



Department
of Energy &
Climate Change

Quantitative research into public awareness, attitudes, and experience of smart meters: underlying dataset (waves 1-4)

Technical note to accompany published dataset

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Any enquiries or comments in relation to this publication (including suggestions for developing the publication) should be sent to DECC's Smart Meter Statistics Team at the following email address: EnergyEfficiency.Stats@decc.gsi.gov.uk

This document is also available from our website at www.gov.uk/decc

Quantitative research into public awareness, attitudes, and experience of Smart Meters: underlying dataset (waves 1-4)

Background

The Department of Energy and Climate Change (DECC) commissioned Ipsos MORI to undertake four nationally-representative surveys to measure the public's views on smart meters and in-home displays (IHDs) between April 2012 and October 2013.

This technical note accompanies the full survey dataset and includes a brief description of measures taken to anonymise results and metadata to support analysis. A summary of the results of all four waves is available from:

<https://www.gov.uk/government/collections/quantitative-research-into-public-awareness-attitudes-and-experience-of-smart-meters>

Methodology and sampling

The surveys were conducted in April 2012, October 2012, April/May 2013 and September/October 2013. All four waves were conducted on Ipsos MORI's weekly omnibus Capibus which is carried out in-home using face-to-face interviewers. Wave 1 comprised 2,396 interviews; Wave 2 comprised 2,159 interviews; Wave 3 comprised 2,210; and Wave 4 comprised 2,333 interviews.

Capibus provides a high quality sample of respondents representative of the population at a national and regional level. Respondents for all four waves of the smart meters survey were aged 18+ and at least jointly responsible for paying their household energy bills to ensure that the survey findings reflected the views of adult energy bill payers.

Capibus uses a two stage random location design to select respondents to take part in the weekly survey. The two stages are as follows:

Stage One - Selection of Primary Sampling Units

All local authority areas are stratified (or grouped) into regions to ensure full geographic coverage. A total of 154-180 Local Area Authorities are randomly selected from the stratified groupings with probability of selection proportional to size. This ensures that the most populated areas in Great Britain are represented in the sample.

Stage Two - Selection of Secondary Sampling Units

The second stage of sampling happens every week on Capibus. At this stage, two double output areas (DOAs) are randomly selected from each Local Area Authority; this then becomes the secondary sampling unit.

An Output Area (OA) is a very small area made up of between 60 to 100 addresses; it is the smallest area at which Census data is available. Using Double Output Areas (DOAs) means that there are sufficient addresses for efficient sampling and interviewing. Although we could just choose 154-180 DOAs each week completely at random and set interviewer quotas for sex, age, working status and social grade - a common approach for ensuring a sample is nationally representative - the CACI ACORN geo-demographic system is used in the selection process instead.

Adopting this approach helps to eliminate potential bias in the sample caused by interviewing an over-representative proportion of people with the same background. Using CACI ACORN allows for the selection of OA's with differing profiles such that we can be sure we are interviewing a broad cross-section of the public; since clearly even people of the same age and working status may have a different viewpoint depending on their socio-demographic background.

The Interviewing Process

The Capibus questionnaire is downloaded onto each interviewer's laptop computer. The computer controls which questions are asked, depending on the respondent's particular circumstances, and will rephrase questions to respond to previous answers. This makes the questionnaire 'intelligent' allowing the interviewing process to be more interactive; in turn this allows for more complex questionnaire design and provides more accurate and insightful research findings.

Questionnaire design and piloting

Before Wave 1, Ipsos MORI drafted an initial questionnaire for piloting which was agreed with DECC. A cognitive pilot was then completed with 15 respondents who were at least jointly responsible for paying their household energy bills. The purpose of the cognitive pilot was to ensure that respondents were able to interpret the questions correctly and provide meaningful responses.

Following the pilot, a number of revisions were made to the questionnaire before it was signed off for use in the field. The final version of the questionnaire is available on the survey's [Wave 4 website page](#).

Some backcoding of free text responses has been conducted. To verify responses, check the value listing in the [dataset](#).

Amendments to the questionnaire following wave 1

After reviewing responses to Wave 1, Ipsos MORI and DECC agreed a number of question amendments for Wave 2, detailed below:

- Additional pre-codes were added to certain questions including:

- Source of awareness of smart meters (QAW3);
- Disadvantages of smart meters (QUN3);
- An additional question on the use of IHDs (QIHD3) to monitor gas usage was added; and
- An open-ended question on information needs around smart meters was changed to a spontaneous pre-coded question using responses from Wave 1 (QKN1).

Some additional questions and amendments were included for Wave 3, as follows:

- Two updated pictures of smart meters were shown in place of the picture shown in Waves 1 and 2 to provide a more accurate reflection of the type of smart meters that were being installed at that time in Great Britain (QAW1);
- An additional open-ended question was added for a single wave (Wave 3) to help understand the nature of concerns of any respondents who spontaneously mentioned a health related disadvantage in connection to smart meters (QUN3a);
- Two additional questions were added to probe why bill-payers were or were not interested in having a smart meter installed in the near future (QUN4a and QUN4b);
- Three attitudinal statements were added about energy use at home for analysis purposes (QENER1-3); and
- Two new demographic questions were added - property type and property size (number of rooms in the property) (QACC and QROOM).

Weighting

Data were weighted at the analysis stage to be representative nationally and regionally of the UK population aged 18+ by:

- age (by gender);
- working status (by gender);
- region (by gender);
- social grade (by gender);
- household tenure; and
- ethnicity within region.

Weights are included in the data set (variable “wts”) and should be used when carrying out analysis.

Anonymisation strategy

The dataset has been treated to ensure respondents cannot be identified. To do this, certain response categories have been merged and the age and disability/long-term illness or infirmity status of respondents has been withheld. Although care has been taken to preserve response distributions, top line analysis may not exactly match previously published figures.

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Department of Energy & Climate Change

3 Whitehall Place

London SW1A 2AW

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