

Ben Smithers
Energy Market Monitoring and Analysis
Ofgem
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Dear Ben,

CREATING THE RIGHT ENVIRONMENT FOR DEMAND-SIDE RESPONSE

We welcome the opportunity to respond to the above consultation. We support Ofgem's objective of promoting regulatory and commercial arrangements that will support the efficient provision of system-wide Demand Side Response (DSR). We broadly agree with Ofgem's overarching view that the current arrangements do not fully provide the necessary framework for the longer term development of DSR.

Our responses to the consultation questions are in Annex 1 attached. In summary, our key points are as follows:

- **Prioritising the opportunities.** The consultation sets out the range of potential economic benefits of DSR (reducing the costs of balancing, capacity adequacy, generation and network infrastructure) and the variety of potential participants (large industry, I&C, domestic premises) – but makes no attempt to quantify them. The relative importance of different benefits and participants will evolve over time, and will be critical to determining where and when any measures to promote DSR should be introduced. To help inform the debate, we suggest that Ofgem should collate the outputs from the various studies and reports it cites, to provide an initial assessment of where the main opportunities lie and where efforts should be focused.
- **Assessing the impact on consumers.** Related to the above point, we think it would also be helpful for Ofgem to articulate the potential impacts of DSR on consumers, in particular the fact that lower system costs should lead to lower electricity bills, so that *on average* consumers may be better off – and satisfy itself that this positive impact will outweigh any costs from providing the DSR response as well as any adverse distributional impact resulting from the associated move to more cost-reflective pricing. It would also be helpful to assess the potential risks of inappropriate behavioural responses by vulnerable consumers to DSR, and consider whether such consumers need any particular protection.

- **Engaging domestic consumers.** Evidence of switching behaviour suggests that domestic consumers will need to expect significant annual savings from DSR if they are to be persuaded to engage, and that they may be put off by perceived complexity. We therefore think a guiding principle in promoting domestic consumer engagement in DSR should be to keep it simple. This is likely to favour a 'supplier hub' model in which suppliers are able to present consumers with an integrated DSR offering (combining network, generation and balancing price signals) tailored to customer circumstances. Existing electric heating tariffs are an instructive example of how this can work in practice.

- **Interactions between policy instruments.** We agree with Ofgem that it will be important to take a system view and understand potential interactions between market participants, eg where DSR behaviours may reduce costs for one participant but increase costs for another. We also think consideration needs to be given to interactions between policy instruments. For example, in designing the Capacity Mechanism, the Government is rightly taking a gradualist approach to the potential participation of DSR so as to avoid unintended interactions. Moreover, as part of the annual Ofgem/National Grid Capacity Assessment work, it will be important to avoid unduly optimistic assumptions around the contribution from DSR – otherwise there is a risk that the generation volume sought in the Capacity Mechanism auction may be insufficient.

Should you wish to discuss any issues arising from our response please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in blue ink that reads "Rupert Steele". The signature is written in a cursive style and is positioned above a horizontal line that serves as a separator between the signature and the typed name below.

Rupert Steele
Director of Regulation

CREATING THE RIGHT ENVIRONMENT FOR DEMAND SIDE RESPONSE SCOTTISHPOWER RESPONSE TO CONSULTATION QUESTIONS

Precondition 1 – Industry parties need to be confident that there is value for them in demand-side response to justify the investment

Question 1: Are there any additional key challenges associated with revealing the value of demand-side response across the system? If so, please identify and explain these challenges.

As regards the key challenges for revealing the value of demand side response, we agree with Ofgem that three key areas to focus on will be the cash out mechanism, settlement arrangements and network charging and price controls.

However, in order to assess whether industry parties are exposed to the correct price signals to reveal the benefits of DSR, it will be important to map out where the main economic benefits are expected to arise. The consultation sets out the range of potential economic benefits of DSR (reducing the costs of balancing, improving capacity adequacy, reducing generation and network infrastructure costs) and the variety of potential participants (large industry, I&C, domestic premises) – but makes no attempt to quantify them. The relative importance of different benefits and participants will evolve over time, and will be critical to determining where and when any measures to improve promote DSR should be introduced. For example, the timing and magnitude of opportunities will be heavily influenced by:

- the mix of generation in the system, particularly the proportion of intermittent renewables;
- the rate of adoption of electric heating and electric vehicles;
- the rate of adoption of energy storage technologies and growth in interconnection;
- the rollout of smart metering.

