
Energy Systems Catapult Response to Ofgem Consultation: *Targeted charging review: minded to decision and draft impact*

Introduction

The Energy Systems Catapult (ESC) was set up to help navigate the transformation of the UK's energy system. We work across the energy sector to ensure businesses and consumers grasp the opportunities of the shift to a low carbon economy. The ESC is an independent centre of excellence that bridges the gap between business, government, academia and research. We take a whole-systems view of energy markets, helping us to identify and address innovation priorities and market barriers, in order to accelerate the decarbonisation of the energy system at the lowest cost.

Our report "Cost Reflective Pricing in Energy Networks" published in September 2018 considered many of the issues in this consultation and explains our views in more detail, together with the supporting analysis. The report can be accessed via the following link:

<https://es.catapult.org.uk/publications/cost-reflective-pricing-in-energy-networks-the-nature-of-future-tariffs-and-implications-for-households-and-their-technology-choices/>

In this response, we will concentrate on how the different charges create incentives for customer behaviour. Our main concern is that if the incentive properties of the charges do not reflect the actual costs imposed on the power system, then it is likely that the total costs of operating the system, and hence customers' bills, will be higher than necessary.

We would be happy to discuss these issues in more detail if helpful. Please contact Tony Diccico at: tony.diccico@es.catapult.org.uk

Key Points

- ***Charging market participants to recover past expenditure on the power system is a "zero sum game".*** As these costs have already been incurred, they are a fixed sum. Hence, any investment by a market participant with the objective of limiting their exposure to these costs will tend to increase the cost of the system as a whole and lead to increased costs to customers in general.
- ***Charging for Generators should be based on the costs that they impose on the system.*** The location of the boundary between transmission and distribution is not clear-cut, as illustrated by the choice of a different threshold in Scotland compared to England and Wales. Hence, there is little logic in having two separate charging regimes depending on which side of this boundary a generator sits. To do so runs the risk of distorting investment decisions in order to gain access to the regime that is perceived to be more attractive, to the detriment of overall customer costs. This issue is explored in our aforementioned report on cost reflective

pricing. Rather, a single regime should be used where all generators are subject to charges that reflect the costs that they impose on the power system.

- ***The new arrangements should not deter customers with smart meters from moving to “time of use” tariffs.*** If a customer with a smart meter moved to a “time of use” tariff, it is not clear whether this would change their LLFC which would, in turn, alter their liability to residual charges. It would be undesirable for the new charges to create a barrier to the adoption of “time of use” tariffs.
- ***It is important to have incentives for a party to release un-needed access rights in constrained parts of the network if another party is willing to take them on.*** While there is no value in market participants acting to limit their use of the distribution network in areas where there is sufficient capacity, there is value where another participant is willing to take on those rights and the alternative is network reinforcement. While this can be achieved via other approaches than network charging, for example trading of capacity rights, the incentives on participants to relinquish rights they are not using should be reviewed in the light of the proposed move to fixed charging for residual costs.

Detailed Response to Questions:

Q1. Do you agree that residual charges should be levied on final demand only?

1. Yes. Any charges levied on generation will be passed on to end users in any case, so this decision avoids unnecessary complication and the risk of creating distortions between different classes of generator.

Q2. Do you agree with how we have assessed the impacts of the changes we have considered against the principles? If you disagree with our assessment, please provide evidence for your reasoning.

2. We broadly agree with the assessment of changes carried out. There is a second order issue that we think is worthy of further consideration; while there is no value to the distribution network in customers not using capacity that has already been built, there is value in transferring capacity between participants if this avoids the need to construct new capacity. While we support the proposed use of fixed charges over agreed capacity charges, this decision will increase the importance of creating other incentives to release capacity that another user is willing to pay for such as capacity trading.

Q3. For each user, residual charges are currently based on the costs of the voltage level of the network to which a user is connected and the higher voltage levels of the network, but not from lower voltage levels below the user’s connection. At this stage, we are not proposing changes to this aspect of the current arrangements. Are there other approaches that would better meet our TCR principles reducing harmful distortions, fairness and proportionality and practical considerations?

3. Customers may argue that a distinction should be made between those being supplied directly from the 400V side of a transformer compared to those connected to the associated 400V network. The former could argue that they have provided their own 400V distribution system and so should not contribute to the costs of the public 400V network. Alternatively, they could seek to purchase the transformer and become connected at 11kV. A similar argument can be made by customers who are supplied via a dedicated transformer at any voltage level.

Q4. As explained in paragraphs 4.41, 4.43, 4.46, 4.49, 4.80, we think we should prioritise equality within charging segments and equity across all segments. Do you agree that it is fair for all users in the same segment to pay the same charge, and the manner in which we have set the segments? If not, do you know of another approach with available data which would address this issue? Please provide evidence to support your answer.

4. There are two potential issues with the proposed charging approach:
 - a) Will the introduction of time of use tariffs via smart meters introduce another LLFC for domestic customers, or will all domestic customers on time of use tariffs be allocated to the “white meter” LLFC.
 - b) As noted in paragraph 4.47 a transmission connected plant would pay the same whether its capacity was 2MW or 200MW. Smaller sites may argue that this is unfair. One approach to remedy this without creating a widespread incentive to install on site generation would be to charge by existing supply capacity and to only allow customers to lower their capacity if another customer in the area was willing to make a corresponding increase. In other words, network capacity could be transferred between customers, but not unilaterally reduced.

