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Dear Anna,

Call for Evidence: Potential impacts on consumers following market-wide settlement reform

Thank you for the opportunity to respond to this call for evidence. ScottishPower continues to support the implementation of market wide Half-Hourly settlement (HHS) as we agree with Ofgem that it should deliver consumer benefits including those arising from some consumers shifting their consumption profiles.

ScottishPower recently launched a time of use (ToU) tariff for customers with an electric vehicle[1] which provides customers with a competitive off peak rate between midnight and 5am, enabling car batteries to be recharged at a low cost. We are currently developing additional ToU tariffs which would be targeted at encouraging customers to shift some of their electricity consumption away from peak periods and thereby reduce their energy costs.

We have provided answers to Ofgem's questions in Annex 1 to this letter but we would highlight the following points:

- **Additional regulation of ToU tariffs** – We recognise the potential risks cited in this call for evidence that some consumers may incur higher energy costs after taking up such tariffs. We think that existing principles based regulation, notably SLC25 ('Informed Choices') and SLC0 ('Treating Domestic Customers Fairly'), will oblige suppliers to ensure that consumers can make fully informed decisions regarding ToU tariffs and minimise potential detriment. ToU tariffs are still in their infancy and their design is expected to evolve over time eg from static to dynamic tariffs, as consumer preferences and their response to such tariffs are better understood. We believe there is a risk that introducing additional regulations specifically for ToU tariffs at this early stage could restrict their development and thereby limit some of the consumer benefits of HHS. We would recommend that Ofgem keeps ToU tariffs under review

[1] https://www.scottishpower.co.uk/gas-and-electricity/tariffs/green-electric-vehicle/

and where necessary in future addresses any specific and material consumer protection issues that may arise.

- **Data access & privacy** – The benefits of ToU tariffs and load shifting can only be fully realised with Half Hourly (HH) settlement, which requires access to consumers' smart meter HH data. In this context we would encourage Ofgem to ensure mandatory access to HH data for the purposes of settlement for all currently installed and future smart meters. We believe Ofgem's 'minded to' decision to make access to HH data subject to opt-out consent from the date of HHS implementation and opt-in consent for meters installed before this time, will risk a significantly reduced number of consumers who could be HH settled.

- **Regulation of Third Party Intermediaries (TPIs)** – TPIs are a prevalent feature of the non-domestic energy market and often represent the main channel for suppliers to engage with non-domestic customers - TPIs will often for example make market comparisons for their customers. As such TPIs will have a significant bearing on the ability of non-domestic customers to engage with and take up ToU tariffs and load-shifting. In this context it will be important to review the regulations in place on TPIs as part of Ofgem's forthcoming review of the microbusiness energy market. Specifically, Ofgem will need to consider whether current voluntary codes of practice remain fit for purpose, capable of facilitating greater competition and innovation in the microbusiness market.

If you have any comments or queries on any aspect of this response please don't hesitate to contact me or Haren Thillainathan (0141 614 2007, hthillainathan@scottishpower.com).

Yours sincerely,

Richard Sweet
Head of Regulatory Policy

Annex 1

CALL FOR EVIDENCE: POTENTIAL IMPACTS ON CONSUMERS FOLLOWING MARKET-WIDE SETTLEMENT REFORM – SCOTTISHPOWER RESPONSE

CHAPTER 2: IMPACTS ON DOMESTIC CONSUMERS

Question 2.1: Individual domestic consumers will differ in their ability and/or willingness to engage with how they use electricity.

a) What are your views on the forms of communication most likely to facilitate/encourage consumers to engage with their energy use to help them make informed choices?

The forms of communication with any particular consumer should be driven by that customer's preferred communication method and format. We would see a range of communications that vary in content depending on the medium used. For example, offline customers would receive the traditional paper-based communications, whereas online customers would have a wider variety of communications to choose from, such as email, online portal, app-based communications etc. It is possible that SMS could also be used for both online and offline customers to communicate key messages, for example where pre-set levels of consumption have been reached. We anticipate that concepts and channels would need to be researched and tested in order to better understand what the customer finds most effective in engaging with their energy consumption.

b) What specific information about their energy use could encourage consumers to engage? Please consider how this information is presented and how regularly it is communicated.