Assuming that a large part of the value of DSR in the future will be related to smoothing wind output, the analysis will need to incorporate wind driven peaks as well as demand driven peaks. This will mean that for DSR to deliver benefits in terms of needing less generation capacity, demand will need to be able to respond at any time of day. This may be more costly to achieve than simply shifting demand away from traditional peak times such as the triad periods.

To help inform the debate, we suggest that Ofgem should collate the outputs from the various studies and reports it cites to provide an initial assessment of where the main opportunities lie and where efforts should be focused. This will clearly be subject to wide uncertainties and may need to be scenario-based, but would be a valuable resource for future planning.

Question 2: Can current regulatory and commercial arrangements provide the means to secure demand-side response being delivered? If not, what will regulatory and commercial arrangements need to deliver in future?

We agree that the current regulatory and commercial arrangements are not sufficient to fully realise the potential benefits of DSR, particularly in respect of domestic consumers. We

consider that the planned smart meter roll-out in the next few years – and associated initiatives to reform settlement arrangements – will be a key opportunity to assess what else is required.

In particular, we think that significant changes will be required to settlement arrangements as DSR adoption increases and suppliers face challenges in balancing their energy portfolio. In the longer term, industry parties need confidence that they will be able to operate without unnecessary additional risk and regulatory arrangements will need to help to underpin that confidence. For example, different metering and settlement profiles could be developed to cope with the potential variances from customers responding to appropriate signals in the market.

Question 3: Is current work on improving clarity around interactions between industry parties sufficient? If not, what further work is needed to provide this clarity?

We welcome the work that is currently underway and acknowledge the progress made to date. This is important work in understanding the potential interactions between stakeholders and developing the cost-benefit analysis that will be required to support specific DSR initiatives.

We would note that much of the current focus seems to be from a grid perspective. While this is useful and right in the current environment, it will become increasingly important that all affected parties are involved in the debate. For example, suppliers need to be clear on the impacts on their processes and how their relationships with their customers will evolve.

Another key issue relates to any interaction with the Government's planned introduction of the Capacity Mechanism. As DECC finalises its design proposals for the Capacity Mechanism it will need to consider carefully the role for DSR. We support a staged approach to this to allow for a greater understanding of the implications for the operation of the Mechanism.

Moreover, as part of the annual Ofgem/National Grid Capacity Assessment work, it will be important to avoid unduly optimistic assumptions around the contribution from DSR otherwise there is a risk that the generation volume sought in the Capacity Mechanism auction may be insufficient.

Precondition 2 – The value of demand-side response services needs to be effectively signalled to customers

Question 4: Are there any additional key challenges associated with effectively signalling the value of demand-side response to consumers? If so, please identify and explain these challenges.

We think that three key challenges associated with effectively signalling the value of demand-side response to domestic consumers will be:

- a) putting in place necessary market arrangements so that suppliers are in a position to pass on accurate price signals that reflect the full range of potential benefits;
- b) making the price signals presented to consumers as simple and easy to understand as possible; and

- c) giving consumers the tools to make an informed decision in response to the price signal.

As noted in response to Question 1, key aspects of the market arrangements for suppliers to be able to pass on accurate system-wide price signals will include the cash out regime, settlement arrangements and network charging structures and price controls.

The next challenge will be to pass on the price signals to retail customers in a way that is as simple and easily understood as possible. Ofgem's Retail Market Review ('RMR') has highlighted consumer attitudes to tariffs and switching; these provide useful insights for DSR. One finding Ofgem has identified is that consumers can be easily put off from engaging in the market if tariffs are perceived to be too complex or difficult to compare. They also have relatively high expectations of the amount of money that they would need to save to justify the effort and hassle of switching supplier¹ and are relatively risk averse. Although it is still unclear how strong the financial incentives for domestic consumers to engage in DSR will be, there is no certainty that they will be any greater than the savings currently available from switching. This suggests that if DSR is to gain traction with a significant number of domestic consumers – ie beyond the early adopters – the incentives will need to be made as simple as possible to understand, the benefits as predictable as possible and the signals as hassle-free as possible to act on.

