a weekly or a monthly or an annual amount and all three options are shown. NB the three options are equivalent allowing for rounding up i.e. £300 per week is the same as £1,300 per month and £16,000 per year. If the household income fluctuates, ask them to base it on the last 3 months. If respondent is unsure, force them to guess if it is above or below the amounts shown.
- PPM: 15 respondents should have an income below the amounts shown; 15 should have an income above the amounts shown
 - Credit: no quotas; as found
- Q12: find out if respondent and/or their partners receive any of the benefits/tax credits listed
- PPM: at least 20 should be in receipt of one or more
 - Credit: no quotas; as found
- Q13: ask each respondent to choose one of the descriptions that best applies to themselves
- PPM: at least 6 to choose codes 3-5 (more than this is fine)
 - Credit: no quotas; as found
- Q14: this is about the health of family members; please find out if any family member has a physical or mental impairment/illness/condition that has a long-term effect on their ability to carry out normal day-to-day activities. If Yes: record the nature of the impairment
- PPM: at least 10 to answer Yes
 - Credit: no quotas; as found
- Q15: record whether or not the respondent has a mobile phone and, if so whether they pay on a pay-as-you-go basis or on a contract with monthly bills (nb some respondents may do both)
- PPM: no quotas
 - Credit: at least 14 to have a pay-as-you-go phone / at least 14 to have a contract with monthly bills phone

Arranging Appointments

Assuming someone is eligible and willing to take part in the research, please arrange a date and time for an interview. Please note: at each location we are aiming to set up at least 3-4 appointments, some during the day and some during the evenings. You need to allow the researchers enough time to travel between appointments.

Letter of Authority

We will provide copies of a letter from DECC confirming this is a genuine market research exercise. This can be emailed or sent to respondents when confirming their appointment but you may wish to refer to this when trying to set up the appointment.

Filming

Do not mention this until you have managed to confirm an appointment. Explain we would like to film some of the interviews as this will help those involved in developing the new technology get a much better idea of how people feel about things. Where a respondent is filmed, a higher incentive will be paid depending on how many family members

take part. If just one person takes part, an extra £15 will be offered; where two or more family members take part, an extra £25 will be offered.

NB those taking part must have some involvement in using the energy meter/energy display e.g. by topping up the credit.

NB please make it clear this extra incentive will only be paid where an interview is filmed; if someone agrees but is not selected to be filmed, they will be offered the standard incentive of £40.

If the respondent is unwilling to be filmed, that is fine, they can still be included. If respondent is happy to be filmed, explain that this will be confirmed nearer the time (we want to ensure we end up with a good cross section of respondents)

Across the 90 depths, we want to film 10 respondents:

- 3-4 existing prepayment customers (PPM)
- 3-4 existing credit customers (Credit)
- 3-4 existing smart prepayment meter customers (Smart PPM).

We also want to get as good a spread across the other variables. We will not make a final decision about which ones to film until we have a good idea of who has agreed.

Data Protection and Confidentiality

Please make sure every respondent has read Card D and given their consent. Our researchers will ask them to sign to this effect at the start of the interview

Front Page

Please complete the details on the front page:

- the respondent contact details
- respondent's agreement with how the information they provide will be used
- the method you have used to find people – if you are using your own database please remember the restrictions on previous attendance
- the recruiter declaration.

Data Security

Once a questionnaire has been completed, it will contain information that is classed as 'personal sensitive data' – this is because it includes information that can be used to identify the respondent along with their answers to a number of different questions. If you are working with paper versions, it needs to be kept securely. You should keep it with you at all times when you are out in the field and make sure the information is not on view to someone else. For example, keep it in an envelope and/or keep it in a briefcase. When you are at home, it should be kept in a secure location, such as a locked drawer or cupboard and not somewhere where a visitor to your home can see it.

If the questionnaire is in electronic form:

- The electronic data file should be stored in an encrypted form. Access to the storage medium (e.g. a disc drive) should be by means of a password. The file itself should also be password protected.

If paper versions of the questionnaire are produced, any completed questionnaires should be kept in a locked cupboard/storage while not in use. Details of respondents who have been recruited must be sent to us in electronic format. The data should be sent to us in encrypted form using a secure form of data transfer.

The file should be password protected; the header and footer should include Protect: Personal/Restricted.

Answers to recruitment questions should be coded e.g. Q1 codes 2 & 3 (the full questions and codes should not be displayed).

Copies of passwords should be emailed in a separate email.

On completion of the project, the file (and any copies) should be permanently erased (i.e. deleting it in the normal manner is not sufficient). Any paper copies of the completed questionnaire should be shredded by a shredder that complies with DIN 32757 Security Level 3.

- Good luck!

This version of the recruitment questionnaire is to be used with customers who already have a 'smart' prepayment meter. These respondents are all customers of Utilita, an energy supplier that specialises in this method of payment.

There is a separate version for customers who have a 'standard' (i.e. non- smart) prepayment meter and customers who have a 'standard' credit meter and who pay for their energy either monthly or quarterly by direct debit, cash/cheque, credit/debit card, payment card or via Fuel Direct.

Hello, my name is.....I am working on behalf of Creative Research and Acumen. I wonder if you would be interested in taking part in some market research we are conducting. The research is on behalf of the Department of Energy and Climate Change and is about how people use and pay for energy. We are contacting Utilita customers who have recently had a new meter fitted to find out their views on this. It involves taking part in an interview in your home with a researcher to explore your experiences of your energy meter. Utilita are supporting the research and they have provided contact details of a number of their customers. Utilita do not know who we have approached and they will not be told who takes part.

The interview will last for approximately 1½ hours. In return for your time, I can offer you £40 as a contribution towards your expenses.

<u>Recruiter: please fill in the following details</u>					
<u>RESPONDENT DETAILS</u>					
Explain that you need to check the respondent's contact details so that they can be contacted in the event of a change of plans (e.g. the moderator is ill) and also for quality control procedures. Reassure respondents that no personal details or responses will be passed on to anyone not directly concerned with the research without their express permission.					
Name:					
Address:					
Postcode:					
Telephone:					
Email address:					
<u>Read out DATA PROTECTION card</u>					
Check that respondent is in agreement with this procedure.					
YES	1		NO	2	CLOSE
<u>METHOD OF RECRUITMENT</u>					
FROM CLIENT LIST	1				
<u>RECRUITER DECLARATION</u>					
I DECLARE THAT THIS IS A TRUE RECORD OF AN INTERVIEW WITH THE NAMED RESPONDENT WHICH WAS CONDUCTED IN ACCORDANCE WITH THE INSTRUCTIONS AND THE MRS CODE OF CONDUCT. I AGREE TO BE BOUND BY THE DATA PROTECTION ACT 1998.					
SIGNATURE:_____					
PRINT NAME:_____ DATE:_____					
For Creative Research use only Respondent ID					

Once this questionnaire has been completed, it constitutes sensitive personal data – please see notes at the end regarding how it should be treated

KEY DEMOGRAPHICS**D1 SOCIAL GRADE** OCCUPATION OF HEAD OF HOUSEHOLD:**ASK THE FOLLOWING FIVE QUESTIONS TO CLARIFY HEAD OF HOUSEHOLD INFORMATION:**

IF RETIRED, ASK FOR PREVIOUS OCCUPATION, IF PRIVATE PENSION RECEIVED

IF LOCAL AUTHORITY OR CIVIL SERVICE OR ARMED FORCES, ASK GRADE/RANK

IF SELF-EMPLOYED OR MANAGERIAL, ASK FOR NO. OF EMPLOYEES RESPONSIBLE FOR

ASK FOR DETAILS OF TRAINING/QUALIFICATIONS

INDUSTRY (WRITE IN)

NOW CODE SOCIAL

BC1

1

C2

2

DE

3

No quotas; as found**D2 Gender**

male

1

female

2

**20-24 female /
6-10 male****D5 Customer type**

PPM

1

Credit

2

**See separate
questionnaire****D3 Age (write in and code below)**

_____ yrs

18-25

1

26-35

2

36-45

3

46-55

4

56-65

5

66-75

6

75+

7

**Recruit a good
spread****D6 Location type**

Metropolitan

1

Urban

2

Rural

3

D7 Location

Bradford (BD6)

1

Halifax (HX2-3)

2

Blackburn (BB1-5)

3

Warrington (WA2,4,7)

4

North Birmingham (B23,24)

5

East Birmingham (B37)

6

D4 Lifestage: ask Q5-7 and then code here

pre-family

1

young family

2

older family

3

post family

4

retired

5

**No quotas but
aim for a
spread**

SCREENING

S1. SHOW CARD A Can I just check, do you or any of your immediate family work in any of the following professions or occupations?					
Market Research or Marketing	1	CLOSE	Generation, distribution, or sale of gas or electricity	4	CLOSE
Public Relations or Journalism	2		Consumer advice	5	
Advertising	3			6	
			None of these	7	CONTINUE
S2a. Have you <u>ever</u> attended a GROUP DISCUSSION or IN-DEPTH INTERVIEW before?			S2b. What was the subject under discussion?		
No	1	GO TO Q1	IF PREVIOUS SUBJECT RELATED TO THIS PROJECT, THANK & CLOSE. OTHERWISE ASK Q2c		
Yes	2	GO TO S2b			
S2c. How long ago was that?			S2d How many group discussions & depth interviews have you attended in the last 3 years?		
Less than 6 months	1	THANK & CLOSE	1-6	1	GO TO Q1
More than 6 months ago	2	GO TO S2d	7 or more	2	THANK & CLOSE
Explain that you need to ask some questions about respondent's energy supply.					
Q1. Code below energy supply respondent has at home					
mains electricity		1	CLOSE		
mains gas		2			
neither		3			
Q2. Are you either solely or jointly responsible for paying your energy bills and dealing with your energy supplier(s)?					
respondent solely responsible		1	Continue		
respondent jointly responsible		2			
respondent not responsible for paying energy bills/dealing with energy supplier		3	CLOSE		
ASK ALL					
Q3. Which energy company do you get your electricity/gas from? Code below					
NB respondent must have at least one form of energy from Utilita; in the unlikely event the customer has switched away from Utilita, CLOSE					
	Gas	Electric	Dual Fuel		
Utilita	1	2	3		
Respondent does not have gas	1				
British Gas, Nwy Prydain, Scottish Gas	1	2			
EDF Energy (previously London Energy, Seeboard Energy and SWEB)	1	2			
npower	1	2			
E-ON (previously Powergen)	1	2			

Scottish Power, Scottish Power Manweb	1	2	
Scottish and Southern Energy (SSE), Scottish Hydro Electric, Southern Electric, Swalec, Atlantic Electric and Gas	1	2	
Other WRITE IN:	1	2	
At least 18 respondents to be Utilita dual fuel customers. Recruit a spread of electricity only/gas only Utilita customers			
If respondent has both mains electricity and mains gas and is not a Utilita dual fuel customer ask how they normally pay their energy bill from their other supplier			
Q4. How do you normally pay your electricity/gas bills, that is, the bill from [name of supplier coded at Q3]? Read out and code all that apply.			
	Non Utilita bills		
Monthly direct debit	1	As found	
Quarterly direct debit	2		
Quarterly cash or cheque/debit or credit card e.g. by post, online, by phone	3		
Payment card where you make regular payments and this is deducted from your bills	4		
Fuel direct where a fixed amount is taken from your benefits by DWP to help clear an outstanding debt	5		
Prepayment meter where you purchase cards/tokens in advance and insert them in a meter	6		
Explain that you need to ask some questions about the respondent to ensure we talk to a good cross-section of different people.			
Q5. Record marital status			
Single or in a relationship but NOT living with partner	1		
Married/ In a long term relationship and live with partner	2		
Divorced/separated/widowed	3		
Q6. Do you have any children aged under 12 who live at home with you? And do you have any children aged 12-16 who live at home with you?			
	Yes	No	
Children aged under 12	1	2	
Children aged 12-16	1	2	
Q7 Use answers to D3, Q6 & Q7 to code respondent's lifestage. Code here and at D4			
Pre-family young single adult – must be living independently and not with a partner; must be responsible for paying their own bills; aged under 35; no children	1	CODE AS Pre-family @ D4	
Pre-family young adult couple – married or in a permanent relationship and living with partner; must be responsible for paying their own bills; aged under 35; no children	2		
Single parent – 1 or more children living with them; all children under 12	3	CODE AS Young Family @ D4	
Family couple – either married or in a permanent relationship and living with partner; 1 or more children living with them; all children under 12	4		

Single parent – 1 or more children living with them; at least one child aged 12-16 (may have younger/older children as well)	5	CODE AS Older Family @ D4	
Family couple – either married or in a permanent relationship and living with partner with 1 or more children living with them; at least one child aged 12-16 (may have younger/older children as well)	6		
Post family single – aged 45 and above and either never had any children or all children aged 17 and above, single or not living with partner	7	CODE AS Post-family @ D4	
Post family couple – aged 45 and above and either never had any children or all children aged 17 and above, married or in a permanent relationship and living with partner	8		
Retired single – reached state retirement age and living alone	9	CODE AS Retired @ D4	
Retired couple – reached state retirement age and either married or in a permanent relationship and living with partner.	10		
Q8. SHOWCARD B Which of the following best describes your ethnicity?			
White British	1	Black African	8
White Other	2	Black Caribbean	9
Indian	3	White and Black African	10
Pakistani	4	White and Black Caribbean	11
Bangladeshi	5	Black other	12
White and Asian	6	Chinese	13
Other Asian	7	Other mixed	14
		Other ethnic group	15
		Rather not disclose (do not read out; code if refused)	16
No quotas but please aim for a spread across the sample			
Code from customer lists unless not recorded, in which case ask			
Q9. In which type of property do you live? Read out and code			
Detached house/bungalow	1	No quotas but aim for a spread	
Semi-detached house/bungalow	2		
Terraced house/bungalow	3		
Purpose built flat	4		
Maisonette	5		
Other: write in	6		
Q10. And do you own or rent your property? Read out and code			
Own outright	1	15-20 to be owner occupiers (shown as F on customer list under HOME_OWNER)	
Own and have a mortgage	2		
Rent from the local authority/council	3	10-15 to be tenants (shown as T on customer list under HOME_OWNER)	
Rent from a housing association	4		
Rent from a private landlord	5		
Other: write in	6		

Q11. SHOWCARD C Would you say your household's total income, before tax and any other deductions, is above or below the amounts shown here? This includes earnings from employment or self-employment, income from benefits and pensions, and income from other sources such as interest from savings. If you have a partner please include any income and benefits they receive. If you have a son or daughter or other relative who makes a contribution to paying the household bills, please include the contribution they make.