There is no 'one answer' to this question as different customers will have different information preferences. Customer research and feedback will help identify what different types of information and in what formats would help consumers engage with their energy consumption. Issues being explored by ScottishPower include:

- the level of detail and disaggregation of household consumption consumers find useful;
- possible higher level indicators of positive or negative consumption patterns, eg traffic lights, emoticons etc;
- possible benchmarks for consumers to gauge performance on household consumption;
- the presentational format of messages, eg graphical, numerical etc.

Ultimately we expect consumers to self-select what they want, covering frequency, content and format where desired changing their choices with feedback on their energy consumption and costs. For example, the banking industry offers customers weekly alerts on their bank balance, and additional alerts where balances exceed or fall below limits pre-set by the customer. This style of information could be used to encourage usage at off-peak times through the provision of alerts and ToU tariffs. More actively engaged banking consumers can access their accounts on-line or via phone apps; similarly, energy consumers may prefer such platforms to monitor their consumption more frequently.

Question 2.2: Aside from communication, what other measures or initiatives would encourage consumers to become more confident about engaging with their energy use? This engagement may be direct, or through an intermediary/third party.

Many customers are unaware of the appliances and activities that consume higher amounts of energy. With the provision of half hourly data, we will be better able to offer advice to the customer. This may lead to advice being given on particular appliances which are not energy efficient. With the customers consent, it may be that a third party could be engaged to offer replacement of appliances that are more energy efficient.

We would see the savings figure as a key driver here in helping to encourage a change in behaviour. For example, annual costs to run an inefficient refrigeration appliance, versus the savings that could be realised through the purchase of an A rated appliance.

Question 2.3: Based on any relevant evidence you have collected,
a) what proportion of consumers would be price responsive?
b) What enablers would be important and what barriers might exist?
c) What volume of load shifting from peak to off-peak periods (%) will a consumer be able to offer?

ScottishPower's experience of facilitating load-shifting is primarily in the industrial and commercial sector whilst not directly comparable to the domestic sector we think there are some insights in terms of likely enablers for domestic load shifting:

- Greater requirement for system flexibility – the electrification of heat and transport coupled with the increased deployment of intermittent and distributed generation will require greater electricity system flexibility. Such developments are likely to strengthen price signals to load-shift. Households with electric vehicles and heating could gain even greater benefits from shifting their consumption. For example, we note the baseline assumptions in Citizens Advice report on the value of ToU tariffs[2] included significant deployment of EVs and heat-pumps, alongside continued penetration of wind and solar generation.

- Additional revenue streams – it is unclear at this stage whether network capacity and/or access charges will be sufficient in themselves to incentivise more active forms of load-shifting. It may therefore be necessary to ensure there other markets available for reliable aggregated domestic load-shifting for example balancing and ancillary service provision for transmission and distribution system operators etc.

- Technology – in particular technology for direct or automated load-shifting at the domestic household level, as far as we are aware, is not available in the UK[3]. Technology used to facilitate direct load-shifting for the I&C sector is starting to be incorporated into battery units. And it is conceivable that such technology will eventually be integrated into smart domestic appliances and electric vehicles. At the household level, technologies such as battery storage (including EVs) and solar panels can enable greater flexibility of energy consumption from and off the system.

[2] https://www.citizensadvice.org.uk/about-us/policy/policy-research-topics/energy-policy-research-and-consultation-responses/energy-policy-research/the-value-of-time-of-use-tariffs-in-great-britain/

[3] There are for example, services in the US that switch off/turn down household air-conditioning in return for peak rebates. It is questionable whether such services would be suitable for the UK market.

Question 2.4: A number of different approaches to load shifting exist.

a) Which approaches to load shifting (direct, or indirect, with or without automation) would domestic consumers be more likely to prefer and respond to?
b) What are the risks and benefits of these approaches?
c) How could those risks be mitigated?
d) Would certain types/groups of consumers favour certain approaches?
e) Would certain types/groups of consumers be at greater risk of detriment from certain approaches?

