Department for
Business, Energy
& Industrial Strategy

SMART ENERGY RESEARCH

BEIS CONSUMER PANEL

November 2016

BEIS Smart Energy Research

Summary Report

In March 2016, the BEIS Smart Energy Team commissioned research on a range of smart energy measures, particularly smart tariffs and smart appliances. The research was carried out through an online quantitative survey of 1,000 respondents in Great Britain, and was conducted by TNS BMRB, using the BEIS Consumer Panel, an online panel established in late 2015.

Of course, there are differences between what people say they will do and what they do in practice. Nevertheless, it was still surprising to learn about the receptiveness of consumers to some of these smart ideas. The key findings of the research are summarised here:

Background to BEIS Consumer Panel

1. The BEIS Consumer Panel was commissioned to provide policy teams with flexible, rapid and cost effective access to a cross-section of households for the delivery of small-scale consumer insight projects. This generates early learning and insight to inform policy development and communication design.

2. The panel is managed by research agency TNS-BMRB and includes a database of over 25,000 people willing to take part in consumer insight. Panel members were recruited via a profiling survey covering background information on a range of variables including; demographics, characteristics of their property, and their attitudes, knowledge and behaviour in relation to key BEIS policy areas. The panel has not been recruited via random probability sampling, although quotas are applied to survey samples that use panels to ensure they are broadly representative of the wider population on a wide range of characteristics.

Our research centred on a range of smart energy measures, with a particular focus on smart tariffs and smart appliances. The key findings of the research were as follows:

Smart Tariffs

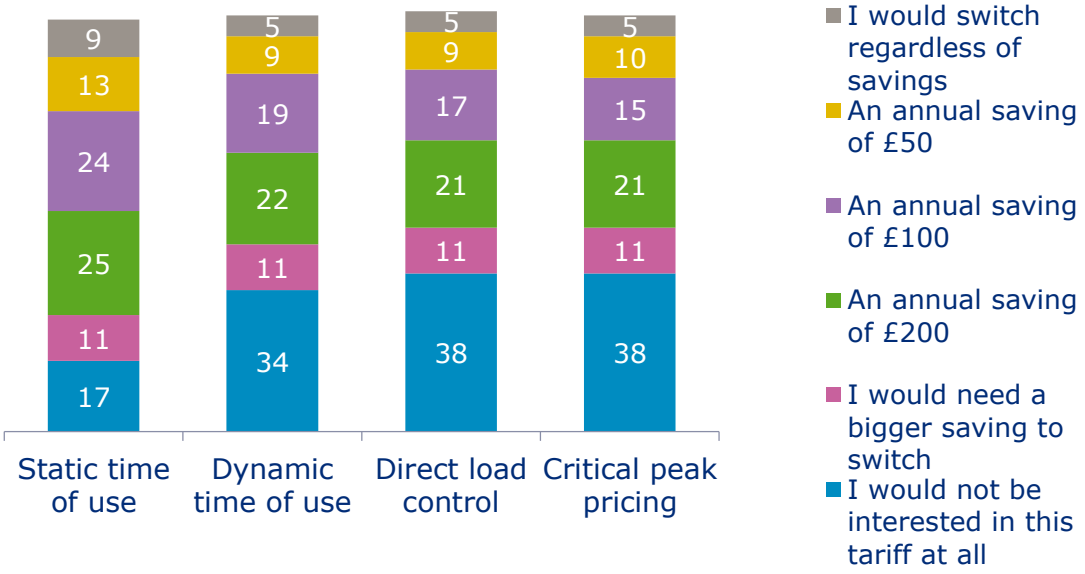
Smart tariffs enable consumers to benefit from using their electricity in a way that is more beneficial to the system e.g. using less electricity at times of peak demand, or more at times when there are high levels of low carbon generation.

- When presented with information on four types of smart tariff, the static time of use tariff proved most popular. More than half viewed this as their first preference. Fewer than one in five ranked the dynamic time of use, direct load control, or critical peak pricing tariffs as their first preference.
- Seven out of ten (72%) said they would switch to static time of use tariff for savings of up to £200, compared to just over half for each of the other three tariffs.
- If a smart tariff was offered by their energy supplier, just under half (49%) claimed they would either definitely, or probably take up the offer. Only 10% would definitely take up the offer.

- Interest in taking up a smart tariff was highest amongst younger people, those in higher social grades, and those living in larger households. Older people, those in social grade DE, and those living alone were less receptive to smart tariffs.

When asked how much of an annual saving they would need in order to switch to each tariff type, the static time of use tariff proved the most appealing. More respondents were willing to switch to the static time of use tariff for all levels of savings. As can be seen in Figure 1 below, the proportion that would switch to static time of use tariff for no savings (9%), savings of £50 (13%), savings of £100 (24%), and savings of £200 (25%) are all higher than is the case for the remaining three tariffs. This difference is also evident in the proportion that have no interest in switching to each tariff. A much larger proportion have no interest in dynamic time of use (34%), direct load control (38%), and critical peak pricing (38%), than they do for static time of use (17%).

Figure 1 – The amount of annual savings that would persuade people to switch to each type of smart tariff



Base: All adults: 1,000

Those who expressed interest in all four tariffs were asked to rank the tariffs in order of preference. As this question was only asked of people willing to switch to all four tariffs, it excluded those who were interested in some tariffs but not others. A derived calculation has therefore been produced, to assign a first preference to respondents that were willing to switch to a particular tariff for less saving than the others.

