



Bringing Energy
Together

ADE Response to Ofgem consultation on regulatory treatment of Project CLASS | 23 March 2020

Context

The ADE welcomes the opportunity to respond to Ofgem's **consultation on the regulatory treatment of CLASS as a balancing service in the RIIO-ED2 price control.**

The ADE is the UK's leading decentralised energy advocate, focused on creating a more cost-effective, low-carbon and user-led energy system. The ADE has more than 150 members active across a range of technologies, including both the providers and users of energy equipment and services. Our members have particular expertise in demand side energy services, including demand response and storage, combined heat and power, heat networks and energy efficiency.

Response

Q1. Are there other options we should have considered? Please provide reasons.

Ofgem have set out a clear position that "generally, we do not think network companies should undertake activities that can be done by third parties", but argue that CLASS does not constitute this kind of contestable activity as it represents a network solution uniquely deliverable by DNOs.

This argument ignores the fact that, while only networks can deliver CLASS, it is just one means of providing the services to the ESO that it is being entered for; commercial providers can offer a variety of other means of providing these services. DNOs providing CLASS are therefore directly competing with commercial provision of services, while gaining a clear competitive advantage by using regulated assets to do so.

This does not allow a level playing field between network and non-network solutions. It is in clear contravention of the **Flexibility Market Principles document produced by the Open Networks Project**, which states that "where Flexibility Services are open to competition, System Operators should not be allowed to be active in that area. This is due to System Operators having part of their costs covered by regulated tariffs, subsequently carrying a lower risk profile supported by their core monopoly activity and placing the System Operator in an advantageous position over other Market Participants".

To mitigate this issue, we would put forward two proposals for consideration.

Proposal 1 (preferred)

The ADE agrees with Ofgem's position that effective competition can drive down costs. It is clear, however, that competition that is not based on a level playing field has the potential to lead to market domination and detriment to end consumers. Given that the services required by the ESO can be provided by third parties, CLASS should not be used as part of these markets.

Instead, we recommend that CLASS be used as an improved, automated Voltage Control method by networks to manage stress events. This would be used before Low Frequency Demand Disconnection (LFDD) is employed. This kind of tool could be of value during some types of stress event, potentially preventing large volumes of LFDD and disconnection of embedded generators providing essential services to the network.

Proposal 2

In order to balance the potential savings to consumers from use of CLASS today with the risk of market saturation in the future, the ADE proposes that during the RIIO-ED2 period, the volume of DNO tenders that can be accepted by the ESO be capped at 10% of the total MW of accepted bids. This would not be technology-specific but rather focused on provision of any balancing service by regulated monopolies. For example, if another innovation were developed by the DNOs that still allowed them to provide firm frequency response but in a different way, this would also be subject to the cap.

This will enable assessment of the scale of CLASS and its effect on the market. If Ofgem's view is right, and the amount is relatively small, this will promote competition and benefit end consumers without hitting the cap. If the risk of substantial volumes entering into markets and causing market dominance is correct, the cap will be hit and negative outcomes for competition and the end consumer averted. Ofgem would then review this cap, and the issue of CLASS service provision in general, at the end of the RIIO-ED2 period. This proposal is intended as a precautionary measure – recognising that the potential volumes and risk of market dominance by the DNOs in these markets is not at all well understood. The cap would be in place for the RIIO-ED2 price control with a review for 2028. We expect that at 2028, Ofgem and industry will have a much better understanding of the development of this service and can therefore make a more reasonable decision on an enduring solution.

Q2. Do you agree that market-based mechanisms can provide the most efficient incentive for CLASS participation in balancing services?

The ADE believes that the participation of CLASS in balancing services should be prohibited, regardless of the mechanism.

We do, however, agree that market-based mechanisms are slightly less detrimental than the provision of CLASS as a price-controlled activity. As Ofgem note, the latter approach would be extremely detrimental, significantly undermining a liquid, competitive market, as the ESO would always use CLASS first.

Q3. What is your view on DNOs' sharing profits with consumers, even if this means consumers are also exposed to DNOs' losses (including how this might affect DNOs' competitive behaviour noting this is different to other providers of balancing services)?

The proposal that DNOs share profits and losses with consumers clearly risks significant consumer detriment and has the potential to distort DNOs behaviour. It would also give them a clear, and potentially illicit, competitive advantage in comparison to commercial providers, allowing them to behave like aggregators without needing to seek permission from users or face the same obligations as commercial providers.

For example, aggregators who shift a site's or home's demand to provide frequency response or reserve to National Grid must clearly have explicit permission from the site to do so and the site must actively sign a contract agreeing to a share of the losses or revenues. In the case of the DNO providing such a service, there is no requirement on the DNO to seek permission from users. Secondly, whilst a DNO will be exposed to some loss through the sharing factor, they will

not be exposed to its entirety and overall, are exposed to significantly less financial risk than a commercial entity as a result of the price control.