These approaches could include but are not limited to:

- **ToU tariffs**
- **Tariffs reflecting capacity-based charges, which may involve a defined access limit or different types of access option as described in paragraph 2.6 and Appendix 4**

We would expect that there will be consumer preferences for both direct (automated) and indirect load-shifting, depending on how involved consumers want to be and how much control they want to retain.

From a consumer's perspective, the advantage of indirect load-shifting, ie adjusting their consumption in response to signals or price alerts, is that it gives the consumer discretion over how to respond, if at all. The potential disadvantage could be the amount of time involved and the amount of information consumers need to assess when undertaking load-shifting. We agree some of this disadvantage can be mitigated by using convenient platforms such as phone apps and smart devices, in addition to simplifying the process as far as possible. From a service provider perspective, a potential challenge of indirect load-shifting is ensuring there is sufficient consumer response when required. This may entail a large amount of consumers being party to such arrangements to achieve the required load-shift Anecdotal evidence from existing markets, eg California, suggest thousands of customers may need to be notified to guarantee a response of say, a hundred consumers.

Direct load-shifting, ie where a consumers' consumption is managed or automated by a third party, has the advantage of convenience for the consumer. The potential disadvantage of direct load-shifting might be the loss of control over certain elements of consumption. This can be mitigated to some extent by agreeing in advance with consumers the parameters of load shifting, eg time periods or volumes/appliances under control. In addition, technological safeguards could be used allowing consumers to override the load management systems. Direct load-shifting is also likely to produce a more despatchable and reliable demand side service opening up additional markets for an aggregated domestic load-shifting product, eg ancillary and/or capacity service provision. Such additional revenues would increase the benefits to participating consumers. Direct load-shifting may increase the cyber-security risk for households; however this can be mitigated if regulations ensure adequate security standards are in place eg ISO 27001.

We observe that in CEPA's study for Ofgem on the distributional impacts of time of use tariffs[4], it was concluded that all socio-demographic groups including vulnerable consumers would contain winners and losers from taking up ToU tariffs. We think this is a plausible impact of ToU tariffs, ie no one particular consumer group is at more risk than others.

[4]https://www.ofgem.gov.uk/publications-and-updates/distributional-impacts-time-use-tariffs

Question 2.5: Which parties (eg suppliers, other third parties, network companies, community schemes etc.) do you consider could be best placed and/or trusted to facilitate these above approaches?

In principle, all of the above parties could be involved in providing load-shifting or management services. It is important that parties who are not licensed suppliers, eg aggregators and community groups, are subject to adequate consumer protection regulations to minimise any consumer harm. We think such regulations would have to go further than, for example, the voluntary code of conduct developed by the Association of Decentralised Energy (ADE). We would recommend this issue is considered in the current Ofgem and BEIS review of the Future of the Energy Retail Market.

Question 2.6: Certain consumers may face barriers that prevent them from load shifting.

a) What barriers exist that may prevent consumers from load shifting?
b) Which particular groups of domestic consumers may face greater or more significant barriers than others?
c) For particular consumers are there certain types or levels of consumption that there will be less scope to flex (ie are there any forms of consumption that consumers would consider as 'essential' and be unable to shift, such that suppliers, network companies or third parties should not be able to offer to reduce consumers' usage below this limit)?

In terms of potential barriers to load-shifting, the costs of suitable technology, eg smart devices, batteries, EVs and solar panels, may be prohibitive to lower income consumer groups. In this context there could be a role for community groups, for example, to enable consumers in social housing to gain access solar panel and battery solutions.

It is difficult to generalise about minimum consumption thresholds for different consumer groups. The examples of critical electricity consumption could include certain medical equipment, heating levels if electrified etc. We believe that the existing principles based regulations, notably standards of conduct, should ensure consumers are not offered ToU tariffs and related products that would endanger such critical energy consumption. We would expect consumers' circumstances regarding critical consumption would have to be established on a case by case basis rather than relying on broad brush assumptions.

Question 2.7: Do you have any views about the scale of any distributional impacts? How may these be mitigated?