You can work it out either on a weekly, a monthly or a yearly basis, whichever is easiest for you. If your income fluctuates, please base it on the average household income over the last three months.

	Above	Below	
Weekly disposable income: £300	1	2	As found
Monthly disposable income: £1,300			
Yearly disposable income: £16,000			

Q12. SHOW CARD D Are you and/or your partner in receipt of any of the following benefits or tax credits? Tick all that apply.

Attendance Allowance	1	Housing Benefit	6	As found
Carer's Allowance	2	Income Support	7	
Child Tax Credit	3	Jobseeker's Allowance	8	
Council Tax Benefit	4	Working tax credit	9	
Disability Living Allowance	5	Universal credit	10	
		None of these	11	

Q13. SHOWCARD E Which of the statements on this card best applies to you?

I am/We are keeping up with all the household bills without any difficulties	1	As found
I am/We are keeping up with all the household bills, but it is a struggle from time to time	2	
I am/We are keeping up with all the household bills, but it is a constant struggle	3	
I am/We are falling behind with some household bills	4	
I am/We are having real financial problems and have fallen behind with many bills	5	

Q14a Do you or your partner or any other member of your household have any physical or mental impairment or an illness or condition that has a substantial and long-term adverse effect on your ability to carry out normal day-to-day activities?

Long-term means that the effect of the impairment has lasted or is likely to last for at least 12 months.

Normal day-to-day activities include everyday things like eating, washing, walking and going shopping.

Yes	1	At least 5 to answer Yes
No	2	

Q14b Write in name/description of respondent's/partner's impairment, illness or condition

NB: please check that respondent's condition will allow them to take part in an interview. If they require any special aids (e.g. a signer for someone who is deaf/has a hearing impairment) you must check with the office before setting up an appointment.

Q15. Do you have a mobile phone?

If yes: do you pay for your calls on a pay-as-you-go basis or do you have a contract and pay for each month based on how much you have used?

Does not have mobile phone	1	As found
Has pay-as-you-go mobile phone	2	
Has contract mobile phone	3	

Annex

If respondent is in quota and willing to take part in an in-home interview, arrange a date and time for the interview. The interview will last for 1.5 hours and the incentive is £40. The purpose of the interview is to explore respondents' views on how they currently pay for their energy as well as looking at how new technology might be used to offer customers an improved service.

When scheduling appointments please allow researchers time to travel between appointments.

Once an appointment has been agreed, explain to respondent that a proportion of the interviews are being filmed. The film will only be used to illustrate the findings of the research and to share these with people involved in developing the new technology.

Where an interview is filmed, a higher incentive will be paid and the value will depend on how many people take part. If one person takes part, an additional £15 will be offered. Where 2 or more people take part, an additional £25 will be offered.

Ask if respondent is happy for their interview to be filmed.

Yes – happy to be filmed	1	Explain that details will be confirmed nearer the time
No, would prefer not to be filmed	2	Continue

SHOW CARD A

1. Market Research or Marketing
2. Public Relations
3. Journalism
4. Advertising
5. Generation, distribution, or sale of gas or electricity
6. Consumer advice
7. None of these

Show Card B

- | | |
|----------------------|-------------------------------|
| 1.1. White British | 8. Black African |
| 1.2. White Other | 9. Black Caribbean |
| 1.3. Indian | 10. White and Black African |
| 1.4. Pakistani | 11. White and Black Caribbean |
| 1.5. Bangladeshi | 12. Black other |
| 1.6. White and Asian | 13. Chinese |
| 1.7. Other Asian | 14. Other mixed |
| | 15. Other ethnic group |

Show Card C

Weekly household disposable income:	above / below £300 a week
Monthly household disposable income:	above / below £1,300 a month
Yearly household disposable income:	above / below £16,000 a year

Show Card D

- | | |
|--------------------------------|--------------------------|
| 1. Attendance Allowance | 6. Housing Benefit |
| 2. Carer's Allowance | 7. Income Support |
| 3. Child Tax Credit | 8. Jobseeker's Allowance |
| 4. Council Tax Benefit | 9. Working tax credit |
| 5. Disability Living Allowance | 10. Universal credit |
| | 11. None of these |

Show Card E

1. I am/We are keeping up with all the household bills without any difficulties
2. I am/We are keeping up with all the household bills, but it is a struggle from time to time
3. I am/We are keeping up with all the household bills, but it is a constant struggle
4. I am/We are falling behind with some household bills
5. I am/We are having real financial problems and have fallen behind with many bills

DATA PROTECTION

The Data Protection Act requires that we collect and use the information you provide to us in a manner that respects and protects your confidentiality.

Your personal details (such as name, address, phone number) will not be disclosed to anyone else without your permission other than Creative Research, the company carrying out the research.

The recordings/transcripts will only be listened to/watched/read for research purposes. Excerpts from the recordings/transcripts may be used to illustrate the research findings. This will always be done in a way to protect your identity (e.g. comments will not be attributed).

The recordings/transcripts will be listened to/watched/read by people from the client organisation working on this project. In these circumstances, where possible we will go through the material first to delete any references to people's names or anything else that could identify them.

Anyone from the client organisation who listens to/watches/reads the recordings/transcripts will sign an undertaking that they will respect the anonymity of those taking part.

Any other material or information generated by you, such as ideas written down on paper, will be subject to the same strict controls.

You have the right to **withdraw your consent** at any point in the interview/discussion. You may also withdraw from the interview/ discussion at any point. Please sign to indicate your agreement with this procedure.

Recruiter Guidelines

Background

The research is being conducted on behalf of DECC – the Department of Energy and Climate Change. Over the next six years, all homes in the Great Britain will have their existing gas and electricity meters replaced with a new generation of ‘smart’ meters. These will provide consumers with information about their energy use along with a range of additional functions.

The new meters can be automatically switched between ‘credit’ and ‘prepayment’ modes. In credit mode, customers will receive monthly or quarterly bills which they can pay by a variety of methods while in prepayment mode, customers pay for their energy in advance.

The purpose of this research is to explore reactions to the idea of a smart prepayment meter. A small number of customers already have smart prepayment meters and we are keen to find out their experiences and opinions of these.

The interviews will take place in respondents’ homes. Each interview will last 1.5 hours and an incentive of £40 is available.

Interviews should be with whoever is responsible for paying the energy bill. In the case of couples, both are welcome to take part in the interview. If other members of the family are involved – for example, if teenagers sometimes top up an existing prepayment meter – they are also welcome to get involved. Please note: irrespective of who takes part, only a single incentive payment is available.

The Task

A total of 90 interviews need to be set up. These are divided between three groups of customers:

- 30 existing prepayment customers (PPM) i.e. people who are currently paying for their energy through a prepayment meter
- 30 existing credit customers (Credit) i.e. people who are currently paying for their energy either monthly or quarterly by direct debit, cash, cheque, debit or credit card
- 30 existing smart prepayment meter customers (Smart PPM) – one energy company, Utilita, has installed a number of smart prepayment meters and they have provided contact details for recruitment purposes. If respondent asks how you got their details: you should explain that there are very few customers who currently have one of the new types of prepayment meters and most of these are customers of Utilita. Utilita provided contact details of some of their customers to help with the research. They do not know who we are approaching or who agrees to take part
- NB some of the customers have the same postcodes and, in some cases, this could be because a landlord has signed up a number of properties to Utilita. Please aim to recruit just one respondent from the identical postcodes.

This questionnaire and instructions relate to last of these groups. Please refer to the Legacy Meter Customers questionnaire for details of the other parts of the sample

Exclusions and Eligibility

Please do not recruit anyone who works or whose immediate family works in any of the professions or occupations listed at S1 / on Card A (see S1). The usual exclusions relating to previous participation in research apply (see S2a-c). All respondents must be responsible, either solely or jointly, for paying their energy bills (codes 1-2 @ Q2).

Quotas

Please ask all of the questions of everyone. There are very few quotas for this sample however we want to achieve as good a spread as possible. We need to record answers to all the questions so we can compare the three samples. Please monitor the achieved sample and keep us informed of what you are achieving as we may need to set some quotas part way through if we are not getting a reasonable spread

Key Demographics

SEG (D1): as found

Gender (D2): aim to recruit equal numbers of men and women

Age (D3): there are no quotas as such but aim to recruit a good spread

Lifestage (D4): you should ask Q5-7 and use the instructions at Q7 to assign respondents to the appropriate lifestages. If someone has taken early retirement i.e. they are below 60/65, you should class them as 'post-family' or 'family' and not 'retired'. No quotas but try to recruit a spread across

- Pre-family
- Young family
- Older family
- Post family
- Retired

Customer type (D5): all respondents are 'Smart' PPM

Location type (D6): tbc

Location (D7): tbc

Energy Supply: Q1-4 are about respondents' energy supply

Q1: code whether respondent has mains electricity and mains gas; the majority of respondents (25+ out of 30) should have both. In some rural locations, respondents may not have mains gas.

Q2: code whether respondent is solely or jointly responsible for paying their energy bills.

Q3: the customer lists indicate whether a respondent is a Utilita gas/electric only customer or a Utilita dual fuel customer. However, there are some duplicate entries with the same customer being shown as both electricity only and gas only. So, while you can use this as a guide, you must ask Q3 of everyone. If not a Utilita dual fuel customer and respondent has both mains electricity and gas, record which energy supplier provides the second fuel.

- 18-20 respondents should be Utilita dual fuel customers; for the remainder, recruit a spread of Utilita electricity only/gas only customers (see lists)

Q4: you only need to ask this if respondent has both mains electricity and gas and is not a Utilita dual fuel customer. Record how the respondent pays for their non-Utilita bill

Demographics: Q5-10 ask for demographic information to help ensure we get a good mix of people.

Q5: record their marital status

Q6: record whether respondent has any children aged under 12 and between 12 and 16 living at home with them. Please note: where the parents are separated, if the children live with the other party, they do not count as 'living at home with you'. Conversely, someone who lives with a partner, has no children of their own but their partner's children are living in the same home, should be recorded as having children

Q7: using the answers to D3, Q5 and Q6 plus the instructions provided at Q7, first code respondent into one of 10 lifestages and then code at D4 into one of 5 lifestages.

Q8: record respondents' ethnicity. There are no quotas here but please aim for a spread across the sample.

Q9: if the customer list records the respondents' property type, you can enter it directly; otherwise ask Q9 and record the type of property the respondent lives in; there are no quotas but recruit a spread

Q10: record whether or not respondents own their property (outright or with a mortgage) or if they are renting (from the local authority, a housing association or a private landlord).

- aim for 15-20 owner occupiers (shown on customer lists as F under HOME_OWNER)
- 10-15 to be tenants (shown on customer lists as T under HOME_OWNER)

Finances: Q11-13 are about respondents' finances

Q11: find out if the total household income is above or below the figures stated. It includes wages and any benefits that are received by any members of the household. Where other members of the family who are living together and contributing to the bills, their income should also be included. Some respondents will find it easier to work this out on a basis of a weekly or a monthly or an annual amount and all three options are shown. NB the three options are equivalent allowing for rounding up i.e. £300 per week is the same as £1,300 per month and £16,000 per year. If the household income fluctuates, ask them to base it on the last 3 months. If respondent is unsure, force them to guess if it is above or below the amounts shown.

- no quotas; as found

Q12: find out if respondent and/or their partners receive any of the benefits/tax credits listed

- no quotas; as found

Q13: ask each respondent to choose one of the descriptions that best applies to themselves

- no quotas; as found

Q14: this is about the health of family members; please find out if any family member has a physical or mental impairment/illness/condition that has a long-term effect on their ability to carry out normal day-to-day activities. If Yes: record the nature of the impairment

- At least 5 to answer Yes

Q15: record whether or not the respondent has a mobile phone and, if so whether they pay on a pay-as-you-go basis or on a contract with monthly bills (nb some respondents may do both)

- no quotas

Arranging Appointments

Assuming someone is eligible and willing to take part in the research, please arrange a date and time for an interview. Please note: at each location we are aiming to set up at least 3-4 appointments, some during the day and some during the evenings. You need to allow the researchers enough time to travel between appointments.

