

Comments on Promoting Smarter Energy Markets

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Dear Mr. Ramdarshan:

Opower, Inc. (“Opower”), a behavioural energy efficiency and smart grid software company, would like to thank the Office of the Gas and Electricity Markets (“Ofgem”) for the opportunity to comment on efforts to promote smarter energy markets.

Opower works with over 70 utilities in the United States, including 8 of the 10 largest, and with First Utility in the United Kingdom, to deliver energy savings to residential households.¹ Opower motivates customers to use less energy and save money on their monthly bills by providing them with better information about their energy use and personalised energy-saving advice. Opower also engages households – including households in traditionally difficult-to-reach communities – with additional smart metering-enabled tools, such as rate analysis tools and high bill alerts to drive greater savings and insights from smart meters.

A leader in energy data analysis and insight, Opower uses smart metering data to deliver consistent, verified, and widely shared benefits to consumers, suppliers, and the environment.

Summary comments

- 1) **Consumer engagement is essential to the success of time-of-use tariffs (TOUs).** Ofgem correctly identifies the potential consumer benefit and risk associated with the implementation of time-of-use tariffs, and rightly emphasises the importance of consumer engagement in realizing the benefits of such tariffs. For example, companies like Opower can help educate consumers about time-of-use and other dynamic tariffs through rate analysis tools, which enable customers to understand pricing programmes and select the

¹ For more on Opower in the UK, see the Cabinet Office’s report, “Behaviour Change and Energy Use,” available here: <http://www.decc.gov.uk/assets/decc/11/cutting-emissions/behaviour%20change/2135-behaviour-change-and-energy-use.pdf>

programs that can benefit them. Consumer engagement and education should be considered an integral piece of any time-of-use pricing scheme.

2) **Regulations should be designed to encourage innovation and competition in energy services, including partnerships between energy service providers and energy suppliers.**

Smart grid investment drives innovation in the energy services sector. In turn, this innovation will benefit customers, industry and the environment alike. As Ofgem considers reforms to encourage innovation and create opportunities to allow new entrants into the energy services market, it should avoid regulations that make it harder for existing services providers – in particular energy suppliers – to work with new companies, develop dynamic new products, and offer innovative new options to the consumer.

Discussion

1. Consumer Engagement is essential to the success of time-of-use tariffs

Ofgem Proposition 1: Time-of use tariffs should help many consumers lower their energy costs, but improved engagement will be needed to help all consumers make informed choices.

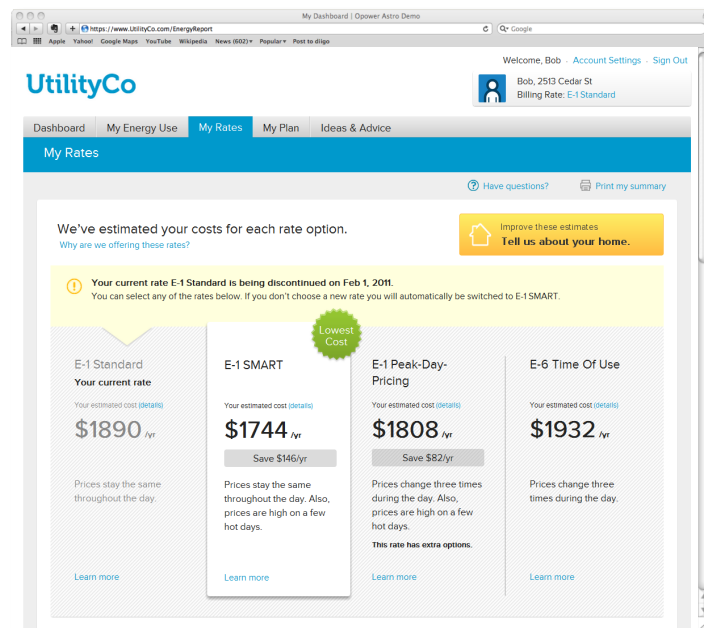
Opower agrees with Ofgem’s assessment that time-of-use tariffs (TOUs) produce benefits for consumers, but require consumer engagement to ensure their success. Opower takes no position on whether Ofgem should encourage the implementation of TOUs. If TOUs are implemented, however, sophisticated consumer engagement is essential to ensure that consumers are aware of these tariffs and able to make informed choices about their rate structure and energy usage. Without access to actionable, understandable information about their energy use and their tariff choices, consumers will not benefit from TOUs. And, if consumers do not benefit, these tariffs will fail to accomplish their goal of delivering more reliable, affordable, evenly distributed and environmentally friendly generation.