We think the distributional impacts identified in CEPA's report for Ofgem seem plausible, in particular that there would be winners and losers under ToU tariffs across all socio-demographic groups, including vulnerable consumers. We believe existing principles-based regulations, notably SLC25 ('Informed Choices') and SLC0 ('Treating Domestic Customers Fairly'), should ensure consumers can make fully informed decisions regarding ToU tariffs and the expected impact on their energy costs. This approach should ensure consumers who are likely to incur higher costs with a ToU tariff are advised against taking up such products.

Question 2.8: How could innovative technologies or solutions enable more consumers to provide flexibility, either individually or collectively (eg through a community approach)?

As mentioned in our response to question 2.6, technologies such as battery storage, solar panels and EVs are likely to offer greater opportunities for consumers to benefit from ToU tariffs and load-shifting services. Community initiatives could for example facilitate the provision of solar panel and battery storage for social housing, enabling the residents to benefit financially from the flexibility. Where parties other than licensed suppliers are retailing load-shifting services and other products, it is important that appropriate customer protection regulations are in place. We think this issue would be appropriately considered as part of the joint Ofgem-BEIS Review of the Future Retail Energy Market.

Question 2.9: We want to understand what specific concerns or risks of detriment may exist with the use of technology and innovation to enable flexibility.

a) What barriers exist for consumers to access these enabling technologies/innovative products?
b) How could these barriers be overcome?
c) Are there any particular concerns which may apply for certain consumer groups, eg vulnerable consumers (affordability and practicality)?
d) What further protection measures should be considered alongside these technologies?

At this stage we think the main barrier around these technologies is the cost of adoption, but this continues to fall as manufacturing of these products becomes more efficient. As mentioned in our response to the previous question, communal projects could solve problems such as affordability, and government is also well placed to play a role in this respect. At present, we are not aware of any issues around the practicability of these technologies, including for vulnerable consumers, but this can be reviewed as the take-up of such technologies increases.

Question 2.10: Do you have any views about whether consumers may prefer particular tariff types over others (for reference, some examples of ToU tariffs are listed in Appendix 2, and potential access options are described in Appendix 4)?

We believe at this stage that consumers are most likely to be receptive to simple static ToU tariffs that are relatively easy to comprehend. As consumers become more familiar with their granular consumption patterns and how these can be shifted to reduce costs, they may then develop preferences for more sophisticated ToU tariffs.

With regards to network charges and access options, it is difficult without indicative prices to forecast to what extent consumers will express any preference for these charge options. One would expect that this will depend on whether the likely charges and access options provide sufficiently strong price signals relative to overall annual energy costs.

Question 2.11: Which types of flexible tariffs and offers are likely to be available following settlement reform, considering the potential network charging and access options described? Please identify specifically the types of tariff options which

a) suppliers are already offering or are developing
b) you expect may emerge following settlement reform
c) you expect suppliers may develop in response to more granular, locationally differing network charging signals and the availability of different access options

for their consumers. Would you expect to see such tariffs, automation deals or offers targeted to consumers by location if underlying network charges varied locationally?

The introduction of half-hourly settlement would undoubtedly enable many of the ToU tariff options discussed in this CfE, in particular more granular and dynamic tariffs. If locational price differentials are sufficiently material and stable, we would expect the market to respond with locational products

Question 2.12: Considering any tariff options or packages you have developed or may develop, please provide any evidence of consumers' attitudes or response to them.

As noted in our cover letter, we have a ToU tariff for electric vehicles and we are currently developing other potential ToU tariffs. As part of our research to date we have found that consumer awareness of TOU tariffs is currently low and where consumers are aware there can be a perception that shifting consumption to off-peak hours, eg overnight, is too inconvenient. That said, after consumers are given information on ToU tariffs including potential savings, a significant proportion express an interest in the ToU tariffs. At present, static ToU tariffs seem to attract the most interest and preference, though there is also a material level of interest in more dynamic ToU tariffs.

Question 2.13: How far could principles-based obligations help ensure tariffs/choices are appropriate, including in relation to potential new access options?