Letter of Authority

We will provide copies of a letter from DECC confirming this is a genuine market research exercise. This can be emailed or sent to respondents when confirming their appointment but you may wish to refer to this when trying to set up the appointment.

Filming

Do not mention this until you have managed to confirm an appointment. Explain we would like to film some of the interviews as this will help those involved in developing the new technology get a much better idea of how people feel about things. Where a respondent is filmed, a higher incentive will be paid depending on how many family members take part. If just one person takes part, an extra £15 will be offered; where two or more family members take part, an extra £25 will be offered.

NB those taking part must have some involvement in using the energy meter/energy display e.g. by topping up the credit.

NB please make it clear this extra incentive will only be paid where an interview is filmed; if someone agrees but is not selected to be filmed, they will be offered the standard incentive of £40.

If the respondent is unwilling to be filmed, that is fine, they can still be included.

If respondent is happy to be filmed, explain that this will be confirmed nearer the time (we want to ensure we end up with a good cross section of respondents)

Across the 90 depths, we want to film 10 respondents:

- 3-4 existing prepayment customers (PPM)
- 3-4 existing credit customers (Credit)
- 3-4 existing smart prepayment meter customers (Smart PPM).

We also want to get as good a spread across the other variables. We will not make a final decision about which ones to film until we have a good idea of who has agreed.

Data Protection and Confidentiality

Please make sure every respondent has read Card D and given their consent. Our researchers will ask them to sign to this effect at the start of the interview

Front Page

Please complete the details on the front page:

- the respondent contact details
- respondent's agreement with how the information they provide will be used
- the method you have used to find people – in this case, 'from client lists'
- the recruiter declaration.

Data Security

Once a questionnaire has been completed, it will contain information that is classed as 'personal sensitive data' – this is because it includes information that can be used to identify the respondent along with their answers to a number of different questions. If you are working with paper versions, it needs to be kept securely. You should keep it with you at all times when you are out in the field and make sure the information is not on view to someone else. For example, keep it in an envelope and/or keep it in a briefcase. When you are at home, it should be kept in a secure location, such as a locked drawer or cupboard and not somewhere where a visitor to your home can see it.

If the questionnaire is in electronic form:

- The electronic data file should be stored in an encrypted form. Access to the storage medium (e.g. a disc drive) should be by means of a password. The file itself should also be password protected.
- If paper versions of the questionnaire are produced, any completed questionnaires should be kept in a locked cupboard/storage while not in use.
- Details of respondents who have been recruited must be sent to us in electronic format. The data should be sent to us in encrypted form using a secure form of data transfer.
- The file should be password protected; the header and footer should include Protect: Personal/Restricted.
- Answers to recruitment questions should be coded e.g. Q1 codes 2 & 3 (the full questions and codes should not be displayed).
- Copies of passwords should be emailed in a separate email.
- On completion of the project, the file (and any copies) should be permanently erased (i.e. deleting it in the normal manner is not sufficient). Any paper copies of the completed questionnaire should be shredded by a shredder that complies with DIN 32757 Security Level 3.

Good luck!

Topic guides: Legacy Meter Respondents

Moderator to ensure s/he has copy of respondent profile to refer to

Introductions

Moderator and respondent(s) introduce each other

To the purpose of the discussion – to help the Department of Energy and Climate Change understand people's views on a number of changes to energy meters

To the research format; recording, anonymity, no right or wrong answers, etc.

Moderator also to explain that at a certain point in the interview s/he would like the respondent to show her/him their energy meters and to take some photographs of these. This will help us illustrate how easy/difficult it is for people to access their meters. Any photographs will not be linked to individual respondents

Moderator to give respondent a copy of the data protection consent sheet to read and sign.

Check if respondent's energy tariff is what is classed as a 'time of use' tariff – the most common of these is E7

Economy 7 is an electricity tariff that means you pay a different price for electricity depending on the time of day, what you use at night costs less than in the day, similar to peak and off peak phone calls. It doesn't mean that it is cheaper after 7PM; it gives you seven hours of cheaper electricity at night. What is classed as night will vary depending on the supplier.

At end of interview, offer respondent copy of the DECC information leaflet and point out the web link at the end where they can find further information

Current payment methods, background to these, management of payments (30 mins)

Note to Moderator: refer to Q4 of respondent profile and confirm with respondent that this/these are the current payment method(s) in use.

Explore history behind choice of payment method.

If respondent has both electricity and gas and only pays one by PPM, briefly explore the situation regarding the non-PPM supply first and then focus on the PPM supply. If respondents has elec and gas PPM but with different suppliers, briefly explore the situation for each fuel

When was the current PPM(s) installed; was it before you came to the property or since?

- if already installed: did you enquire into the possibility of having it replaced with a non-prepayment meter? If not, why was this? If yes, what was the outcome of the discussion (and why was it not switched)?
- if installed after respondent moved into property, did you request the PPM(s) or were you told by your supplier/landlord that you had to have one? Can you briefly explain the circumstances (for example, this could relate to getting into debt, or as a way of avoiding debt)?
- thinking back to the time when the option of PPM(s) was being discussed what involvement/discussions did you have with your supplier about any difficulties you were facing and the options open to you
- who first suggested the idea of a PPM and what were you told about them?

Note to Moderator: explore the extent to which respondent was given any choice and the extent to which they exercised this – was respondent the prime mover or was someone else (supplier, landlord)? Did respondent adopt a passive/active role in the decision?

Have you always used pre-payment meters to pay for your energy? Which other payment methods have you used?

- would you say that the service and support you get from your energy company as a PPM customer is any different to the service and support other customers receive? If Yes: in what way is it different? Better/worse?

Are there other services that you pay for up-front?

- what are they (e.g. mobile phones, Oyster cards/bus and train season tickets, tanning sessions or other beauty treatments)?
- how does paying up-front for these things compare to paying up-front for your gas/electricity?
- if respondent has a mobile phone contract: why have you chosen to pay for your mobile phone on a contract rather than on a pay as you go basis?

To what extent do you try to plan ahead how you are going to pay for your energy – for example, by restricting yourself to a certain amount each week to spend on energy?

- is this quite easy to do? Are there circumstances in which it is more difficult? Moderator to explore such circumstances (e.g. someone being at home during the day, someone is ill, colder weather etc.)
- what happens if the amount you have budgeted is insufficient?

To what extent do you feel in control of the amount of energy you use?

- do you feel it is easy/difficult to reduce the amount of energy you use if you need to? Why is this?
- do you know which items, in particular, use lots of electricity/gas?

Do you take certain measures to limit your energy use?

- What sort of measures e.g. delaying putting heating on until necessary, using fewer bars on the electric fire, putting on jumpers etc?
- what impact, if any, does this have on you and your family?
- if they don't take measures: why is this?

Ask all: can I just check, are you currently behind with your energy bills? If yes: by how much? (estimate); have you been in debt to your energy supplier at any time in the past?

PPM have an emergency credit facility which provides £5-10 worth of credit before your supply is cut off. Some energy companies also offer what is sometimes referred to as 'friendly credit' at certain times – such as between 6pm and 9 am and, in some cases, all day Sunday - this means the customer's supply will not be cut off during these times even if they have used up all of the emergency credit.

- as far as you are aware, does your PPM(s) offer friendly credit as well as emergency credit?
- Do you ever use the emergency credit facility?
- if yes: under what circumstances/how often; what are your thoughts on this facility?
- for those with 'friendly credit': do you every make use of the friendly credit facility?
- if yes: under what circumstances/how often; what are your thoughts on this facility?
- for those without 'friendly credit': if your PPM also offered 'friendly credit' is this something you would welcome? Why is this?

Have you ever experienced occasions when you were without electricity/gas because you forgot or were unable to top up your meter?

- how often has this happened? typically, how long have you been without electricity/gas? What is the longest period you have been without electricity/gas?
- why was this/what led up to this?

Note to Moderator: explore experiences and reasons behind both intentional (e.g. no money to top up) and unintentional (e.g. forgot to top up; run out when shops were closed) disconnections and the frequency of each type

From your personal point of view:

- what would you say are the advantages of a PPM?
- and what are its disadvantages?
- how does it compare with other payment methods you are familiar with?
- if you were given the choice of staying on a PPM or switching to a credit meter free of charge, which would you opt for? Why is this?

Understanding and monitoring energy use (10 mins)

Moderator will ask respondent to show them their prepayment meter.

Note to Moderator: ask respondent to show you their PPM if possible (if it is outside and dark, this may not be possible); ask respondent's permission to take some photographs. As far as possible take shots to illustrate the location and accessibility of the PPM(s) as well as close-ups of the meter(s). Ask them to point out/demonstrate what it can do and how they use it.

If respondent has just one energy that is paid for by PPM, focus on this meter. If they have two PPMs, ask about each one and any differences between them.

Moderator: Stand near to the meter and ask: I'd like you to imagine I know nothing about PPM – I'd like you to describe to me what your PPM does (does it have any particular features) and how you operate it (including topping it up); if necessary, prompt as follows

- how often do you need to look at/use the meter? How easy or difficult is it to do this? Why is this? How easy is it to read any displays or instructions?
- apart from topping up the meter, what other reasons might you have for looking at/using it?
- as far as you are aware, does it offer any other features or information that might be useful to you? For example, does it tell you when you are using emergency credit or how much emergency credit you have used? Does it provide you with a warning when your credit is getting low? How easy/difficult is it to use these features/find this information?

Ask those currently/previously in debt to energy supplier: As far as you are aware, does your PPM display any information relating to your debt?

- If yes: explore what information it displays, whether they make use of this information/how often they access it
- if they are aware of debt related information but they do not access it: explore why this is

Note to Moderator: check to see if respondent also has an energy monitor. This is not the same as an IHD that works with a smart meter. Energy monitors only work with electricity meters. Some energy companies have offered them to customers free of charge. It is also possible to buy one. It has a lead which clips onto the cable near the meter and a separate display unit that tells you how much electricity you are using, what it is costing etc.

If respondent has an energy monitor ask permission to take some photographs. Try to take a shot to show where the monitor is located as well as a close-up of the monitor itself

Moderator: Stand near to the energy monitor and ask: imagine I know nothing about energy monitors. I'd like you to describe to me what it does (does it have any particular features) and how you operate it

- how often do you check the monitor? how easy/difficult is it to use? Why is this?
- what do you use it for? Has it helped you manage your use of energy? In what way?
- what features does it have/what information does it provide?
- does it provide information/have features that your prepayment meter doesn't?
- overall, how useful do you find it?

ASK ALL: Is there any other information about your energy use that would help you? What information? How would this be helpful?

Response to the idea of smart meters/IHDs (10 mins)

Have you heard of smart meters?

- what have you heard? where have you heard it from?
- what do you think they are/do?
- where in a house or flat might you expect to find one?

Have you heard of in-home energy displays that work alongside smart meters?

- what have you heard? positives/negatives?
- what do you think they are/do?
- where in a house or flat might you expect to find one?

Note to Moderator: if respondent already has an energy monitor, probe to see how an in-home energy display that works alongside a smart meter might be different

S1

Note to Moderator: take respondent through S1. Make a note of any questions asked/concerns raised.

What's your reaction to what you see here?

S2

Note to Moderator: take respondent through the stimulus and explain that:

- existing electricity and gas meters will be replaced by smart meters
- information about how much energy is being used and roughly what it is costing you to a small in-home energy display
- information is also sent to the energy companies which means there is no need for meters to be read in the future

Make a note of any questions asked/concerns raised.

What's your reaction to what you see here?

S3

Note to Moderator: take respondent through the stimulus and explain that smart meters are expected to offer
Make a note of any questions asked/concerns raised.

What's your reaction to what you see here?

S4

Note to Moderator: explain that in-home energy displays will come in a variety of formats but they will all be of a similar size (S4 illustrates this). Explain that IHDs only work when they are linked to a smart meter so we can't show it in use but you can get an idea of their size/appearance - show respondent examples of actual IHD - allow them to handle it. **Make a note of any questions asked/concerns raised.**

What's your reaction to this?

Note to Moderator: explain that

- a smart meter can be set to work either as a prepayment or a credit meter
- it can be switched between these two methods automatically - this means there won't be a charge for having a PPM installed/removed or the inconvenience

Make a note of any questions asked/concerns raised.

What's your reaction to this?

What's your initial reaction to the idea of smart meters and IHDs?

- how might having a smart meter and an energy display help you? what might be the advantages? Any disadvantages?
- if offered a smart meter, would you want one? Why/why not?
- would you opt to use it in PPM or credit mode? Why do you say that?
- if not for you, what kind of people do you think have smart meters?

Response to Detailed Description of Smart PPM & IHD (25 mins)

Note to Moderator: explain that we are going to spend some time looking at how a smart meter and in-home energy display works in PPM mode to get respondent's reactions.

Topping up

S5

Smart meters will no longer be topped up using cards/keys, instead customers can top them up in lots of different ways and the money is automatically credited to your account

- e.g. if you topped up your account by £10 using cash at your local PayPoint, by the time you get home, this will have been credited to your account
- you don't need to leave home to top up as there are lots of ways of topping up remotely – this means you can top up 24/7

Make a note of any questions asked/concerns raised.

What's your reaction to what you see here?