As the leader in smart grid consumer engagement, Opower offers a range of tools across multiple platforms, including the internet, landline telephones and mobile phones, that help provide consumers with timely information and advice to help them save money on their bills. The Opower platform is designed to allow customers to interact with their energy usage data and deliver insights in near real time about how to make smart choices to save energy. Two particularly effective components of this platform are Opower’s rate analysis engine and high bill alerts.

For consumers with a choice of time-of-use tariff plans, Opower's online rate engine analyses historical energy use and recommends the most affordable plan from a range of options. **Figure 1** provides an example of this analysis. This tool also uses information on rate plans to appropriately tailor energy-saving advice.

High bill alerts, on the other hand, do not require time-of-use tariffs or dynamic pricing. With smart metering data, Opower is able to provide consumers with real-time information about their energy use and analyse this use relative to historical consumption. If there is irregular usage, Opower can send messages via email, phone call, or text message to notify a consumer that his bill is tracking high. When accompanied with recommendations for reducing usage, these bill alerts can help drive energy-saving behaviour change.

Figure 1: Rate Analysis Engine



Customers can compare their projected bills under different time-of-use tariffs, based on historical use data

Effective consumer engagement is key to the success of time-of-use tariffs or any dynamic pricing programmes. Opower recommends that Ofgem encourage investment in consumer engagement programmes that can help consumers realise the benefits of tariff programmes.

2. Regulations should be designed to encourage innovation and competition in energy services, including partnerships between energy service providers and energy suppliers.

Ofgem Proposition 3: Innovation in energy services would increase the consumer benefits of smart metering and can happen without major change to the regulatory framework.

Opower agrees with Ofgem's proposition that innovation in energy services can drive consumer benefits. Opower's innovative behavioural programme has directly benefited from smart regulatory policies, such as energy saving goals, financial incentives for efficiency, and data access on an opt-out basis for data processors. These policies are designed to develop a robust market for energy services that does not favour a particular business model or approach.

Opower's is not the only business model for an energy services provider, or even the only model for providing behavioural efficiency. But it is a proven model, with a track record of producing energy savings and saving money for consumers. As it considers reforms relating to suppliers' provision of

energy services, Ofgem should seek to set the market conditions for maximum consumer benefit. This means ensuring that innovative new market entrants have an opportunity to compete in the marketplace, while preserving the ability of current market participants, including suppliers, to improve the service they offer their customers. By extension, this means that suppliers should be allowed and encouraged to partner with innovative service providers to offer programmes to customers that have a history of success.

Ofgem, in paragraph 3.43 of the consultation document, expresses concern that allowing the bundling of energy services with energy supply contracts could potentially hamper the ability of consumers to choose the best tariff, or could give incumbent energy suppliers a competitive advantage over new entrants. In Opower’s experience of working with suppliers directly, however, there are multiple benefits of the supplier-processor approach that accrue directly to the consumer. Given these considerable benefits, Opower urges Ofgem not to restrict the ability of suppliers to contract with energy service providers for the provision of energy services.

