Sustainability first

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Ofgem Call for Input on Locational Pricing Assessment

Sustainability first is a charity and think-tank focussed on social and environmental outcomes in essential services. We have a track record of engagement on complex regulatory issues in energy including the RIIO price controls, network charging and wider issues around affordability and fairness.

Drawing on this experience we would like to make a few high-level comments on locational pricing - in particular on the customer impacts and fairness and on scope and sequencing - before turning to the specific questions Ofgem has raised. We note the reports that have been produced on the topic by the Energy Systems Catapult[1] and the ESO[2] which discuss some of the key issues but also have some notable gaps.

Customer impact and fairness

We have consistently argued (for example in our What is Fair? Report) that the underlying charging structures need to send the right price signals to encourage the demand side to play the invaluable role needed if we are to achieve net zero efficiently. However radical reform on this scale would create significant winners and losers. It is therefore important that the consumer voice is brought into these debates – they cannot be left to technical discussions in industry dominated working groups.

As such we have informally put to BEIS **the need for some form of consumer / citizen / environmental standing forum** to help civil society groups engage on the range of electricity market reform proposals within the scope of REMA, recognising the limited resources these groups have and the specialist nature of the issues involved. Ofgem's assessment of locational pricing falls within this category and it is vital Ofgem considers how best to engage these wider stakeholders.

In particular the ESO report touches on the issues around "**fairness**" which it describes as "highly subjective". Sustainability First, as part of its work on Sustainability Principles, has looked in depth at the question of fairness, including the concepts of equality and equity, and the links to affordability. A key conclusion is the vital need to engage with civil society and build a consensus on what fairness means in a particular context and the outcomes sought (ie the **process** itself is key to fairness). We would be happy to talk Ofgem through our work in this area if that would be helpful.

[1] https://es.catapult.org.uk/report/locational-energy-pricing-in-the-gb-power-market/

[2] https://www.nationalgrideso.com/news/new-eso-report-finds-electricity-market-reform-critical-delivery-future-system-affordable

As an example, we would note that regional variations in network charges have been a contentious issue over many years[3] – and indeed the Hydro Benefit scheme is an acknowledgment of the fact that significantly higher costs for customers in particular geographies is not seen as fair and has not been seen as politically acceptable.

Under locational pricing we would expect there to be significant "boundary fairness" questions where customers find themselves on physically on the "wrong side" of a Transmission boundary and may be able to do very little to address the problem. This would raise fundamental questions of fairness not just for individuals but also for local authorities, businesses and communities.

The idea of smaller customers opting in to locational pricing is presented by both the ESC and the ESO as an approach that has been adopted elsewhere to deal with this issue. However, as noted below, it is unclear how far the US experience reads across to GB given different market structures. Moreover, if given a choice about whether to accept locational price differences, it would seem obvious that customers in lower priced locations would opt in, leaving others paying more – ie it does not seem to solve the fairness problem. We would also encourage Ofgem to look at the learnings from the proposed move to market wide half hourly settlement which raises similar issues.

While the workshops slides suggest that Ofgem's focus in relation to the demand side is limited to I&C customers, the treatment of domestic customers has to be addressed as part of any policy decision. These fairness questions – balanced against the need for appropriate price signals – do therefore have to be considered.

Scope and sequencing

As we understand it, the scope of REMA and of Ofgem's work is looking purely at the **wholesale market**, not at **transmission charging**. However, if the proposed reforms are aimed at reflecting the impacts of transmission constraints in the costs that generators and flexibility providers face, we would have expected the two topics to go hand in hand. We would appreciate clarification from Ofgem on the scope of its work and its **fit with REMA**. This may have been made clear at the Ofgem workshop but was not clear to us from the published materials.

More generally in looking to put market and pricing arrangements in place which are fit for a net zero world we have consistently stressed the need to **look holistically** at the range of reforms needed, how they fit together and what the appropriate sequencing would be. The range of related reforms in our view include:

- Retail market reform (if we are dependent on suppliers to pass on price signals);
- Generator connection queues;
- Transmission network planning reform;
- The capacity mechanism;
- Distribution network charging (and the move to socialise connection charges which seems to be a step away from locational price signals)
- Engineering standards review.