- which of these methods would you be able to use (check in respondent has internet access/mobile phone/smart phone)?
- which would you want to use?
- overall what difference, if any, do you think this will make to you?

Note to Moderator: explain that you are going to talk respondent through how a smart meter and IHD unit will work including some of the features it provides in prepayment mode. Invite questions and comments – both positives and negatives. Explain that you use the buttons on the IHD to show different information.

NB if customer has just electricity, the display works in exactly the same way but it will only show information for electricity.

NB if customer has both electricity and gas but only pays for one of them on a PPM, the IHD will work in a similar way but information about levels of credit etc. will only apply to whichever energy is paid for via PPM

Moderator to explain we are going to look at some of the functions it might be possible to access with the IHD – not all of the functions will necessarily be available on all IHDs but for the purposes of the research, we are interested in finding out how useful the different functions might be.

Note to moderator: while we are interested in any feedback about perceived ease/difficulty of using IHDs, this is not a usability test – the main focus of interest is in the information that can be accessed and whether respondents think they will use it and how it might impact on them

Energy consumption/cost and credit balances

Left hand IHD	Right hand IHD
<p>Top half of screen shows</p> <ul style="list-style-type: none"> the amount of electricity (green) and gas (blue) being used in kW the current cost of the energy being consumed in £/h with electricity displayed above gas 	<p>Top half of screen shows</p> <ul style="list-style-type: none"> the amount of electricity (green) and gas (blue) being used in kW the current amount of energy being consumed in kWh with electricity displayed above gas
<p>The bottom half of the screen shows the amount of credit remaining:</p> <ul style="list-style-type: none"> In the case of electricity this shows there is £18.13 credit and based on current levels of use, this should last for more than 7 days. In the case of gas, there is a credit balance of £12.42 which, based on current levels of use, should last for 6 days. 	

Moderator explores reactions to the top half of the screen:

- is it clear what this is showing?
- is it information you would use? how useful is this information?
- how do you think you would use this information? overall what difference, if any, do you think this will make to you?

Moderator explores reactions to the bottom half of the screen

- is it clear what this is showing?
- is it information you would use? how useful is this information?
- how do you think you would use this information? overall what difference, if any, do you think this will make to you?
- what about if the predictions about how long you are likely to stay in credit could take into account local weather information – e.g. if a cold spell was forecast, the likely impact of this on your energy consumption could be taken into account; how useful might this be?

Moderator asks: what do you think would happen to the screen if you switched on lots of electrical and/or gas appliances at the same time?

S7 Moderator shows S7 and asks respondent to focus just on the top half of the screen:

- can you explain to me what the screen is now showing – how is it different from what we were just looking at?
- how quickly would you expect to see the upper screen change when you turn on or off different appliances?

Note to Moderator: explain that the amount of electricity being used shown on the display will update every few seconds however the information about the amount of gas being used only updates every 30 minutes. This is because it is unsafe to connect a gas meter to mains electricity. Instead they have to have a battery built in and for this to last as long as possible, the gas meter only sends information about how much gas is being used once every half an hour.

What's your reaction to this delay?

- do you think it will make the information about your gas consumption less useful? Why is this?
- do you think it will make it harder for you to try and control how much gas you use? Why is this?

Budget setting

S8

Note to Moderator: explain that one of the things customers can do is to set a budget for their energy consumption; it might be possible to set a budget on a daily, weekly or monthly basis. The example shown here is where someone has set a daily budget of £2.00 a day for electricity and £1.50 a day for gas

What's your reaction to this idea? Useful/not useful?

- Is it something you would use? What difference, if any, do you think this would make to the way you use energy/manage your energy costs?
- would you know what would be an appropriate budget to set for your own circumstances? If no: explore what information would be helpful e.g. a daily/monthly budget based on previous bills suggested by their energy company/an app which can use information about previous bills to suggest a budget
- what do you imagine would happen if you used more than this amount on any day?

Note to Moderator: check to see if respondent assumes their electricity/gas would be cut off when they reach their budget [it does not]

S9

The bottom half of the screen shows the budget information in use.

The vertical line indicates the daily budget that has been set in this example it is £1.30 per day for electricity/£1.05 per day for gas.

The solid bars of the graph show how much has been spent on electricity and gas so far today. In both cases, the level of expenditure is within budget.

Based on the rate of consumption so far today, the display indicates that by the end of the day, electricity use should remain within budget.

In contrast, if the customer continues using gas at or above the current level of use, by the end of the day, they will have spent more than their budget

What's your reaction to this idea? Useful/not useful? Why/why not?

- Is it something you would use? What difference, if any, do you think this would make to the way you use energy/manage your energy costs?

Credit levels and Emergency Credit

S10

Left hand IHD

The display can alert you to the fact your credit is getting low

Right hand IHD

And if you need to use emergency credit, it can also show how much emergency credit has been used.

What's your reaction to these ideas? Useful/not useful? Why/why not?

- is this information you would use?
- how do you think you would use this information? overall what difference, if any, do you think this will make to you?

In the situation where a customer has used up all their emergency credit and they are outside the period when any friendly credit might apply, instead of being completely cut off, it would be possible for their electricity supply to be reduced to just a trickle. This would provide just enough electricity to keep the fridge or freezer running

- would this be useful?
- have there been any situations in the past when you would have benefitted from this arrangement?

Debt

S11

Left hand IHD

Information about any outstanding debts can be displayed. This shows the customer owes £14.36

Right hand IHD

This display shows the rate at which the outstanding debt is being repaid - £0.28 per day

What's your reaction to these ideas? Useful/not useful? Why/why not?

- how does it compare to what happens at the moment if a customer is in debt?

Note to Moderator: previous research indicates that PPM customers who are in debt to their energy supplier – this is often what first triggers the switch to PPM – often get little if any information about their debt – how much of any top up goes towards paying the debt, what the outstanding debt is or when it is expected to be cleared – probe to see if the smart meter and IHD is seen to improve this state of affairs.

Historical Consumption

S12

Left hand IHD

The bottom half of the screen shows gas consumption at different times during the course of the day. The hatched bar is the current period which is not yet complete.

Middle IHD

The bottom half of the screen shows electricity consumption each day over the last week. The hatched bar is the current day which is not yet complete.

The horizontal line is the daily budget amount and shows that electricity consumption was within budget on most days.

Right hand IHD

The bottom half of the screen shows monthly gas consumption over the last year. The hatched bar is the current month which is not yet complete.

The horizontal line is the monthly budget amount and shows that gas consumption was within budget during the summer and over budget during the winter.

What's your reaction to this idea? Useful/not useful? Why/why not?

Information about spend/topping up

S13

Left hand IHD

Information about the total amount spent on energy can be displayed. The screen shows that the customer has spent £32.12 on electricity over the period shown.

Right hand IHD

The display shows details of all payments the customer has made. In this case, it shows the customer topped up their electricity by £10.00 on the date shown at a PayPoint

What's your reaction to these ideas? Useful/not useful? Why/why not?

Other Information

S14

Left hand IHD	Right hand IHD
<p>The display can also show information about the customer's tariff.</p> <p>The example is for an electricity tariff where the customer is charged 14.00p per kWh during the day which drops to 5.12p per kWh at 10.00 at night. There is also a standing charge of 15.00 p per day.</p>	<p>Your energy company can also send you messages to the energy display – in this example, the customer is being informed of a change to their tariff</p>

What's your reaction to these ideas? Useful/not useful? Why/why not?

Are there any additional features/functions that you can suggest adding to the energy display unit that would be useful?

What about if some of the information that would be shown on the in-home display could also be sent to your mobile phone e.g. to alert you to low credit levels when you are out/at work – would this be useful? Why/why not? Which information in particular would it be useful to have sent to your phone?

If some of the features/functions were not available on the in-home energy display but you could get them using a phone app or over the internet, how would you feel about this?

S15

Left hand Top	Right hand Top
App showing current credit is £5 – based on current consumption levels and the local weather forecast this is predicted to run out in 2 days	App for a customer with a debt to their energy company showing how much is owed and the predicted date for clearing the debt based on current rate of repayment
Left Hand Bottom	Right hand Bottom
App showing how your annual energy bill compares with other customers of a similar/comparable type	App showing locations of top-up points

Here are some examples of how information could be provided in the form of an app. What's your reaction to these ideas? Useful/not useful? Which ones? Why/why not?

Benefits (10 mins)

Taking everything into account, what would you say are:

- the main benefits that a smart meter and in-home energy display can offer you?
- and what are the disadvantages?

Note to Moderator: if necessary, probe for ease of being able to work out how to use the IHD and use it to its full advantage/how respondent feels about getting to grips with new technology etc.

NB: do not prompt about data privacy issues but if respondent raises this, explore their concerns.

As a general guideline, energy companies can access

- monthly usage information
- daily consumption data providing householders do not opt out
- half hourly information provided householders opt in

Note to Moderator: give respondent a set of cards (see end of document); a potential benefit is described on each card. Some of the benefits apply to smart meters when working in prepayment mode and some apply to smart meters when working in either prepayment or non-prepayment mode.

Respondents' task is to sort the cards into two or more piles:

- those that they consider to be the main benefits to themselves
- those that might offer them some benefit but are less important to themselves/may be of benefit to others but not themselves
- those that they think will be of no benefit to themselves
- moderator explores how the benefits have been sorted and the reasons behind this

Encouraging uptake of pre-payment smart meters (5 mins)

If you were offered a smart meter and an in-home energy display, would you want one? Why/why not?

- if yes: are there any aspects that would give you concerns/that might put you off? What are they? How might they be overcome?
- if no: what are your main reasons for not wanting one? If not for you, what kind of people do you think have smart meters?

As you have seen, a smart meter can operate in either credit or prepayment mode. Based on what you have seen so far, if you had a smart meter and in-home energy display installed tomorrow, would you choose to use it in credit or prepayment mode? Why do you say that?

Thinking about when the time comes to have your existing meters replaced with smart meters [Moderator: if respondent is not keen on having a smart meter explain that all gas and electricity meters are due to be upgraded to a smart meter in the next few years; however customers can choose not to have one]:

- what support do you think you will need both when considering whether to have an in-home display and after it is installed; e.g. understanding what the meter offers and how to make best use of it
- how that support should be provided e.g. telephone helpline, online, via local organisations etc.
- who should provide it?

Thank and close

At end of interview, offer respondent copy of the DECC information leaflet and point out the web link at the end where they can find further information

Topic guides: Smart PP Respondents

Moderator to ensure s/he has copy of respondent profile to refer to

Introductions

Moderator and respondent(s) introduce each other

To the purpose of the discussion – to help the Department of Energy and Climate Change understand people's views on a number of changes to energy meters

To the research format; recording, anonymity, no right or wrong answers, etc.

Moderator to explain that their replies will be treated in the strictest confidence and will not be shared with anyone else

Note to moderator: if respondent asks about how we obtained their details or about Utilita's involvement in the research you should explain we are talking to Utilita customers who have recently had a new meter fitted to find out their views on this. Utilita are supporting the research and they have provided contact details of a number of their customers. Utilita do not know who we have approached and they will not be told who takes part.

Moderator also to explain that at a certain point in the interview s/he would like the respondent to show her/him their energy meters and to take some photographs of these. This will help us illustrate how easy/difficult it is for people to access their meters. Any photographs will not be linked to individual respondents

Moderator to give respondent a copy of the data protection consent sheet to read and sign.

Check if respondent's energy tariff is what is classed as a 'time of use' tariff – the most common of these is E7

Economy 7 is an electricity tariff that means you pay a different price for electricity depending on the time of day, what you use at night costs less than in the day, similar to peak and off peak phone calls. It doesn't mean that it is cheaper after 7PM; it gives you seven hours of cheaper electricity at night. What is classed as night will vary depending on the supplier.

At end of interview, offer respondent copy of the DECC information leaflet and point out the web link at the end where they can find further information

Current payment methods and background to these, management of payments (20 mins)

Note to Moderator: respondents are customers of Utilita, an energy company that specialises in PPM. They use a form of smart meter. Earlier this year, all the respondents were provided with an in-home energy display – they refer to it as a 'secure handset'.

Throughout the discussion, and especially where respondent has experience of traditional PPMs, probe to see to what extent Utilita's smart meter and IHD represents an improvement.

If respondent has both electricity and gas and only pays one by PPM, briefly explore the situation regarding the non-PPM supply first and then focus on the PPM supply. If respondents has elec and gas PPM but with different suppliers, briefly explore the situation for each fuel

When was the current PPM(s) installed; was it before you came to the property or since?

- if already installed: did you enquire into the possibility of having it replaced with a non-prepayment meter? If not, why was this? If yes, what was the outcome of the discussion (and why was it not switched)?
- if installed after respondent moved into property, did you request the PPM(s) or were you told by your supplier/landlord that you had to have one? Can you briefly explain the circumstances (for example, this could relate to getting into debt, or as a way of avoiding debt)?
- thinking back to the time when the option of PPM(s) was being discussed what involvement/discussions did you have with your supplier about any difficulties you were facing and the options open to you
- who first suggested the idea of a PPM and what were you told about them?

Note to Moderator: explore the extent to which respondent was given any choice and the extent to which they exercised this – was

respondent the prime mover or was someone else (supplier, landlord)? Did respondent adopt a passive/active role in the decision?

Have you always used pre-payment meters to pay for your energy? Which other payment methods have you used?