This has the potential to drive behaviour by the DNOs to maximise their ability to offer balancing services to the ESO through CLASS without clear engagement with or support from users and with more aggressive pricing than the DNOs' consumers may be prepared to absorb through increased tariffs, if they were consulted.

Further to this, it may create perverse incentives for DNOs to limit competition from commercial providers for frequency response and reserve services where they connect at Distribution. This could be through, for example, creating overly onerous connection or testing requirements or delaying connections where new DSR, storage or generation could offer the same services to the ESO. This is particularly pertinent given the newness of the G99 requirements and significant differences in scope between DNOs currently and that there are no significant financial penalties on the DNOs delaying new connections currently.

There is clear precedent for Ofgem refusing to allow a DNO to develop DNO-led DSR, with customers on their network participating in DSR schemes. In Ofgem's **ruling on Project Entire**, they prohibited WPD from offering stacking and asset management services to customers. Ofgem ruled that these elements fell into the realm of aggregation, and that they should remain part of competitive markets, while WPD focused on developing market-complementary services.

CLASS falls into the same realm, given that it relies on the aggregation of capacity, which is not owned by the DNO, connected at a substation, across multiple substations via a central point of control to provide commercial services. Ofgem have previously defined independent aggregators **here** as "parties who bundle changes in consumers' loads or distributed generation output for sale into organised markets"; CLASS provision clearly fits this description.

Q4. How might limits on charges to the ESO in DRS9 affect investment and utilisation signals for CLASS?

The ADE does not believe that this is an appropriate option to explore.

Q5. Do you agree that requiring CLASS in the price control would not promote efficient investment signals in CLASS and could distort competitive outcomes?

The ADE agrees with Ofgem's view on this.

Q6. Do you have evidence CLASS could affect the likelihood of system reliability issues?

There is a risk that CLASS could increase the likelihood of system reliability issues in the medium-term, as allowing it could lead to market domination and saturation, thereby weakening the signal for commercial providers to invest in flexibility solutions and enter markets to provide them. This would mean that commercial providers were crowded out of markets, creating a scenario where system reliability would be based on an extremely limited pool of providers, with the associated risks.

There is also a risk that the interaction between DNO operation of CLASS and the behaviour of industrial and commercial (I&C) customers has not been fully considered, which could result in unexpected customer behaviour, leading to energy waste and potential issues with the reliability of the service. This interaction could manifest in two ways:

1. Some I&C customers are likely to respond to occasional demand drops by permanently raising the voltage on their own sites, resulting in more energy waste. Many transformers are located not on distribution networks, but on I&C customer sites, and the tap settings on these transformers are under customers' control. The ADE is aware of customers

dealing with low voltages on the distribution network, where this has not been adequately resolved by the DNO, by increasing the tap settings on their own transformers. This 'bakes in' higher losses on customer sites. CLASS increases the risk of customer tap-changing in response to operational problems incurred on their sites as a result of periodic CLASS-driven voltage reductions. This could lead to increased energy waste and higher bills to consumers.

2. There is likely to be less voltage reduction available to the DNO without disrupting customer operations than forecast. This is because many commercial energy managers have already changed taps on their own transformers or installed more complex voltage optimisation technology. If DNOs are unaware of these decisions, CLASS could result in disruption to customer operations and unreliable service provision to the ESO.

Q7. Do you have evidence competition is currently being distorted or impeded by the participation of CLASS? Do you agree with our assessment that it is unlikely DNOs have or would have market power in future, and the reasons we have provided in Appendix 2?

The ADE disagrees with Ofgem's assessment that it is unlikely that DNOs would have market power in the future. We believe that there is clear evidence of the risk that DNOs could achieve market power to an extent that would be damaging for competition and market confidence, with a consequent negative impact upon end consumers.

The **feasibility and scoping studies developed in preparation of the CLASS Full submission** estimated that Electricity North West (ENW) could deliver up to 170MW via CLASS, thereby displacing up to 40% of tendered Frequency Reserve. Extrapolating to the UK, the CLASS feasibility studies suggested that the whole of the Frequency Reserve requirement could be provided by DNOs.

The provision of ancillary services by DNOs has also been highlighted as a key commercial arrangement in documents such as **SP Energy Networks' DSO Vision**, indicating that other DNOs are likely to invest in provision of CLASS-style services. A **2016 presentation by ENW** modelled potential CLASS deployment growing from 180MW in 2014-15 to 3GW in 2027. Given the scale of this potential growth, it is surprising that Ofgem do not foresee a risk of DNOs having market power in the future.

Q8. What information could the DNO have privileged access to that that could offer it an unfair advantage in balancing services provision? How might this change in future if the DNO and ESO increasingly coordinate?