The first preference choices are listed in Table 1 below and once again clearly show that static time of use was the preferred tariff type. Once a first preference is derived for respondents that weren't interested in all four tariffs, this adds even further to the relative popularity of static time of use.

Table 1 – Smart tariffs first preference

Tariff	First preference	First preference including derived calculation for those not asked the question
Static time of use	50%	58%
Dynamic time of use	23%	17%
Direct load control	15%	14%
Critical peak pricing	11%	11%

Base: All adults who were willing to switch to all four types of smart tariff: 500

Across all smart tariffs a clear picture emerged in terms of the demographic groups most willing, and unwilling, to switch to a smart tariff. When focusing on those who would switch to each smart tariff for savings of up to £200, the same four groups re-occurred as the most and least likely switchers for all tariffs.

Table 2 – Demographic groups most and least likely to switch to a smart tariff for savings up to £200

Most likely to switch to a smart tariff for savings up to £200	Least likely to switch to a smart tariff for savings up to £200
Aged 18-34	Aged 55+
Social grade AB	Social grade DE
4 or more people in the household	1 person households
Under 16s in the household	Over 65s in household

There is an obvious split when it comes to smart tariffs whereby younger people, those in higher social grades, and those living in larger households are more receptive to the idea of switching to one. Older people, those in social grade DE, and those living on their own are least receptive to smart tariffs. This split was evident throughout the research in relation to all smart energy measures. Interest in smart tariffs was a strong indicator of interest and openness to other areas of smart energy such as smart appliances, automation, and use of in-home batteries.

As a further measure of interest in switching to a smart tariff, respondents were asked later on in the survey whether they would switch to a smart tariff if their energy supplier offered them one. At this question, 10% stated that they would definitely switch. A further 39% felt they would probably switch. When respondents had been asked earlier in the survey whether they would switch to a static time of use tariff for savings up to £200, more than 7 in 10 (72%) had indicated they would switch, and more than half had stated they would switch to each of the other 3 tariffs for the same amount of savings. However it is important to note that in one of these questions respondents were provided with an estimate of the monetary benefit they would receive from switching, but not in the other question. Therefore, results from the two questions are difficult to compare but do indicate that if there is a clear benefit from switching to a smart tariff, this does interest a large proportion of the public in principle. If this benefit is less clear, people may be less willing to switch. Additionally, there are likely to be other factors that influence people's willingness to switch to a smart tariff, such as trust in their energy supplier.

A small group (13%) indicated that they would not be willing to switch to any of the four smart tariffs, regardless of what savings they could make. Amongst this group, a number of reasons were given as to why they would not switch. The most common of these were a lack of belief that it would change their energy costs (26%), needing more information before they could go ahead (23%), concerns over losing control of their energy use (22%), and that smart tariffs would not fit with their lifestyle or routine (21%). Don't know (24%) was also a very common answer given at this question, suggesting there is still a general lack of knowledge and understanding of smart tariffs and how they would work.

Respondents were also asked for the main incentives that would persuade them to switch to a smart tariff. This identified that the impact on personal energy costs was by far the biggest factor, mentioned by 58% of respondents. If people can be convinced that a smart tariff would reduce their energy bills, this would go a long way towards persuading people to switch. Having a smart tariff that fitted with their lifestyle or routine was also commonly seen as an incentive to switch (34%), whilst financial incentives such as free automated products to use with the smart tariff (27%), or shopping vouchers worth £100 (22%) also proved popular with some.

Smart Appliances

Smart appliances are appliances which are able to respond to signals (e.g. price information, direct control signals, and/or local measurements of electricity supply); where the response leads to a change in when the appliance uses electricity.

- Of their existing non-smart appliances, people would be most willing to use washing machines (79%), tumble dryers (71%), dishwashers (68%), and chargers (68%) flexibly with a smart tariff.
- The public are less willing to use fridges (45%) and freezers (43%) flexibly, largely due to a view that they need to run constantly to ensure food safety.
- Half (51%) would be interested in purchasing at least one type of smart appliance, most commonly smart washing machines (39%) and smart dishwashers (37%).
- As with smart tariffs, interest in smart appliances was highest amongst younger people, those in higher social grades, and those living in larger households.

Storage Batteries

A battery is a form of storage that can be installed in your home and stores energy when it is plentiful. This energy can then be used at a time when it's needed, helping you to save money on your energy bills if combined with a smart tariff.

- Interest in installing a battery at home was evenly split; 38% would consider this compared with 40% who would not.
- Those who were interested in installing a battery stated the main reasons would be the opportunity to save money on energy bills (54%).

Energy Suppliers

- The tariff price (64%) was by far the most important factor in the decisions around switching energy suppliers or tariffs.
- If people need information on their energy usage, the majority would look online as their first port of call, either directly on specific websites (49%) or through a search engine (42%). Smaller proportions would go to their energy supplier (38%), government information (23%), or family and friends (21%).
- Just under four in ten (37%) had made a change of some kind to their energy use at home in the last two years.
- When asked who is most responsible for ensuring that our energy system is affordable, secure and helps us to tackle climate change, energy companies (42%) and the government (41%) were most commonly cited.

The BEIS Smart Energy Team would be happy to share additional outputs from its Consumer Panel research and discuss further analysis of the Consumer Panel data with researchers.