- if respondent has experience of both ppm and non-ppm: would you say the service and support you get from energy suppliers as a prepayment customer is any different to the service and support you got as a non-prepayment customer Better/worse? Why do you think this is?

Are there other services that you pay for up-front?

- what are they (e.g. mobile phones, Oyster cards/bus and train season tickets, tanning sessions or other beauty treatments)?
- how does paying up-front for these things compare to paying up-front for your gas/electricity?
- if respondent has a mobile phone contract: why have you chosen to pay for your mobile phone on a contract rather than on a pay as you go basis?

To what extent do you try to plan ahead how you are going to pay for your energy – for example, by restricting yourself to a certain amount each week to spend on energy?

- is this quite easy to do? Are there circumstances in which it is more difficult? Moderator to explore such circumstances (e.g. someone being at home during the day, someone is ill, colder weather etc.)
- what happens if the amount you have budgeted is insufficient?
- does Utilita's system make this easier compared to other PPMs you have used? If yes: in what way?

Do you take certain measures to limit your energy use?

- what sort of measures e.g. delaying putting heating on until necessary, using fewer bars on the electric fire, putting on jumpers etc?
- what impact, if any, does this have on you and your family?
- if they don't take measures: why is this?

Ask all: can I just check, are you currently behind with your energy bills? If yes: by how much? (estimate); have you been in debt to your energy supplier at any time in the past?

Experiences of Utilita (10 mins)

When did you first switch to Utilita?

- did you have a choice [NB decision may have been taken by housing association/landlord]? If yes: what made you decide to switch to Utilita?
- if living in HA property; was HA involved in making the introduction/promoting Utilita and what difference did this make – e.g. more confident in switching to a new supplier/having a smart meter

Were you on a PPM before you switched to Utilita?

- If yes: who was the previous energy company? How does Utilita's smart pre-payment meter with secure handset compare to the previous pre-payment meter? Better/worse? Why is this?
- if no: who was the previous energy company? What payment method(s) were you using? How does Utilita's smart pre-payment meter with secure handset compare with your previous method of paying for your energy? Better/worse? Why is this?

What type of meter did Utilita install when you first switched to them:

- an 'ordinary' (i.e. non-smart) PPM
- a smart PPM but without a secure handset
- a smart PPM with a secure handset
- if secure handset provided after they first joined: what difference, if any, does the 'secure handset' make?

Note to Moderator: all respondents should have had a smart ppm + secure handset installed last year; this may have been when they first joined Utilita or they may already have been Utilita customers who had an upgrade

Thinking back to when you first joined Utilita:

- to what extent did they help and support you in making the switch to their prepayment meter and secure handset?
- what form did this help and support take (probe for all forms and when this was provided – before/during/after installation - including but not restricted to:
 - face-to-face / telephone / email/text / website (what form was this – written materials, videos, etc) / instruction books

- how helpful was the support they provided? What other help or support would it have been helpful to have had?
- were they given any information on how they could use the IHD to reduce the amount of energy they use/save ££

Understanding and monitoring energy use (40 mins)

Moderator will ask respondent to show them their prepayment meter.

Note to Moderator: ask respondent to show you their PPM if possible (if it is outside and dark, this may not be possible); ask respondent's permission to take some photographs. As far as possible take shots to illustrate the location and accessibility of the PPM(s) as well as close ups of the meter(s). Ask them to point out/demonstrate what it can do and how they use it.

NB: the focus here is on the meter(s) and not the secure handset (see below)

If respondent has just one energy that is paid for by PPM, focus on this meter. If they have two PPMs, ask about each one and any differences between them.

Moderator: Stand near to the meter and ask: I'd like you to imagine I know nothing about PPM – I'd like you to describe to me what your PPM does (does it have any particular features) and how you operate it (including topping it up); if necessary, prompt as follows

- what reasons might you have for looking at/using it?
- how often do you need to look at/use the meter? How easy or difficult is it to do this? Why is this? How easy is it to read any displays or instructions?
- as far as you are aware, does it offer any features or information that might be useful to you? How easy/difficult is it to use these features/find this information?
- where customers are also paying off a portion of their energy debt through pre-payment: does the meter/information displayed on the meter help you with any outstanding debt you may have e.g. by letting you know how much you still owe or, when you top up the meter, how much of this goes towards paying off your debt?

Note to Moderator: ask respondent to show you their 'secure handset'; ask permission to take some photographs. Try to take a shot to show where the handset is located as well as a close up of the handset itself

Do not prompt on any features of the secure handset as these are going to be discussed in greater detail in a moment.

Moderator: Stand near to the secure handset and ask: Imagine I know nothing about your secure handset. I'd like you to describe to me what it does (does it have any particular features) and how you operate it

- how often do you check it? how easy/difficult is it to use? Why is this?
- what do you use it for? Has it helped you manage your use of energy? In what way?
- what features does it have/what information does it provide? (note to moderator: do not prompt at this point)
- does it provide information/have features that your prepayment meter by itself does not?
- where customers are also paying off a portion of their energy debt through pre-payment: does the secure handset/information displayed on the secure handset help you with any outstanding debt you may have e.g. by letting you know how much you still owe or, when you top up the meter, how much of this goes towards paying off your debt?

What difference, if any, does the smart meter and secure handset make to you? Probe fully: especially in relation to managing/monitoring energy use/bills

Note to Moderator: explain to respondent you are now going to ask them about a range of features provided by their Utilita secure handset to find out which ones they are aware of, which ones they use, how helpful they find them and so on. The main focus here is the extent to which the various features/information is felt to offer the customer benefits e.g. in terms of managing their energy consumption/bills.

Note to Moderator: you need to use the Utilita instruction manual as a visual prompt. The relevant page numbers are shown below.

Do you feel that you have a good understanding of the range of features/information available from your smart meter and secure handset? If no: why is this?

Do you feel you take full advantage of the range of features/information available from your smart meter and secure handset? If no: why is this?

Overall, how easy is the secure handset to use? [NB moderator to get an overall sense of ease of use and any difficulties without going into great depth]

Have you ever had problems relating to the communications between the smart meter(s), the secure handset and your supplier?

- if yes probe in terms of how often this happens/how long it typically lasts and what impact it has on the respondent

Explore awareness of coloured lights on top of IHD and what these signal

Are you familiar with the 'Your Usage Overview' feature?

P5

- how useful is this feature?
- what do you use the information shown here for?
- does it help you manage how much energy you use?
- if it was possible to link the predicted 'days left' to local weather forecasts – e.g. if a cold spell was due, this was taken into account – would this be of any interest? why is that?

Are you familiar with the 'Energy Saving Challenge' feature?

P6

- how useful is this feature?
- was it easy to set up your targets? (P14)
- If no: explore what information would be helpful e.g. a daily/monthly budget based on previous bills suggested by their energy company/an app which can use information about previous bills to suggest a budget
- does it help you manage how much energy you use? Why is this?
- if not used: why is this? was it explained to them by the engineer who installed the meter/IHD?
- Show S7 and explore if a screen like this with colour coding showing how much energy is being used would be useful and what impact it might have

Are you familiar with the 'Your Messages' feature?

P8

- what types of messages have you received?
- how useful is this feature?

Are you familiar with the 'Your History' feature?

P9

- how useful is this feature? why is this?
- does it help you manage how much energy you use? in what way does it help you?

Are you familiar with the 'Your Tariff' feature?

P10

- how useful is this feature?

How do you normally top up your meter(s)?:

at Paypoint outlets using your top-up card	online from a computer or mobile phone	via text messaging	by telephoning the automated top-up line	by monthly DD
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Note to Moderator: if you need to refer to them, methods of topping up are covered on P15-18

How easy is it to top up your meter?

- if respondent has experience of other PPMs which required a key/card to be inserted into the meter: how does it compare? Better/worse? Why is this?
- how long does it normally take for the money to register with your secure handset? Is there a difference between topping up the gas/electricity?
- probe any issues around topping up

Have you ever needed to top up manually? How often does this happen? How easy is it to do?

P11

Are you familiar with the 'Credit Alert' feature?

P14

- how useful is this feature?
- have you changed the credit alert level? If yes: why did you decide to change it? What did you change it to?
- if it was possible to have 'credit alerts' sent to your phone/email in-box – for example, when you are out or at work – would this be of interest to you?

Are you familiar with the 'Emergency Credit' feature? [moderator: this is covered on pp19-22 if you need to refer to it]

- can you explain to me what you understand to be the difference between Emergency Credit and Friendly Credit

Annex

- have you ever had to use either Emergency Credit or Friendly credit? if yes: under what circumstances/how often?
- what are your thoughts on this facility? how useful/important is it? probe for both Emergency credit and Friendly credit
- for those with experience of other PPMs: does Utilita's smart meter and secure handset make it more or less likely that you need to use emergency/friendly credit? why is this?

Have you ever experienced occasions when you were without electricity/gas because you forgot or were unable to top up your meter and you used up all the emergency credit?

- typically, how long have you been without electricity/gas? What is the longest period you have been without electricity/gas?
- why was this/what led up to this?
- how easy is it to turn the electricity/gas supply back on when this happens?

Note to Moderator: if you need to refer to them, this is covered on P28-29

- for those with experience of other PPMs: does Utilita's smart meter and secure handset make it more or less likely that you experience occasions when you are without electricity/gas? why is this?

Note to Moderator: explore experiences and reasons behind both intentional (e.g. no money to top up) and unintentional (e.g. forgot to top up; run out when shops were closed) disconnections and the frequency of each type

Are there any other features you have used with the secure handset which we haven't discussed?

- if yes: moderator to explore what these are, how often they are used, how useful they are, etc

Have you ever had to use the key pads on your electricity/gas meter(s)?

- if yes: how often have you needed to do this; what have you needed to do?
- if yes: how easy is it to do this?

Note to Moderator: if you need to refer to them, this is covered on P23-27

Are there any additional features/functions that you can suggest adding to the secure handset that would be useful?

What about if some of the information that would be shown on the in-home display could also be sent to your mobile phone e.g. to alert you to low credit levels when you are out/at work – would this be useful? Why/why not? Which information in particular would it be useful to have sent to your phone?

If some of the features/functions were not available on the in-home energy display but you could get them using a phone app or over the internet, how would you feel about this?

S15	<p>Left hand Top</p> <p>App showing current credit is £5 – based on current consumption levels <u>and</u> the local weather forecast this is predicted to run out in 2 days</p>	<p>Right hand Top</p> <p>App for a customer with a debt to their energy company showing how much is owed and the predicted date for clearing the debt based on current rate of repayment</p>
	<p>Left Hand Bottom</p> <p>App showing how your annual energy bill compares with other customers of a similar/comparable type</p>	<p>Right hand Bottom</p> <p>App showing locations of top-up points</p>

Here are some examples of how information could be provided in the form of an app. What's your reaction to these ideas? Useful/not useful? Which ones? Why/why not?

From your personal point of view:

- what would you say are the advantages of Utilita's PPM smart meter and secure handset?
- and what are its disadvantages?
- how does it compare with other payment methods you are familiar with, including other PPM methods (if relevant)?
- do you think that having a smart meter and secure handset has helped you better manage your energy bills? In what way?
- overall, would you say you are satisfied or dissatisfied paying for your energy using a PPM?

- if you were given the choice of keeping your existing prepayment meter or switching to a credit meter (i.e. one where you pay monthly or quarterly bills for energy you have already used), what would you do? why is this?

Benefits (10 mins)

Taking everything into account, what would you say are:

- the main benefits that a smart meter and a secure handset can offer you?
- and what are the disadvantages?

Note to Moderator: if necessary, probe for ease of being able to work out how to use the IHD and use it to its full advantage/how respondent feels about getting to grips with new technology etc.

NB: do not prompt about data privacy issues but if respondent raises this, explore their concerns.

As a general guideline, energy companies can access

- monthly usage information
- daily consumption data providing householders do not opt out
- half hourly information provided householders opt in

Note to Moderator: give respondent a set of cards (see end of document); a potential benefit is described on each card. Some of the benefits apply to smart meters when working in prepayment mode and some apply to smart meters when working in either prepayment or non-prepayment mode.

Respondents' task is to sort the cards into two or more piles based on their current smart ppm and secure handset

- benefits that they fully experience
- things which they only partially benefit from
- things which they don't benefit from

NB: explain to respondent that their secure handset is what is known as a 'in-home energy display

NB: be sure to record which cards are sorted into which pile

Moderator explores

- reasons why some benefits are only partially realised / not realised
- what could be done to overcome this

Thank and close

Stimulus materials: *Legacy Meter Respondents*

Smart Meters and In-home Energy Displays

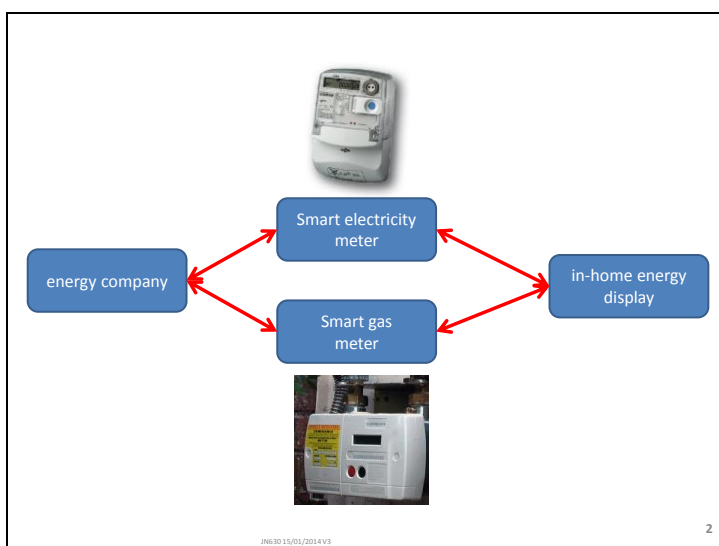
Smart meters are the next generation of gas and electricity meters which work together with an in-home energy display to show you how much energy you are using and roughly what it is costing you.