We recognise the potential risks cited in this call for evidence that some consumers may incur higher energy costs after taking up such tariffs. We think the existing principles-based regulations, notably SLC25 ('Informed Choices') and SLC0 ('Treating Domestic Customers Fairly'), will oblige suppliers to ensure that consumers can make fully informed decisions regarding ToU tariffs and minimise potential detriment. ToU tariffs are still in their infancy and their design is expected to evolve over time, eg from static to dynamic tariffs, as consumer preferences and their response to such tariffs are better understood. We believe there is a risk that introducing additional regulations specifically for ToU tariffs at this early stage could restrict their development and thereby limit some of the consumer benefits of HHS. We would recommend that Ofgem keeps ToU tariffs under review and where necessary in future addresses any specific and material consumer protection issues that may arise.

CHAPTER 3: IMPACTS ON SMALL NON-DOMESTIC CONSUMERS

In responding to these questions, please consider how the answer may vary by sector or company size. Please provide any available evidence to support your answer, including from any recent offerings or trials you have been involved in, clearly marking as confidential if applicable.

Question 3.1: Individual small non-domestic consumers will differ in their ability and/or willingness to engage with how they use electricity.

a) What are your views on the forms of communication most likely to facilitate/encourage these consumers to engage with their energy usage to help them make an informed choice?

b) What specific information about their energy use could encourage these consumers to engage? Please consider how this information is presented and how regularly it is communicated.

Please see our response to Question 2.1; we believe similar considerations will apply to small non-domestic customers as to those that we have raised in relation to the domestic market.

Question 3.2: Aside from communication, what other measures or initiatives would encourage small non-domestic consumers to become more confident about engaging with their energy use? This engagement may be direct, or through an intermediary/third party.

TPIs are a prevalent feature of the non-domestic energy market and often represent the main channel for suppliers to engage with non-domestic customers; TPIs will often for example make market comparison for the customer. As such, TPIs will have a significant bearing on the ability of non-domestic customers to engage with and take up ToU tariffs and load-shifting. We have a ToU product in the larger non-domestic market (I&C) market and our experience is that take up of the product has been greater for customers who do not use TPIs. In this context, it will be important to review the regulations in place on TPIs as part of Ofgem's forthcoming review of the microbusiness energy market. Specifically, Ofgem will need to consider whether the current voluntary codes of practice remain fit for purpose, and capable of facilitating greater competition and innovation in the microbusiness market, including take up of ToU tariffs and related products.

Question 3.3: Who would be best placed to help small non-domestic consumers to be ore engaged with their energy usage? How would this vary with sector and company size?

As noted in our response to Question 3.2, TPIs are likely to have a significant influence on the take-up of ToU tariffs and related services in the non-domestic market. Once non-domestic customers have taken up such products, we believe many of them will engage with their energy consumption in a similar way to domestic customers, displaying differing preferences for modes and frequency of engagement.

Question 3.4: Based on any relevant evidence you have collected

a) what proportion of small non-domestic consumers would be price responsive?
b) what enablers would be important and what barriers might exist?
c) what volume of load shifting from peak to off-peak periods (%) will a small non-domestic consumer be able to offer? How would this vary with sector and company size?

Please see our response to Question 2.3; we believe the same enablers of load-shifting would apply to the non-domestic market.

Question 3.5: A number of different approaches to load shifting exist.

a) Which approaches to load shifting (direct, or indirect, with or without automation) would small non-domestic consumers be more likely to prefer and respond to?
b) What are the risks and benefits of these approaches?
c) How could those risks be mitigated?
a) Would certain types/groups of small non-domestic consumers favour certain approaches?
b) Would certain types/groups of small non-domestic consumers be at greater risk of detriment from certain approaches?

These approaches could include but are not limited to:

- **ToU tariffs**
- **Tariffs reflecting capacity-based charges, which may involve a defined access limit or different types of access option, as described above and in Appendix 4.**

Please see our response to Question 2.4; we believe similar considerations will apply to small non-domestic customers as to those that we have raised in relation to the domestic market.

Question 3.6: Which parties (egg suppliers, other third parties, network companies, community schemes etc.) do you consider could be best placed and/or trusted to facilitate these above approaches for small non-domestic consumers?

Please see our response to Question 2.5; we believe similar considerations will apply to small non-domestic customers as to those that we have raised in relation to the domestic market.