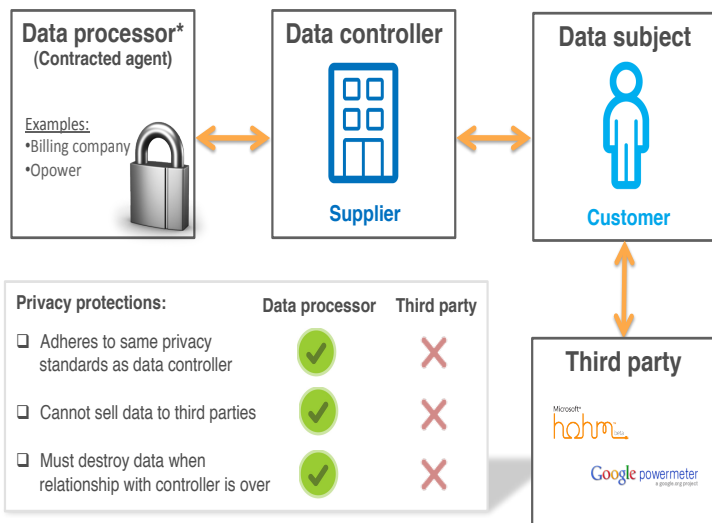
To understand the consumer benefits of different types of energy services, it is useful to understand the two dominant business models for the provision of behavioural energy efficiency.

Distinguishing between business models

As a data processor, providing services in the supplier’s name, Opower acts as an extension of the supplier – much like a billing service provider. In this relationship, customer energy usage data is treated as the property of the supplier: the privacy of customer data is protected in the contract between the supplier and Opower, and Opower retains no rights to personally identifiable information after the services are completed. As expressed in **Figure 2**, Opower’s supplier-processor relationship is best explained in contrast to the other dominant model for accessing customer data, the direct-to-customer approach:

Figure 2: Comparison of data processors and third parties

- 1. Direct-to-customer model –**
Under this model, a customer may choose to transfer data to a third-party platform so they may take advantage of the third-party’s product. Customers interact with both the supplier to supply the energy usage data, and the third party for data analysis and feedback.
- 2. Supplier-processor model (Opower, billing services) –**
This model allows the



* As defined in the UK Data Protection Act of 1998

supplier to contract with a vendor to use data to provide customer engagement or efficiency products. For customers, the relationship between the supplier and the vendor is seamless; the customer primarily sees output as a supplier service.

Benefits of the supplier-processor model and opt-out design

The supplier-processor model—as characterised by opt-out design, or defaults—has a demonstrated ability to deliver rigorously measured behavioural energy efficiency at scale. The key to achieving widespread engagement and widespread savings is one that has already been recognized in other policy areas in the United Kingdom: Defaults.

Making participation in a programme the default setting, and allowing consumers to opt out, rather than requiring consumers to actively opt in to the program, can dramatically increase participation.² The Cabinet Office’s Behavioural Insights Team has recognised this opt-out benefit in the context of pension schemes, health care, and energy policy.^{3,4} Changing pension schemes from opt-in to opt-out increased participation from 40% to 90% in the UK.⁵ The UK government changed the default settings for heating and lighting systems with the ambitious goal of realizing a reduction in emissions of 25% by 2015.⁶

Figure 3: Benefits of opt-out for UK full deployment

Benefits of an OPOWER program:	Opt-out*	Opt-in**	Loss
<input type="checkbox"/> % of customers who take action	85%	< 5%	~80%
<input type="checkbox"/> Energy savings	> 20,900 GWh	< 5,900 GWh	~15,000 GWh
<input type="checkbox"/> Gross savings for customers	> £1,700m	< £350m	~1,350m
<input type="checkbox"/> Measurable and verifiable results	✓	✗	Transparency
<input type="checkbox"/> Savings across each customer class	✓	✗	Equality

* Assumptions include deployment to 21.3m UK households over 3 years and access to sub-interval data
 ** Assumptions include averages of 5% of customers opting in and 10% savings rate for 21.3m UK households over 3 years

Opower has effectively used defaults to engage over 85% of customers in US supplier service territories. With this high level of participation, the small behaviour changes that lead to Opower’s average 1.5 – 3.5% savings result in a large aggregate impact. When projecting a relatively generous opt-in rate of 5% for a full UK deployment, Opower still estimates the UK would lose 15,000 GWh in energy and over £1.3 billion in bill savings over three years if Opower were

implemented on an opt-in, rather than opt-out basis. **Figure 3** compares these estimated benefits of