Between now and 2020 all homes will have their existing meters replaced with smart meters and all customers will be offered an in-home energy display.

There is no charge for this, the cost will be recovered over time through your bills as with your current meter.

JN630 15/01/2014 V3

1



JN630 15/01/2014 V3

2

Near real time information on energy use - expressed in pounds and pence. Consumers will be able to manage their energy use, save money and reduce emissions.

More flexibility - more tailored tariffs to suit individual customers.

Easier switching - it will be smoother and faster to switch suppliers to get the best deals.

New products and services - to help better manage energy. In future suppliers will be able to offer different prices at different times of day. Smart appliances could be set to switch on when energy is cheaper.

JN630 15/01/2014 V3

3



IN630 15/01/2014 V3

4

Topping up



Different ways of topping up your prepayment meter:

- cash/cheque etc e.g. at local PayPoint outlets
- telephone
- text message
- smartphone app
- by internet

This means you can top up 24/7

IN630 15/01/2014 V3

5

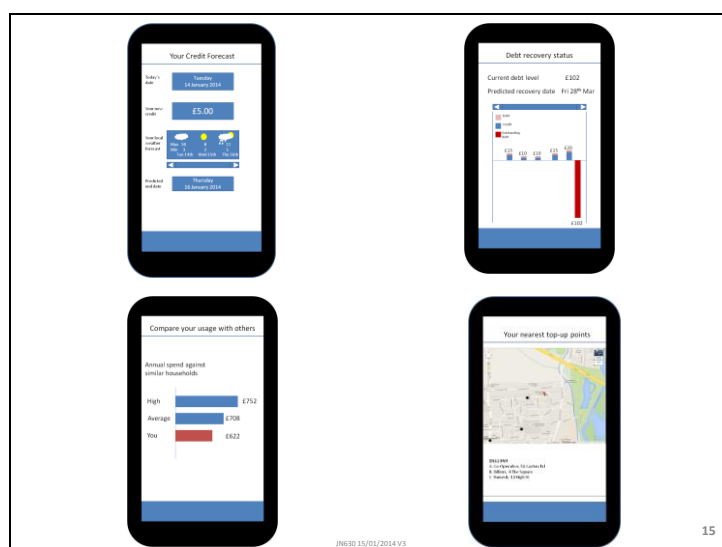


IN630 15/01/2014 V3

6







Smart PPI respondents were shown the relevant pages of the Utilita user manual which can be found at <http://www.utilita.co.uk/frontend/files/downloads/SMET-User-Guide-DUAL-FUEL.pdf>

Phase 2: focus groups

Screening questionnaires

- The screening questionnaires for the focus groups were based on those used for the depths.

Topic guides: *Legacy PPM*

Introductions

Moderator

introduces him/herself and outlines the purpose of the discussion – to help the Department of Energy and Climate Change understand people's views on a number of changes to energy meters and to explore ways of helping people get the most out of it

outlines the research format; recording, anonymity, no right or wrong answers, everyone to contribute, etc.

explains ground rules: mobiles switched off/to silent mode; try to avoid over-talking etc

Respondents introduce one another (first names, family circumstances, what they do/did for a living)

Managing Energy Use

Moderator explores

in approximate terms, what proportion of respondents' income goes on their energy bills (electricity and gas)?

what steps are respondents taking to try and keep their energy bills down – respondents asked to describe some of the things they do?

how easy it is to try and keep their energy bills as low as possible?

can they suggest what information or other forms of help might help them to identify further steps they could be taking?

To what extent do respondents feel they know how much energy their appliances use?

how do they know which ones use more/less?

if you wanted to find out if a particular electrical appliance uses a lot or a little electricity, are you aware how you might do this?

moderator to note for references to how many kWh it uses – if mentioned, explore level of understanding

also note any references to energy rating labels on new appliances

S1 Respondents fill out questionnaire grouping a range of appliances into 3 categories based on how much electricity each one uses: high/medium/low (with option to rate each one as DK); moderator:

briefly explores how the appliances have been grouped

shares with respondents the actual grouping – any surprises – which?

S2 what difference might this have – moderator to probe for both greater control over use of appliances that use lots of energy as well as feeling less concern over using appliances that use little energy

S3 asks if anyone has any idea how much it might cost to run some of these appliances for 1 hour then shows some possible figures – any surprises?

Introduction to Smart Meters and IHDs

Moderator asks if anyone has heard of smart meters and/or in-home energy displays; if so what have they heard?

Moderator

S4-S6 introduces smart meters and IHDs and shows examples of IHDs

explains that the same smart meter can be used either in credit mode (where customers pay by monthly DD or quarterly bills) or in pre-payment mode (i.e. no need to change meters/no cost of changing from credit to ppm or ppm to credit)

Moderator explains s/he is going to briefly illustrate some of the things a smart meter and IHD can do when used as a PPM; also explains that the examples are based on someone with both gas and electricity – the same things apply to someone with just electricity – the only difference being they will only see information for electricity

S7 it can be topped up automatically in lots of different ways
 moderator to explore which methods respondents could/would use and if suppliers set minimum top-up levels (e.g.; £10), how this would impact on their choices

S8 show you how much energy you are using and how much it is costing you

S9 show you your credit balance and roughly how long this will last; you can set it to give you a warning when your credit balance falls to a certain point; it will also give the option of going into EC and show you how much of this you have used

reactions to the possibility of having a text sent to your phone in addition to a message through the IHD

reactions to the above explored; in particular, what difference might these things make to respondents?

any concerns/worries?

S10 Moderator explains

you can set yourself a budget – how much you want to try and spend on your energy – either on a daily, weekly or monthly basis

you can then keep track of how much you are actually spending; the screen on the RHS shows that this customer has not yet spent their budgeted amount – it also shows that as things are going, they likely to stay within their budget for electricity but go over budget for gas

reactions explored; how useful is this information? what difference, if any, might it make to themselves – how might it influence how they use energy?

would they know what budget to set? – would it be how much they currently top up by?

S11 Moderator explains you can look to see how much energy you have used over different periods of time – e.g. over the last 24 hours, over the last week, over the last year – and if you have set a budget, it also shows when you were below/over budget

how useful is this information?

reactions explored; how useful is this information? what difference, if any, might it make to themselves – how might it influence how they use energy?

Using Smart PPMs and IHDs to help manage energy consumption

Moderator refers respondents back to earlier discussion about taking steps to try and keep their energy their energy bills as low as possible

to what extent will a smart PPM and IHD help them to do this?

in what way – moderator to probe for any suggested ways

if not mentioned spontaneously: can anyone suggest how one could use the IHD to find out how much energy their appliances use? How useful would this be?

S12 Respondents fill out questionnaire on ways of reducing their energy bill; a number of different energy saving behaviours are outlined – against each one they indicate those they are already doing (fully), those which they do sometimes, those they are not currently doing

brief discussion around why they do/don't do things

moderator asks for any ideas as to which of these things they think might result in the biggest savings

S13 moderator displays details of possible savings – any surprises? Does this make any of them review their own behaviour?

what else could be done to help them find ways of reducing their energy use?

Moderator explains that it will be possible for energy suppliers and other organisations to develop applications that could work alongside smart meters and IHDs that might help us to manage our energy consumption – these might be things you could download onto a laptop or smart phone for example

respondents invited to put forward any ideas for things that they would find useful

moderator suggests an app that takes your usage data and shows you

which tariffs would be best for you

any deals or discounts that you might be eligible for

how your energy use compares with similar households

ways you can change your behaviour to save money

moderator suggests the idea of an app that helps you work out which appliances in your home are

using the most energy and then offers you a range of suggestions for saving energy – e.g. your

fridge cost you £10 to run this month which compares to the average running cost of £5

what could be done to help those customers who do not have internet access/smart phones access

this type of help?

Information and support

Moderator asks respondents to imagine they were having smart meters and an IHD installed in their

home in the next few days; brief discussion around

what information and support do they think they will need to help them get the most out of their new meters and IHD?

if not mentioned spontaneously, moderator to probe for information and support in

relation to managing energy consumption/ways of reducing bills as well as how to

use the equipment

who should provide this?

how can this be provided?

Moderator comments that research among people who already have a smart meter and IHD, research

has shown that they are not always taking full advantage – they may struggle to get to grips with the

equipment for example. With this in mind, what can be done to try and ensure everyone has a good

understanding of how to use their smart meters and IHDs? Moderator to probe as appropriate with

regards to

the role of the engineer who installs the equipment in terms of explaining/ demonstrating how to use the meters and IHDs

the importance of the IHD itself in terms of ease of use, on-screen prompts etc

a manual – paper/on-line/DVD etc

telephone support – what form should this take; moderator to note any views about the need for a dedicated support service

online support – what form should this take; online manual, FAQs, interactive help, customer forum, short videos showing how to use various functions

Moderator explores how many respondents rent from the local authority or a housing association and

whether there are key individuals within the LA/HA they have dealings with or someone whose job

involves them visiting tenants on a regular basis. Does their LA/HA provide other forms of support,

such as advice about benefit entitlements?

what role could/should the LA/HA play when it comes to smart meters/IHDs?

moderator shows example of a guide; get reactions; if their local council/HA offered

them something like this, would they use it?

if a block of flats or an estate is switched over to smart meters and IHDs at the same time, what could be done to try and ensure all the tenants know how to use their new equipment

would it be useful if the LA/HA hosted meetings with small groups of tenants to

discuss how best to use the meters and IHDs

reactions to/interest in the idea of a service offering home visits and advice on using the smart meter

and IHD and on reducing energy; who should deliver e.g. energy company, LA, local people

trained in giving advice etc

what about the tenants themselves – could some of them be trained as 'experts' and asked to share their expertise with other tenants?

Summing up

Respondents invited to sum up their thoughts on smart meters and IHDs:

- would they want one?
- what difference do they think/hope it might make to them?

Topic guides: *Smart PP*

Introductions

Moderator

- introduces him/herself and outlines the purpose of the discussion – to help the Department of Energy and Climate Change understand people's views on a number of changes to energy meters and to explore ways of helping people get the most out of it
- outlines the research format; recording, anonymity, no right or wrong answers, everyone to contribute, etc.
- explains ground rules: mobiles switched off/to silent mode; try to avoid over-talking etc

Note to moderator: if respondent asks about how we obtained their details or about Utilita's involvement in the research you should explain we are talking to Utilita customers who have recently had a new meter fitted to find out their views on this. Utilita are supporting the research and they have provided contact details of a number of their customers. Utilita do not know who we have approached and they will not be told who takes part.

Respondents introduce one another (first names, family circumstances, what they do/did for a living)

Moderator checks with respondents how they were paying for their energy before they switched to Utilita – PPM vs. Credit

Moderator explores

- in approximate terms, what proportion of respondents' income goes on their energy bills (electricity and gas)?
- what steps are respondents taking to try and keep their energy bills down – respondents asked to describe some of the things they do
- how easy it is to try and keep their energy bills as low as possible?
- can they suggest what information or other forms of help might help them to identify further steps they could be taking?

Moderator explores what difference, if any, having smart meters and an IHD makes in terms of keeping energy bills down / reducing their energy consumption– comparing the situation now with the situation before they had them

- NB moderator to differentiate between lower bills due to a cheaper tariff/no standing charge and lower bills due to respondents being able to use their IHD to find out how much energy they are using and taking steps to reduce this – probe for as many examples of the latter as possible

Getting the Most out of their Smart Meters and IHDs

Topping up:

- moderator asks respondents how they normally top up their smart meters and whether they are aware of other ways of topping up
- what difference does it make no longer having to insert a key/card into their meter to top it up?
- have they experienced any problems topping up; moderator to explore nature/frequency of these and how they have been resolved
- moderator shows the different ways they could be topping up and explores any reasons why any of these are not being used

what, if anything, could be done to make it easier/possible for respondents to use the different methods of topping up e.g. lower top-up limits?

are there other ways in which respondents would like to top up?

Respondents asked about how easy their IHDs are to use – if respondents had to explain to someone else who had not got an IHD how to use them, how confident would they be that they could do this? To what extent do they feel they are using all the functions and information that is available from their IHD?

S2 Respondents complete a short questionnaire indicating how often they are using a number of different functions

brief discussion around which functions are being used/not being used and reasons for this

Moderator focuses discussion on three functions: setting targets/monitoring use against these/looking at

S3 historical use:

for those not using these functions:

why is this?

what might be the point of using them? what do they think they are designed to do?

have they noticed in the manual that describes how to use their IHD, it refers to something called the 'energy saving challenge' – as far as they know what is this about? why haven't they taken up the challenge?

what, if anything, would encourage them to think about using it?

for those who are using these functions:

what are they using them for? interest/curiosity vs. trying to stay within a budget/reduce their consumption levels

how effective have they found it? is there anything that would help them?