Question 3.7: What barriers exist that may prevent small non-domestic consumers from load shifting? Can you identify:

a) Which particular groups of small non-domestic consumers may face greater barriers than others?

b) Are there certain types or levels of consumption that there will be less scope to flex for particular small non-domestic consumers (such as the very smallest)? Are there any which these consumers would consider as 'essential' and be unable to shift, such that suppliers, network companies or third parties should not be able to offer to reduce consumers' usage below this limit?

c) Are any other protections beyond the current regulatory framework needed to ensure arrangements are appropriate and meet small non-domestic consumers' needs? Please identify any measures you consider would be beneficial and how these may vary with sector and company size.

Please see our response to Question 2.6. Broadly, we believe similar considerations will apply to the non-domestic sector. Examples of essential/business critical consumption would include power during opening hours for shops and retail units. As with the domestic sector, we believe the existing regulations in the supply licence, notably Standards of Conduct, will ensure essential energy consumption is not put at risk from load-shifting.

Question 3.8: Which technologies could be useful for small non-domestic consumers to help the offer flexibility and gain better control of their own energy usage, if they chose to do so? How does this vary with sector and company size?

We would expect that, similar to the domestic sector, non-domestic customers could benefit from flexible technologies such as battery storage, solar panel and electric vehicles.

Question 3.9: Who would small non-domestic consumers trust to provide an automation or load management service (eg direct control over their demand) to them, eg if using an innovative solution like battery storage? What specific protections may these consumers need? Would they be more likely to offer flexibility if it were automated?

We think suppliers and other parties such as independent aggregators could be best placed to provide direct or automated load-shifting and related services. This would reflect the experience in the larger non-domestic (I&C) market. We believe sufficient consumer protection regulations need to be in place on parties other than licensed suppliers. Currently there is little regulation in place on such parties outside contract law. We believe smaller non-domestic customers have less resources relative to larger non-domestic (I&C) customers to negotiate and enforce load-shifting contracts and therefore they would require some of the protections that would be available if they were contracting with a licensed supplier. As mentioned in our response to Question 2.8, we believe there is a need to review the efficacy of the regulation of parties such as independent aggregators in both the domestic and non-domestic markets and would recommend this is included in the Ofgem-BEIS review of the Future Retail Energy Market.

Question 3.10: What are the circumstances in which a communal solution could bring more benefit to small non-domestic consumers (sharing risks/benefits of offering flexibility) and are there any specific protections needed?

We believe there is scope for communal solutions between non-domestic customers, eg shopping centres or other business collectives, in addition to participating in residential solutions. In line with our responses to Questions 2.8 and 3.9, we believe protections may be needed if such solutions are being facilitated by parties other than licensed suppliers.

Question 3.11: Which different sectors where small non-domestic consumers are active could benefit from innovative technologies that unlock flexibility and how could other sectors also benefit?

This is not an area ScottishPower has researched or tested.

Question 3.12: Do you have any views about whether small non-domestic consumers may prefer particular tariff types over others (for reference, some examples of ToU tariffs are listed in Appendix 2, and potential access options are described above and in Appendix 4)? Please consider how this may differ by different types of small non-domestic consumers, egg by sector/company size.

This is not an area ScottishPower has researched or tested.

Question 3.13: Which types of flexible tariffs and offers are likely to be available to small non-domestic consumers following settlement reform, considering the potential network charging and access options described? Please identify specifically the types of tariff options which

a) suppliers are already offering or are developing
b) you expect may emerge following settlement reform
c) you expect suppliers may develop in response to more granular, locationally differing network charging signals and the availability of different access options for their consumers.

Would you expect to see such tariffs, automation deals or offers targeted to small non-domestic consumers by location, if underlying network charges varied locationally?

Please see our response to Question 2.12; we believe similar considerations that apply to the domestic market will also be applicable to the smaller non-domestic market.

Question 3.14: Considering any tariff options or packages you have developed, please provide any evidence of consumers' attitudes or response to them.

This is not an area ScottishPower has tested to date.

Question 3.15: How could protections ensure tariffs/choices are appropriate, including in relation to potential new access options?

As outlined in the cover letter and our response to Question 2.13, we believe ToU tariffs would be effectively covered by existing obligations in the supply licence, in particular Standards of Conduct.

ScottishPower
March 2019