Finally, consumers will need to be given the confidence and tools to make informed decisions. In other words, if presented with a time of use tariff, or some other price incentive, they will need to be able to estimate with a reasonable degree of confidence the annual impact on their energy bill. It will also be particularly important to spell out the potential negative consequences, if for example, consumption patterns deviates from what is expected. This is important both to gain the trust of consumers as a whole and overcome natural risk aversion ('status quo bias') – but also to protect vulnerable consumers or those who do not fully understand DSR products from making bad choices. Suppliers are already subject to strict regulations around the sales and marketing of energy products and will face a particular challenge working out how to market DSR incentives in accordance with these obligations. (For example, where the projected annual energy costs depends on assumed behavioural change by the customer, how far does the supplier need to go to satisfy an obligation to use the best available information in making that projection?)

Although third party intermediaries will no doubt have an important role to play in driving innovation, the above considerations point to a key role for licensed suppliers in creating simple DSR offerings for the mass market and marketing them in a way that safeguards consumer interests.

Question 5: Do you agree that signals to customers need to improve in order for customers to realise the full value of demand-side response? Does improving these signals require incremental adaptation of current arrangements, or a new set of arrangements?

Yes, we agree that there will need to be an improvement in signals to customers to realise the full value of DSR. As noted above, consumers will need to perceive real, valuable incentives to change behaviours, particularly if they are used to using electricity in a particular way and perceive a value from doing so. There also needs to be an improvement

¹ The least engaged consumers (those who say they have never switched) consider they would need to save a minimum of £153 a year on average by switching supplier to be encouraged to do so. ('Customer Engagement with the Energy Market - Tracking Survey 2013', Ipsos MORI report for Ofgem, 12 June 2013, page 6).

in ways of encouraging customers to engage with their energy use more generally. It is not sufficient to simply provide signals and hope that customers respond to these.

Ofgem will need to consider the opportunities for effective signals to develop within the framework of tariff simplification rules introduced by the RMR. As noted above, it may also need to review the current rules around the accuracy of quotations given to customers in the course of sales and marketing.

Clearly, the rollout of smart metering presents a huge opportunity to improve the signals to domestic customers and facilitate customer response – and is likely to lead to a step change in market arrangements. However, it is also instructive to note that very effective DSR arrangements have been in existence for many years in the form of specialist electric heating systems. These arrangements typically involve two separately metered electric circuits, one purely for electric storage heaters and the second for lighting and other appliances. The tariff stipulates that the electric heating circuit will be energised by remote control for a certain number of hours each day (matched to the storage capacity of the storage heaters), but with the exact timing at the discretion of the DNO. This means that the DNO can stagger the energisation of different sets of households to minimise network loading and also to allow the supplier to benefit from periods of lower wholesale electricity costs. The network and wholesale energy savings are then passed on to the consumer in the form of a lower unit rate for the heating circuit. The beauty of this arrangement is that it requires virtually no behavioural input from the consumer, with the active management being outsourced to the DNO, and is simple for the consumer to understand given that it involves a single unit rate for the heating circuit.

Question 6: To what extent can current or new arrangements better accommodate cross-party impacts resulting from the use of demand-side response?

We believe that a ‘supplier hub model’ is the best approach to accommodating cross party impacts resulting from the use of demand side response. For example, if a consumer reduces consumption in order to alleviate congestion on the distribution network this may have an adverse impact on the supplier’s balancing costs. The best way to deal with such conflicts is to present a price signal to the consumer which reflects the net benefit, ie the gain to the network minus the cost to the supplier. A supplier hub model would be well suited to combining these price signals, and would also provide customers with consistency and ensure the best interaction with other issues such as smart meter rollout, managing consumption and micro generation. As the smart metering programme is progressed suppliers may have access to more granular data about their customers’ usage, allowing the development of more dynamic tariffs and better quality of information to customers (particularly in light of the strengthened information requirements being introduced under the RMR).