Moderator asks respondents to think back to when their smart meters and IHDs were first installed – they knew nothing about how these worked or what they did

what information and help were they given about how to use them?

who provided this information and help? – sales rep, engineer who installed the equipment, telephone support staff, landlord, local authority, housing association

to what extent did this focus on

how to use the meters themselves

how to use the IHD

ways of managing energy consumption/ways of reducing bills – ask for specific examples

Moderator to probe as appropriate with regards to

the landlord/local authority/housing association: were they involved? If yes: was it simply to introduce the idea to tenants or have they been involved in other ways? probe to establish what role they played and how helpful this was

the sales rep: what did they say about the smart meters and IHDs? What were the main reasons for deciding to switch?

the engineer who installs the equipment in terms of explaining/demonstrating how to use the meters and IHDs – how long did they spend explaining the equipment? what did they actually do (explore the extent to which they simply described some of the functions vs. encouraging respondents to use the IHDs themselves)?

the manual – were they all given one/have they used it/how often/what for/how easy is it to follow – probe for specific examples

telephone support – explore whether respondents have had any contact with customer services; frequency and purpose of such calls; outcomes

online support – explore if anyone has used the Utilita website and if so the frequency and purpose and any outcomes

Moderator points out that a number of respondents are not taking advantage of all the different ways of topping up and currently only using some of the functions of their IHDs – refers back to discussion around using different methods of topping up as well as the questionnaire – some functions not being used. Also points out that findings from earlier research among some Utilita customers indicated that many were not using all of the available functions

why do they think this is?

what could Utilita have done differently that might have encouraged more of them to make more use of their IHDs?

what do they think could be done to help more people make more use of it?

what forms of support do they feel could encourage them to get more out of their smart meters and IHDs? Probe for spontaneous comments then probe as appropriate

f2f, telephone, online demos/film clips, DVDs, written materials

each respondent inviting to suggest the method they personally would find most effective/useful

Moderator explores how many respondents rent from the local authority or a housing association and whether there are key individuals within the LA/HA they have dealings with or someone whose job involves them visiting tenants on a regular basis. Does their LA/HA provide other forms of support, such as advice about benefit entitlements?

what role could/should the LA/HA play when it comes to smart meters/IHDs?

moderator shows example of a guide; get reactions; if their local council/HA offered them something like this, would they use it?

if a block of flats or an estate is switched over to smart meters and IHDs at the same time, what could be done to try and ensure all the tenants know how to use their new equipment

would it be useful if the LA/HA hosted meetings with small groups of tenants to discuss how best to use the meters and IHDs

reactions to/interest in the idea of a service offering home visits and advice on using the smart meter and IHD and on reducing energy; who should deliver e.g. energy company, LA, local people trained in giving advice etc

what about the tenants themselves – could some of them be trained as 'experts' and asked to share their expertise with other tenants?

Using Smart PPMs and IHDs to help manage energy consumption

Moderator refers respondents back to earlier discussion about taking steps to try and keep their energy bills as low as possible. To what extent do respondents feel they know how much energy their appliances use?

how do they know which ones use more/less?

if you wanted to find out if a particular electrical appliance uses a lot or a little electricity, are you aware how you might do this?

moderator to note for references to how many kWh it uses – if mentioned, explore level of understanding

also note any references to energy rating labels on new appliances

note in particular any reference to using the IHD to try and work out how much energy various appliances use – is this something they have done? Have they done it in a systematic way or for just certain appliances

S5 Respondents fill out questionnaire grouping a range of appliances into 3 categories based on how much electricity each one uses: high/medium/low (with option to rate each one as DK); moderator:

briefly explores how the appliances have been grouped

shares with respondents the actual grouping – any surprises – which?

S6 what difference might this information have – moderator to probe for both greater control over use of appliances that use lots of energy as well as feeling less concern over using appliances that use little energy – probe for an examples of how respondents think they could reduce their energy consumption

S7 asks if anyone has any idea how much it might cost to run some of these appliances for 1 hour then shows some possible figures – any surprises?

S8 Respondents fill out questionnaire on ways of reducing their energy bill; a number of different energy saving behaviours are outlined – against each one they indicate those they are already doing (fully), those which they do sometimes, those they are not currently doing

brief discussion around why they do/don't do things

moderator asks for any ideas as to which of these things they think might result in the biggest savings

moderator displays details of possible savings – any surprises? Does this make any of them review their own behaviour?

S9

what else could be done to help them find ways of reducing their energy use?

how could information like this be made available to respondents in a way that would encourage them to use it? Link back to earlier discussion on who and how to help people make better use of their IHDs

Moderator explains that it will be possible for energy suppliers and other organisations to develop applications that could work alongside smart meters and IHDs that might help us to manage our energy consumption – these might be things you could download onto a laptop or smart phone for example

respondents invited to put forward any ideas for things that they would find useful

moderator suggests an app that takes your usage data and shows you

which tariffs would be best for you

any deals or discounts that you might be eligible for

how your energy use compares with similar households

ways you can change your behaviour to save money

moderator suggests the idea of an app that helps you work out which appliances in your home are using the most energy and then offers you a range of suggestions for saving energy – e.g. your fridge cost you £10 to run this month which compares to the average running cost of £5

what could be done to help those customers who do not have internet access/smart phones access this type of help?

Summing up

Respondents invited to sum up their thoughts on what could be done to encourage them to

get the most out of their smart meters and IHDs:
find ways of reducing their energy consumption thereby resulting in lower bills.

Topic guides: Legacy Credit

Introductions

Moderator

introduces him/herself and outlines the purpose of the discussion – to help the Department of Energy and Climate Change understand people's views on a number of changes to energy meters and to explore ways of helping people get the most out of it

outlines the research format; recording, anonymity, no right or wrong answers, everyone to contribute, etc.

explains ground rules: mobiles switched off/to silent mode; try to avoid over-talking etc

Respondents introduce one another (first names, family circumstances, what they do/did for a living)

Perceptions of Pre-payment

Moderator invites respondents to suggest any bills or services they pay for up front using the example of PAYG vs. on contract mobile phones

which things, if any, do they pay for up-front; why is this? what benefits does it offer?

Moderator displays board displaying 'Pre-payment meter':

S1

checks that respondents are familiar with the concept of paying for their energy using a pre-payment meter

gives them two different coloured sets of post-it notes and asks them to write down on different coloured sheets what they think are the advantages and disadvantages of paying for their energy this way

post-it notes stuck onto board and discussed

if necessary, moderator to prompt for pros/cons based on findings from depths

<ul style="list-style-type: none"> • No large bills = ↓ anxiety • Easier to manage finances especially for those on low incomes • For those in debt, can pay this off gradually w/o compromising on-going energy use – can forget about it = ↓ anxiety • Increased level of awareness of how much spending on energy • Can encourage greater efforts to reduce consumption • Emergency credit provides a buffer 	<ul style="list-style-type: none"> • More expensive • Social stigma • Being w/o energy = ↑ anxiety • Constantly monitoring how much you use/what it is costing you = ↑ anxiety • Difficult to spread the cost • Inaccessible meters • Inconvenience of/problems topping up incl. broken/lost keys • Lack of debt info (but not all want this) • Lack of tariff choice • Old fashioned
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Moderator asks respondents to suggest what would need to change for them to consider prepaying for their energy; as necessary, moderator to prompt for things that would need to be different in relation to every disadvantage identified

Moderator to explore the question of cost:

if the cost of energy paid for using a prepayment meter was the same as the cost of energy paid for using a credit meter; what difference would this make?

if PPM needs to offer a cost saving over other payment methods, what level of saving would be needed for respondents to consider it?

Moderator to explore the question of social stigma:

if prepayment meters are associated with people who may struggle to pay their bills, how might we try and overcome this?

when it comes to mobile phones, one can choose to either have a contract and pay monthly based on what you have used or have a pay-as-you-go arrangement – approximately 50% of mobile phone users chose PAYG

is there any equivalent social stigma attached to PAYG phones? Why not? What's the difference?

if you knew that lots of other people like yourself were paying for their energy upfront using as prepayment meter, would this change how you feel about it?

At end of this discussion, moderator tells respondents that we are now going to focus on the introduction of smart meters and how these might impact on prepayment. For the remainder of the discussion, they should assume that the cost of energy paid for via a smart PPM would be broadly along the lines suggested i.e. they should assume that cost is no longer a barrier

Introduction to Smart Meters and IHDs

Moderator asks if anyone has heard of smart meters and/or in-home energy displays; if so what have they heard?

Moderator

introduces smart meters and IHDs and shows examples of IHDs

explains that the same smart meter can be used either in credit mode (where customers pay by monthly DD or quarterly bills) or in pre-payment mode (i.e. no need to change meters/no cost of changing from credit to ppm or ppm to credit)

Smart meters and IHDs in prepayment mode

Moderator explains s/he is going to briefly illustrate some of the things a smart meter and IHD can do when used as a PPM; we are interested in finding out whether this helps overcome any of the barriers just identified

Moderator also explains that the examples are based on someone with both gas and electricity – the same things apply to someone with just electricity – the only difference being they will only see information for electricity

S5 No more prepayment cards/keys which have to be topped up at PayPoints and then inserted into the meter; It can be topped up automatically in lots of different ways

preferred methods

moderator to explore which methods respondents could/would use and if suppliers set max/minimum top-up levels (e.g. max of £45/min of £2 at PayPoint/£175/£10 via other methods), how this would impact on their choices

moderator also explores views on topping up by means of a monthly DD to keep your account in credit; also an auto top-up facility similar to Oyster cards whereby an amount is automatically paid from your bank account/credit card if your credit balance falls below a set level

to what extent does this help overcome any of the barriers to PPM previously identified? if appropriate, moderator to refer respondents back to the earlier discussion e.g. what

impact does this have not just on the ease of topping up but also things such as any stigma (no one need know), knowing when you need to top up, etc

S6 Show you how much energy you are using and how much it is costing you

how useful is this information?

if you wanted to try and reduce the amount of energy you are using to reduce your bills, how might this information help, if at all?

to what extent does this help overcome any of the barriers to PPM previously identified?

S7 Show you your credit balance and roughly how long this will last; you can set it to give you a warning when your credit balance falls to a certain point; it will also give the option of going into EC [moderator to explain both EC and FC] and show you how much of this you have used

how useful is this information?

reactions to the possibility of having a text sent to your phone in addition to a message through the IHD e.g. either to say your credit balance has reached a certain level or to give you the option of using EC

to what extent does this help overcome any of the barriers to PPM previously identified?

Emergency credit: when your credit balance reaches £0, you are given the option of using Emergency Credit; this is an amount, typically between £5 and £10 you can use before the supply is cut off. When you top up, this amount is deducted from your top up amount. Some suppliers may charge a higher rate for EC.

Friendly credit: this is an extension to EC offered by some suppliers; essentially it means the supply will not be cut off in the night or on Sunday's or Bank Holidays when PayPoints might be shut; customers have until 10.00 am the next day to top up.

S8 Moderator explains

you can set yourself a budget – how much you want to try and spend on your energy – either on a daily, weekly or monthly basis

you can then keep track of how much you are actually spending; the screen on the RHS shows that this customer has not yet spent their budgeted amount – it also shows that as things are going, they likely to stay within their budget for electricity but go over budget for gas

reactions explored; how useful is this information? what difference, if any, might it make to themselves – how might it influence how they use energy?

would they know what budget to set? – would it be how much they currently top up by?

to what extent does this help overcome any of the barriers to PPM previously identified?

S9 Moderator explains you can look to see how much energy you have used over different periods of time – e.g. over the last 24 hours, over the last week, over the last year – and if you have set a budget, it also shows when you were below/over budget

how useful is this information?

reactions explored; how useful is this information? what difference, if any, might it make to themselves – how might it influence how they use energy?

to what extent does this help overcome any of the barriers to PPM previously identified?

Moderator explains that it might be possible to have the information that is available from the IHD sent to a smart phone, tablet or laptop

reactions to this? does it make it easier to keep tracks on and manage things?

Moderator explains that it will be possible for energy suppliers and other organisations to develop applications that could work alongside smart meters and IHDs that offer additional functions/information

respondents invited to put forward any ideas for things that they would find useful

moderator suggests an app that takes your usage data and shows you

which tariffs would be best for you

any deals or discounts that you might be eligible for

how your energy use compares with similar households

ways you can change your behaviour to save money

moderator suggests the idea of an app that helps you work out which appliances in your home are using the most energy and then offers you a range of suggestions for saving energy – e.g. your fridge cost you £10 to run this month which compares to the average running cost of £5

moderator suggests the idea of an app that links your credit forecast – how long your credit balance is expected to last - with local weather info e.g. if a cold spell is forecast, the predicted number of days credit remaining would be reduced

Switching to Prepayment Mode

Moderator refers respondents back to the first exercise involving the advantages and disadvantages of prepayment meters – to what extent does the introduction of smart meters and IHDs change things? If we were to repeat the exercise, how might the outcome be different?

Respondents divided into pairs and given a task to carry out. Leaving to one side their personal views of prepayment, if they were given the task to 'sell' the idea of prepaying for energy for customers similar to themselves who currently pay on credit and who have a smart meter and IHD, how would they go about selling it?

what would be the key messages they would stress?

how might they try to overcome any remaining barriers?

what name would they give to it – prepayment, PAYG, something else?

