Making a positive difference
for energy consumers

All interested parties

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23 April 2014

Dear Colleagues,

Investigating the potential impacts of Time of Use (ToU) tariffs on domestic electricity customers: Smarter Markets Programme

We have today published a report by the Centre for Sustainable Energy (CSE) which considers the potential impacts on domestic electricity customers of the introduction of new time-of-use tariffs (ToU).[1] This letter sets out the context for this work, its key findings and our proposed next steps.

Background to this report

The roll-out of smart metering has the potential to create smarter energy markets that work better for consumers. Smart meters allow consumers to take control of their energy usage by providing easily accessible information on their consumption. This can help them to make informed choices about how they buy and use energy, driving competition in supply.

Smart metering can also promote competition by creating new opportunities for innovation in business models, products and services, as well the potential for faster and easier switching between suppliers.

One such innovation is in the provision of ToU tariffs - energy tariffs with different prices at different times. By creating incentives to shift consumption away from peak periods, ToU tariffs have significant potential to reduce customer bills, enhance security of supply and contribute to sustainable development.

Ofgem's Smarter Markets Programme

Government, Ofgem and industry are agreed that smarter energy markets cannot be realised without changes to the arrangements that underpin how market participants interact with each other and consumers. We have established the Smarter Markets Programme to help drive changes to market arrangements.

[1] Investigating the potential impacts of Time of Use (TOU) tariffs on domestic electricity customers: Report to Ofgem – Centre for Sustainable Energy, 22 April 2014

Following consultation with stakeholders, we identified four priority areas of reform to be taken forward under the Smarter Markets Programme.[2] One of those areas was creating the right environment for demand-side response (DSR). DSR involves customers responding to a signal to change the amount of energy they consume from the grid at a particular time. One form of DSR is ToU tariffs.

Another strand of our Smarter Markets Programme covers the Consumer Empowerment and Protection issues arising from smart metering and subsequent market development. Understanding the distributional impacts of TOU tariffs falls within that workstream and the report we are publishing today is a first step in building that understanding.

The development of ToU tariffs is also closely linked to our work on electricity settlement. The roll-out of smart and advanced meters that can record half-hourly (HH) consumption presents an opportunity to improve the accuracy and timeliness of the settlement process. We consider that it is in consumers' interests to be settled against their HH consumption data. Using HH data for settlement will place stronger incentives on suppliers to help customers move load to periods when electricity is cheapest. It creates the potential for suppliers to offer dynamic ToU tariffs with different prices at different times that may only be notified a short time in advance e.g. when there are pressures on the system. We have recently launched a project to develop and assess options for using actual HH data in settlement[3].

Basis of analysis and key findings

Ofgem commissioned CSE to undertake analysis of domestic electricity use patterns and to model the potential distributional impacts of ToU tariffs. CSE used the half-hourly smart electricity demand dataset collected during the Energy Demand Research Project (EDRP)[4]. To support this work CSE:

(1) used cluster analysis to identify a set of typical demand profiles
(2) created a tariff model to calculate the electricity bills of the EDRP cases based on three example ToU tariffs defined by Ofgem which were then compared with a representative standard non-ToU tariff.

The tariff modelling demonstrates the potential impacts of a ToU tariff on different consumers' bills. It shows that the types of customers that benefit from ToU tariffs will depend on their current usage as well as how they respond and the types of ToU tariffs on offer. This initial exploratory research did not model consumer response to ToU tariffs and only modelled one type of static ToU tariff. In reality, many different types of ToU tariff may exist in the future and each type is likely to have different impacts on consumers. The findings from this research demonstrate the importance of ensuring that consumers are well informed about both their energy use and the types of ToU tariffs on offer before switching to these more innovative types of tariff.

Next steps

The publication of this research represents a first step in seeking to understand how ToU tariffs may impact on different customers. This analysis is constrained by both: (a) the limitations on available data combining domestic TOU electricity consumption patterns with consumer socio-democratic characteristics; and (b) the limited evidence of how different consumers might respond to TOU tariffs. We intend to undertake further work in this area when we have more information on which to base that analysis.

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[2] Promoting smarter energy markets: a work programme – Ofgem, July 2012 https://www.ofgem.gov.uk/publications-and-updates/promoting-smarter-energy-markets-work-programme
[3] Electricity settlement reform – moving to half-hourly settlement – Ofgem, April 2014 https://www.ofgem.gov.uk/publications-and-updates/electricity-settlement-%E2%80%93-moving-half-hourly-settlement
[4] The EDRP was a two-year trial of domestic smart meters and energy demand reduction interventions which ran from 2008-2010. It was part-funded by DECC, managed by Ofgem, and run by four energy suppliers.

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In particular, we envisage undertaking further distributional analysis as we make progress towards specific policy decisions as part of the individual projects under the Smarter Markets Programme. We will provide further details of our plans through future publications under those individual policy strands.

In the meantime we welcome comments from all stakeholders and interested parties on the report. Comments should be sent to the following e-mail address: smartermarkets@ofgem.gov.uk.

If you would like to discuss this letter further please contact Grant McEachran at grant.mceachran@ofgem.gov.uk.

Yours sincerely,

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