While we recognise that this project is narrowly focussed on the cost-benefit assessment of potential locational charging reforms we hope that Ofgem will work with BEIS to present that bigger picture.

[3] Prompting for example this paper by Ofgem back in 2015

Q1 - Key Opportunities associated with introduction of more granular locational pricing in GB

As we understand it, Ofgem is looking in particular to explore the case for locational marginal pricing (LMP) in a UK context.

The arguments for such an approach are that by incorporating network constraint cost signals into the energy price this will encourage generation to locate and dispatch where it is most cost effective from a whole system perspective, reducing what otherwise are likely to be growing constraint costs.

There would also be a clear signal for flexibility services (such as storage) to locate where they can provide most value to the system.

What is less clear is how this would impact on demand in terms of location decisions, demand reduction (energy efficiency) and demand side response (DSR).

There clearly are opportunities to encourage large demand loads (such as data centres) to locate in areas where there is excess generation. However, it is unclear whether the levels of price signal that locational charging would give are sufficient to prompt such re-location.

In general demand is unlikely to change location in response to such price signals. What locational pricing could do however would be to ensure that time varying price signals are appropriate to different locations to avoid driving what might be unhelpful DSR in particular regions, that could potentially exacerbate constraints.

While the opportunities are clear in theory it is important that the decisions that Ofgem takes are underpinned by evidence of how suppliers might be expected to pass on price signals and how consumers (and indeed other players) might be expected to respond in practice. We noted for example in our What is Fair report that even with half-hourly settlement in place in the I&C market, many customers still choose to have flat tariffs. Retail market developments are therefore key.

Even for generators and storage providers there are questions about how effective the locational price signals will be as a signal for investment if based purely on real time, short run marginal costs. As the ESO analysis shows LMP would result in a saw tooth pattern of charges which would increase progressively until reinforcement is undertaken and then drop sharply (and then start rising again). While in theory the average over time of these short run marginal costs gives the long run marginal cost which is what should drive investment decisions, it is unclear how easy it will be for investors to forecast ahead what these costs are going to be and hence to make informed investment decisions.

Drawing on the experience of the US with LMP does not necessarily read across to GB given that most markets in the US remain vertically integrated so questions about whether suppliers will pass on price signals and whether generators will be deterred from investing, do not apply. The ESC report said that more work was needed urgently to understand how the different US market structure affects their conclusions. We would support that.

Q2 - Key implementation challenges, risks and mitigations

One key risk is what this does for the overall level of investment in generation and whether the regulatory uncertainty this creates deters investment. Our assumption is that reforms on this scale would require the contracts around existing PPAs to be revised, no small challenge, and one that is likely to have a dampening effect on investment going forward. The onus is on Ofgem to demonstrate that net zero will still be met.

This also creates risks in terms of whether the envisaged cost savings could actually be delivered. Given the restrictions around planning permission for onshore wind in England it cannot simply be assumed that we can readily meet our targets with generation located nearer to demand. The ESC includes in its recommendations the need for reform of planning rules. This reform is needed and absent such reform, there are real risks to locational charging not delivering the benefits anticipated.

The other major risk is around the impact on domestic and small business customers and the issues of fairness highlighted above.

Q3 - Proposed approach to modelling zonal and nodal market designs

We do not have expertise to contribute in detail on this. However, we would support the point flagged in the notes from the workshop about the need to model the impacts on different groups of consumers. Indeed, we would argue that Ofgem needs to reflect on how such changes would affect different groups of domestic consumers, taking account of likely different levels of take-up of low carbon technologies and hence how different groups would or would not be able to be flexible in their use of the system. We have previously fed in comments on Ofgem's approach to assessing distributional impacts which we hope Ofgem will take on board as they look at assessing the impacts of major changes like this. Given the nature of the proposals understanding geographic distributional impacts will be of particular importance.

We hope these comments are helpful and would be happy to discuss them further if Ofgem would find that useful.

Yours sincerely

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