Moderator asks respondents to complete a short questionnaire to ascertain whether:

S10

they rule out the idea of prepayment altogether plus main reasons

they would definitely switch to prepayment plus main reasons

they might consider switching to prepayment at some point in the future – under what circumstances

Each respondent then invited to sum up their views

Stimulus materials: *Legacy PPM*

	HIGH	MEDIUM	LOW	Don't know
Broadband router				
Deep fryer				
Desktop computer				
Dishwasher				
Electric fire				
Electric shower				
Freezer				
Fridge				
Fridge-freezer				
Games console				
Grill/hob				
Hairdryer				
Immersion heater				
Iron				
Kettle				
Laptop				
LCD TV				
Microwave				
Oil-filled radiator				
Oven				
Plasma TV				
Toaster				
Tumble dryer				
TV box				
Vacuum cleaner/hover				
Video, DVD or CD				
Washing machine				

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Electric shower Immersion heater Tumble dryer Kettle Oven Oil-filled radiator Washing machine Electric fire Grill/hob	Plasma TV Fridge-freezer LCD TV Freezer Games console Desktop computer Fridge Video, DVD or CD TV box Laptop Broadband router
Iron Dishwasher Deep fryer Toaster Microwave Hairdryer Vacuum cleaner	

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Source: Centre for Sustainable Energy
<http://www.cse.org.uk/advice/advice-and-support/how-much-electricity-am-i-using>

How much might it cost to use an appliance for 1 hour?			
(based on typical appliance ratings – actual cost will vary depending on the actual make and model)			
Electric shower	£1.17	Plasma TV	£0.05
Immersion heater	£0.41	Fridge-freezer	£0.04
Tumble dryer	£0.41	LCD TV	£0.02
Kettle	£0.35	Freezer	£0.02
Oven	£0.28	Games console	£0.02
Oil-filled radiator	£0.27	Desktop computer	£0.02
Washing machine	£0.22	Fridge	£0.01
Electric fire	£0.20	Video, DVD or CD	£0.01
Grill/hob	£0.20	TV box	<£0.01
Iron	£0.19	Laptop	<£0.01
Dishwasher	£0.17	Broadband router	<£0.01
Deep fryer	£0.16		
Toaster	£0.16		
Microwave	£0.14		
Hairdryer	£0.14		
Vacuum cleaner	£0.11		

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Source: Centre for Sustainable Energy and Energy Saving Trust
<http://www.cse.org.uk/advice/advice-and-support/how-much-electricity-am-i-using>
<http://www.energysavingtrust.org.uk/Energy-Saving-Trust/Our-calculations>

Smart Meters and In-home Energy Displays

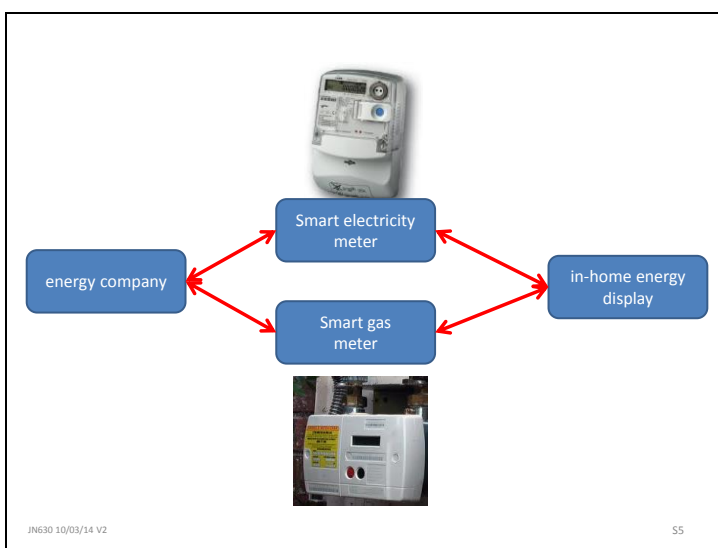
Smart meters are the next generation of gas and electricity meters which work together with an in-home energy display to show you how much energy you are using and roughly what it is costing you.

Between now and 2020 all homes will have their existing meters replaced with smart meters and all customers will be offered an in-home energy display.

There is no charge for this, the cost will be recovered over time through your bills as with your current meter.

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S4



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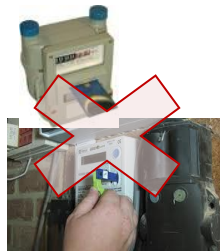
S5



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S6

Topping up



Different ways of topping up your prepayment meter:

- cash/cheque etc e.g. at local PayPoint outlets
- telephone
- text message
- smartphone app
- by internet

This means you can top up 24/7

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S7



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S8



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S9



	Do this all the time/have done this	Sometimes do this	Do not do this	Does not apply to me
Turn the heating thermostat down by 1°C and put on extra layers				
Draught proof windows, doors and gaps in floors/skirting				
Turn off all appliances at the plug rather than leaving plugged in or on standby				
Set washing machine to wash at 30°C				
Use a bowl to wash up rather than leaving the hot tap running				
Only boil the amount of water you need to use in your kettle				
(Non-electric shower) Fit a water efficient shower head – some water companies are giving them away for free				
Insulate your loft to a depth of at least 270mm/10inches				
Close the curtains at dusk				
Repair dripping taps				
Cut food into smaller pieces; use a pan that matches the size of the hob ring, keep lids on pans, turn the heat down when it reaches the boil				
Heat food in a microwave instead of using hob/oven				
Wait until you have a full load before using the dishwasher				

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S12

Turn the heating thermostat down by 1°C and put on extra layers	can reduce bills by 10%; typical level of savings £75 a year
Draught proof windows, doors and gaps in floors/skirting	save £20-£30 a year
Turn off all appliances at the plug rather than leaving plugged in or on standby	save £45-80 a year
Set washing machine to wash at 30°C	save up to £6 a year
Use a bowl to wash up rather than leaving the hot tap running	save up to £30 a year
Only boil the amount of water you need to use in your kettle	save up to £7 a year
(Non-electric shower) Fit a water efficient shower head – some water companies are giving them away for free	a family of 4 could save about £65 a year; if they have a water meter, they could also save a further £95 a year on their water bill
Insulate your loft to a depth of at least 270mm/10inches	Insulating a loft that has no insulation could save up to £180 a year Topping up loft insulation from 100mm to 270mm could save around another £25 a year
Close the curtains at dusk	Stops heat escaping through the windows
Repair dripping taps	A dripping hot tap can waste enough hot water to fill half a bath
Cut food into smaller pieces; use a pan that matches the size of the hob ring, keep lids on pans, turn the heat down when it reaches the boil	Speeds up cooking time and saves energy
Heat food in a microwave instead of using hob/oven	This uses less energy than using a hob/oven
Wait until you have a full load before using the dishwasher	Two half loads will use more energy than one full load

JN630 10/03/14 V2 S13

Source: Energy Saving Trust

Stimulus materials: *Smart PP*

	HIGH	MEDIUM	LOW	Don't know
Broadband router				
Deep fryer				
Desktop computer				
Dishwasher				
Electric fire				
Electric shower				
Freezer				
Fridge				
Fridge-freezer				
Games console				
Grill/hob				
Hairdryer				
Immersion heater				
Iron				
Kettle				
Laptop				
LCD TV				
Microwave				
Oil-filled radiator				
Oven				
Plasma TV				
Toaster				
Tumble dryer				
TV box				
Vacuum cleaner/hover				
Video, DVD or CD				
Washing machine				

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Electric shower	Plasma TV
Immersion heater	Fridge-freezer
Tumble dryer	LCD TV
Kettle	Freezer
Oven	Games console
Oil-filled radiator	Desktop computer
Washing machine	Fridge
Electric fire	Video, DVD or CD
Grill/hob	TV box
Iron	Laptop
Dishwasher	Broadband router
Deep fryer	
Toaster	
Microwave	
Hairdryer	
Vacuum cleaner	

Source: Centre for Sustainable Energy
<http://www.cse.org.uk/advice/advice-and-support/how-much-electricity-am-i-using> S2

JN630 10/03/14 V2

How much might it cost to use an appliance for 1 hour?
 (based on typical appliance ratings – actual cost will vary depending on the actual make and model)

Electric shower	£1.17	Plasma TV	£0.05
Immersion heater	£0.41	Fridge-freezer	£0.04
Tumble dryer	£0.41	LCD TV	£0.02
Kettle	£0.35	Freezer	£0.02
Oven	£0.28	Games console	£0.02
Oil-filled radiator	£0.27	Desktop computer	£0.02
Washing machine	£0.22	Fridge	£0.01
Electric fire	£0.20	Video, DVD or CD	£0.01
Grill/hob	£0.20	TV box	<£0.01
Iron	£0.19	Laptop	<£0.01
Dishwasher	£0.17	Broadband router	<£0.01
Deep fryer	£0.16		
Toaster	£0.16		
Microwave	£0.14		
Hairdryer	£0.14		
Vacuum cleaner	£0.11		

Source: Centre for Sustainable Energy and Energy Saving Trust
<http://www.cse.org.uk/advice/advice-and-support/how-much-electricity-am-i-using>
<http://www.energysavingtrust.org.uk/Energy-Saving-Trust/Our-calculations> S3

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Smart Meters and In-home Energy Displays

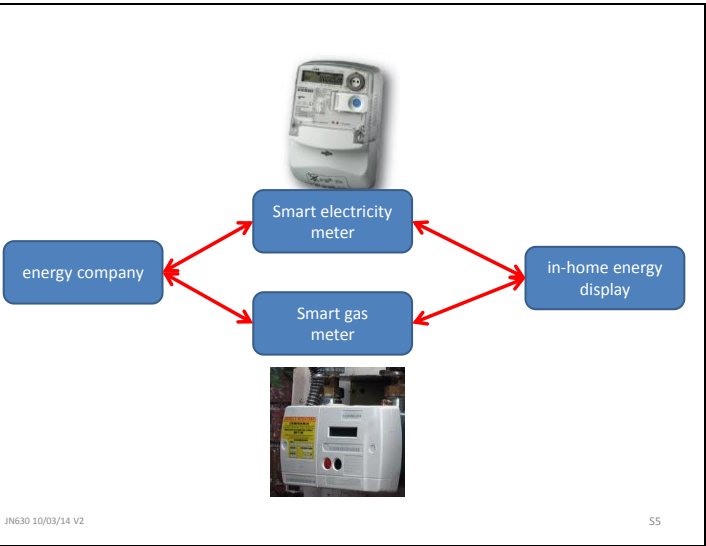
Smart meters are the next generation of gas and electricity meters which work together with an in-home energy display to show you how much energy you are using and roughly what it is costing you.

Between now and 2020 all homes will have their existing meters replaced with smart meters and all customers will be offered an in-home energy display.

There is no charge for this, the cost will be recovered over time through your bills as with your current meter.

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S5



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S6

Topping up



Different ways of topping up your prepayment meter:

- cash/cheque etc e.g. at local PayPoint outlets
- telephone
- text message
- smartphone app
- by internet

This means you can top up 24/7

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	Do this all the time/have done this	Sometimes do this	Do not do this	Does not apply to me
Turn the heating thermostat down by 1°C and put on extra layers				
Draught proof windows, doors and gaps in floors/skirting				
Turn off all appliances at the plug rather than leaving plugged in or on standby				
Set washing machine to wash at 30°C				
Use a bowl to wash up rather than leaving the hot tap running				
Only boil the amount of water you need to use in your kettle				
(Non-electric shower) Fit a water efficient shower head – some water companies are giving them away for free				
Insulate your loft to a depth of at least 270mm/10inches				
Close the curtains at dusk				
Repair dripping taps				
Cut food into smaller pieces; use a pan that matches the size of the hob ring, keep lids on pans, turn the heat down when it reaches the boil				
Heat food in a microwave instead of using hob/oven				
Wait until you have a full load before using the dishwasher				

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Smart Metering Early Learning Project: Prepayment Qualitative Research

Turn the heating thermostat down by 1°C and put on extra layers	can reduce bills by 10%; typical level of savings £75 a year
Draught proof windows, doors and gaps in floors/skirting	save £20-£30 a year
Turn off all appliances at the plug rather than leaving plugged in or on standby	save £45-80 a year
Set washing machine to wash at 30°C	save up to £6 a year
Use a bowl to wash up rather than leaving the hot tap running	save up to £30 a year
Only boil the amount of water you need to use in your kettle	save up to £7 a year
(Non-electric shower) Fit a water efficient shower head – some water companies are giving them away for free	a family of 4 could save about £65 a year; if they have a water meter, they could also save a further £95 a year on their water bill
Insulate your loft to a depth of at least 270mm/10inches	Insulating a loft that has no insulation could save up to £180 a year Topping up loft insulation from 100mm to 270mm could save around another £25 a year
Close the curtains at dusk	Stops heat escaping through the windows
Repair dripping taps	A dripping hot tap can waste enough hot water to fill half a bath
Cut food into smaller pieces; use a pan that matches the size of the hob ring, keep lids on pans, turn the heat down when it reaches the boil	Speeds up cooking time and saves energy
Heat food in a microwave instead of using hob/oven	This uses less energy than using a hob/oven
Wait until you have a full load before using the dishwasher	Two half loads will use more energy than one full load

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Source: Energy Saving Trust

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