Q5. Do you agree that similar customers with and without on-site generation should pay the same residual charges? Should both types of users face the same residual charge for their Line Loss Factor Class (LLFC)?

5. Yes, the allocation of residual costs is a “zero sum game”. Hence, it is important not to create customer incentives that are based on the reallocation of costs to other customers rather than a reduction in the cost of operating the network.

Q6. Do you know of any reasons why the expected consumer benefits from our leading options might not materialise?

6. No. It is worth noting that some of the generation benefiting from the current arrangements is low carbon. While it is entirely legitimate to promote low carbon generation, it should be done in a way that is transparent – not a “hidden” subsidy, efficient – so it only applies to low carbon generation like solar PV and does not create a barrier to customers moving from fossil fuels and onto low carbon electricity. Similarly, while the impacts of any changes on those in fuel poverty must be considered, there are other mechanisms for providing support that do not distort prices for all customers.

Q7. Do you agree that our leading options will be more practical to implement than other options?

7. Yes, it is important to limit the scope and complexity of the changes to manage the associated costs.

Q8. Do you agree with the approaches set out for banding (either LLFC or demanding for agreed capacity)? If not please provide evidence as why different approaches to banding would better facilitate the TCR principles.

8. Yes, with the reservation noted above about customers with smart meters potentially moving from one LLFC to another if they accept a time of use tariff.

Q9. Do you agree that LLFCs are a sensible way to segment residual charges? If not, are there other existing classifications that should be considered in more detail?

9. Yes, with the reservation noted above about customers with smart meters potentially moving from one LLFC to another if they accept a time of use tariff.

Q10. Do you agree with the conclusions we have drawn from our assessment of the following? Please be specific which assessment you agree/disagree with.

a) distributional modelling

10. Yes, with the reservation that the impact on heat pumps could become significant. The modelling work supporting the Catapult's report on cost reflective pricing in energy networks indicated that heat pumps should have a lower marginal cost of heat than gas boilers. As the prices of the two technologies converge and (potentially) cross over, small changes in price could drive large changes in customer behaviour.

b) the distributional impacts of the options

11. We agree that the distributional impact of the options would be small, with the exception of those who's onsite generation is currently limiting their exposure.

c) our wider system modelling

12. As identified in the consultation document, the estimates of the savings to be expected are uncertain because they depend upon uncertain predictions of the future. However, in each case there is a saving, as would be expected from a qualitative analysis of the situation. Arguably, the forecast savings could be an understatement if, in the case with no reform, there was continued investment in generation on the customers' side of the meter. Each such investment would increase the costs to users without generation and thus raise the incentive for them to follow suit.

d) how we have interpreted the wider system modelling?

13. We broadly agree with the interpretation of the analysis. The allocation of residual costs between customers is a "zero sum game" and hence any investment with a business case that

depends on avoiding them will increase the total cost of operating the system as a whole. This cost will be compounded if the business case requires the running of less efficient plant at the expense of more efficient plant.

Q11. Do you agree with our proposed approach to the reform of the remaining non-locational Embedded Benefits?

14. The current distinction between transmission and distribution is arbitrary, as demonstrated by the choice of a different cut off point in Scotland. We believe that generation charging should reflect the costs that the generator imposes on the system rather than whether they are transmission or distribution connected. The latter runs the risk of distorting investment decisions to take advantage of the scheme which is perceived to be more attractive. On this basis we support the proposed changes to Transmission Generation Residual Payments, BSUoS charges: payments and BSUoS charges: avoided charges.

Q12. Do you agree with our proposal not to address any other remaining Embedded Benefits at this stage? Which of the embedded benefits do you think should be removed as outlined? Please state your reasoning and provide evidence to support your answer.

15. As described above, in principle, we believe that generator charging should reflect the costs imposed on the power system, rather than where the connection is in relation to the transmission/distribution boundary. However, from a pragmatic point of view, we can understand a decision to prioritise the reform of the higher value embedded benefits.

Q13. Are there any reasons we have not included that mean that the remaining Embedded Benefits should be maintained?

16. Not that we are aware of. If the principle is accepted that charges should reflect the costs imposed on the system, then the distinction between transmission and distribution should be unnecessary.

***Q14. Do you agree with our proposed approach to transitional arrangements for reforms to:
a) transmission and distribution residual charges b) non-locational Embedded Benefits?***

Please provide evidence to indicate why different arrangements would be more appropriate.

17. We have not done any analysis on potential transitional arrangements and hence do not have a view.

Q15. Do you agree with our minded to decision set out? If not please state your reasoning and provide evidence to support your answer.

18. We agree with the minded to decision.

Q16. For our preferred option do you think there are practical consideration or difficulties that we have not taken account of? Please provide evidence to support your answer.

19. We think that it would be preferable that a customer with a smart meter did not see a change in their LLFC, and hence their residual charges, as a result of moving to a time of use tariff.