Precondition 3 – Customers need to be aware of the opportunities to provide demand-side response, able to readily to access information on options and able to act.

Question 7: Are there any additional key challenges associated with customer awareness and access to opportunities around demand-side response? If so please identify and explain these challenges.

Yes. A customer’s physical ability to respond to signals is clearly a key consideration and presents a particular challenge depending on how that customer uses electricity. Moreover, there will be some customers who are physically able to respond to signals and to change their demand, but where further consideration must be given to whether this is appropriate in

their personal circumstances. For example, it is vital to ensure that vulnerable customers do not feel pressured to respond to signals in a way that could negatively impact them. Conversely, customers who do not fully understand DSR tariffs might run up significant extra costs through responding to signals in the wrong way or not at all.

A second key challenge relates to the impact on consumers who do not participate in DSR. At present the costs of electricity generation and transmission are largely averaged ('socialised') over all domestic consumers. In order to incentivise DSR it will be necessary to make prices more cost-reflective which in turn will create winners and losers (even before the effects of any behavioural change). The losers will be those who remain on conventional tariffs² and are likely to include a high proportion of vulnerable consumers. Ofgem and the Government will have a key role to play in presenting the benefits of DSR and providing reassurance that the positive impact of DSR on overall system costs (and hence average consumer bills) outweighs any adverse distributional impact and any welfare costs from actually providing the DSR.

Question 8: Is any additional work needed to explore the role of third parties in helping customers to access and assess demand-side response offerings?

Yes, we agree there is a need for further work to explore the role of third parties in helping customers to access and assess demand-side response offerings. We can see a role for two distinct categories of third party:

- third party providers of impartial advice, who have no commercial interest in the consumer's energy purchasing decisions;
- third party intermediaries and energy service companies who derive a commercial benefit from assisting the consumer with their energy purchasing.

The Central Delivery Body which suppliers are obliged to set up under DECC's Consumer Engagement Strategy for smart metering should help mobilise third party providers of impartial advice such as consumer bodies and citizens' advice bureaux. Such bodies command a high degree of consumer trust and will be important in influencing consumer behaviour and building consumer confidence around DSR.

The role of commercial third party intermediaries and service providers merits particular attention, given the need to safeguard consumer interests and maintain consumer confidence in DSR. As noted above licensed suppliers will be subject to strict rules around sales and marketing of energy products, and we would encourage Ofgem to consider whether there will be a need for similar licensing of third party intermediaries engaged in DSR.

² Those who don't engage in DSR are likely to remain on conventional non ToU tariffs. However, the cost of providing those tariffs will increase as customers whose consumption profiles are biased towards low cost periods preferentially migrate to ToU tariffs.

Conclusion

Question 9: Are there additional preconditions for delivering the right environment for demand-side response? If so, please explain what these are and why they are important, as well as attaching a priority relative to those challenges we have already identified.

As noted in response to Question 1, an important precondition for delivering the right environment is to establish a vision of where the main economic benefits from DSR are likely to arise, how these will evolve over time, and the relative importance of the contributions from different classes of consumer (industrial, commercial, domestic etc).

It will also be important to develop a vision of how the market place for DSR may evolve, which models are likely to be most effective, and how they can be facilitated. For example, we suspect the 'supplier hub model' is likely to have an important role in future – but more consideration is needed around this and how different parties might interact with consumers. Third party intermediaries will undoubtedly have a role to play in driving innovation but in order for this to work, early consideration needs to be given to the appropriate regulatory framework to govern their interaction with consumers (particularly domestic consumers).

Finally, it will be important to ensure that appropriate technology exists to support the communication of pricing signals and consumers' response to them. The more confidence that can be provided in the future commercial and regulatory framework, the easier it will be for the supply chain to respond.

Question 10: Do you agree with the priority and timing we have attached to addressing each of the key challenges identified above?

We agree with the broad timings set out in relation to each of the challenges in the Consultation document. In terms of priorities, we think that customer awareness and engagement should be given a higher priority than it currently has. As set out above, we consider that there are significant challenges around developing greater consumer engagement.