² Indeed, a recent German study found that flipping the default for a green power pricing programme increased participation from 1%, under the opt-in structure, to 94%, when delivered as an opt-out programme; See: Pichert, Daniel, and Konstantinos Katsikopoulos, “Green Defaults: Information presentation and pro-environmental behaviour,” October 2007, *Journal of Environmental Psychology*, available here:

<http://papers.econ.mpg.de/IMPRS/SumSchool2009/priv/Katsikopoulos/ABC%20Read%205.2.pdf>

³ “Behaviour Change and Energy Use,” June 2011, *Cabinet Office’s Behavioural Insights Unit*, available here:

<http://www.cabinetoffice.gov.uk/sites/default/files/resources/behaviour-change-and-energy-use.pdf>

⁴ “Applying behavioural insight to health,” 31 December 2010, *Cabinet Office and Behavioural Insights Team*, available here: https://update.cabinetoffice.gov.uk/sites/default/files/resources/403936_BehaviouralInsight_acc.pdf

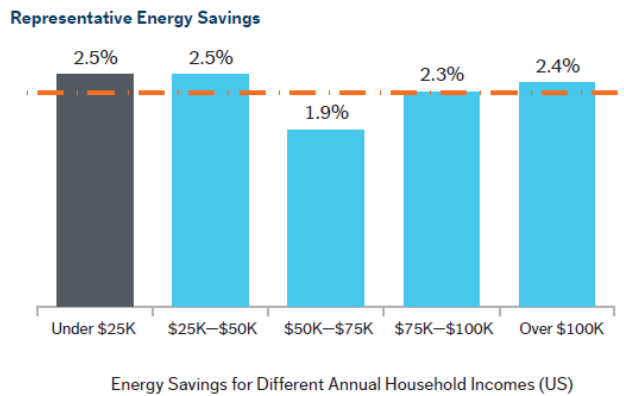
⁵ “Applying behavioural insight to health,” p. 11

⁶ “Behaviour change and Energy Use,” p. 28

opt-out versus opt-in Opower programmes if fully deployed to the United Kingdom.

In paragraph 3.46 of the consultation document, Ofgem highlights the need to understand the impacts of energy services on different groups of consumers, noting the possibility that energy services may serve to further widen the outcomes between engaged and disengaged consumers. Opower’s experience demonstrates, however, that consumer engagement is not a static attribute. Opower’s programme has shown the ability to successfully deliver energy savings benefits to populations that have traditionally been unresponsive to efficiency and demand-side response programmes, including low-income populations. Across its programmes in the United States, for

Figure 4: Energy Savings by Household Income



Source: Opower data

example, Opower has been able to deliver energy savings among the lowest income group that are as high or greater than savings in higher income groups. (see **Figure 4**).

Opower does not assert that an opt-in, supplier-contractor model should be the only allowable model for providing energy services. But, given its proven success at achieving environmental goals and delivering widely distributed consumer benefits, it is a model that should be allowed to compete with other models in the energy services marketplace.

Conclusion

Ofgem has a vital role to play, both in shaping the market conditions that will encourage the UK’s transition to a low-carbon economy, and in protecting energy consumers and ensuring that they are the beneficiaries of smart grid innovation. This consultation process is the first step in what promises to be a thorough and considered process, and Opower appreciates the opportunity to share its experiences and expertise.

Opower recommends that Ofgem remain focused on encouraging measures that will allow the broadest range of consumers to realise the benefits of the smart grid. To do so, Ofgem should encourage (i) consumer engagement as an essential component of any time-of-use tariffs, and (ii) diverse business models within the energy services sector, including, but not limited to an opt-out supplier-data processor model.

Sincerely,

A handwritten signature in blue ink, appearing to be 'JK' with a stylized flourish.

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