The DNOs are likely to have privileged access to National Grid Control Room planning and actions; including potentially ESO demand and its procurement strategy for reserve and response services ahead of time. This information is not available to commercial participants in these markets. The DNOs and ESO are also required by the conclusions of the Energy Data Task Force to work together in the future to align their Future Energy Scenarios work. The ADE welcomes these requirements but there is a clear risk that DNOs will be able to access network information in the process, with a resultant advantage when determining their commercial position in balancing services provision.

Q9. What measures would you consider effective and proportionate to ensure that privileged information the DNO has access to is not used inappropriately to benefit the commercial performance of CLASS?

In this case, the ESO would need to publish the same network planning and operations data, including their procurement strategy for reserve and response, to the entire market that they share with the DNOs. Many participants, however, are not currently set up to deal with this level of detailed network planning. DNOs are therefore likely to retain a significant competitive advantage over other market participants. Ofgem should consider how to address this issue in more depth.

Q10. In what other ways do you think DNOs could take advantage of their DNO role in the context of providing balancing services with CLASS?

There is a risk that DNOs could face a conflict of interest when connecting new customers to networks where they are providing CLASS. DNOs are permitted variations in network voltage levels to ensure efficient use of circuits and connection of customers at reasonable cost. On a network where CLASS is active, the network is likely to already be reaching the limits of tolerable levels during activations. When a new customer wishes to connect to the network, the DNO will consider the consequent voltage swings. In many cases, the new customer will be likely to exacerbate the extreme voltages, as customers with similar behaviour tend to cluster together, for example industrial customers on industrial estates and wind farms in windy areas.

The DNO would then face a conflict of interest when determining the cost of connection. They could connect the customer under traditional appraisal methods, but this would reduce the DNO's ability to reduce the normal voltage at the edge of the network, thereby allowing freedom to set voltage at the substation and earn CLASS revenue. Or they could charge the customer a share of the cost of an upgrade which would enable the DNO to continue earning CLASS revenues, such as installation of larger-diameter conductors; the cost of this connection would be higher than under traditional appraisal methods. Allowing DNOs to provide CLASS therefore creates an obvious conflict of interest when connecting new customers.

A further issue concerns the potential for baseline manipulation involved in the DNOs providing CLASS as a commercial service. If it has been demonstrated that CLASS can be employed without customer impact, this suggests that, for many hours in the year, the voltage on the network is currently being held too high, thereby wasting energy. It is a key principle of demand-side response that energy efficiency should be reasonably maximised before demand response is employed; any other approach is artificial demand manipulation. This principle should apply just as strongly to DNOs as to commercial providers. If this is not the case, there is a risk that CLASS would incentivise DNOs to hold distribution network voltage at a level above that needed to secure customer supplies, purely with the intent of providing a commercial service by subsequently dropping the voltage. Instead, energy efficiency should be maximised in the periods where CLASS would have been employed, with clear rules around baselining.

Baseline manipulation has not been explicitly prohibited, except in the Demand Turn Up service, as it has not historically been a major problem to the ESO. This is because baseline manipulation is a cost to energy consumers which far outweighs the revenue obtainable from any resulting flexibility. This consideration does not apply for DNOs, who could raise their revenues via baseline manipulation for CLASS. While this could be corrected in the long-term by residual DUoS charges, to the extent that these are accurate, there is a clear risk of double payment in the short-term and an incentive to waste energy.

Q11. How far do you think existing safeguards (including licence obligations and competition law) against DNOs taking advantage of their DNO role in the context of participating in the balancing markets with CLASS are sufficient?

The ADE does not consider them to be sufficient. There is no clear procedure that DNOs are required to follow to prove that they are not taking advantage of their monopoly position.

Q12. What additional measures would be effective and proportionate to address actual or perceived risks of DNOs taking advantage of their DNO role?

If DNOs are allowed to provide CLASS and alter the voltage of consumers and non-domestic sites, an additional measure might be, for example, to require the DNOs to seek active permission through new connection agreements and by retroactively amending connection agreements with their customers to explicitly set out that the customer is agreeing to be exposed to losses in the form of higher tariffs as well as gains in the form of lower tariffs and that within a certain range, their voltage will be affected.

Ofgem and NGESO should also consider how baselining would work, and how to account for balancing actions being performed by commercial providers at the same time at CLASS activation were happening. It is essential that DNOs are only paid for the actions that they are taking, and that commercial providers' service provision is correctly measured and rewarded. In a scenario where multiple customers are behind a CLASS-enabled substation and are providing similar services, this baselining is likely to be complicated. DNO provision must be properly metered and baselining, with live operational metering at the point of delivery and regular audits by NGESO.

Q13. Are there other specific effects to competition that are relevant to our decision? What effects would these have on consumers?

As the ADE and others have previously argued, we do not agree with Ofgem that the risk of DNOs dominating the commercial market to the point of monopoly is insignificant. To reiterate the CLASS project's own feasibility studies and project material, ENW has stated publicly previously that it could deliver up to 170MW via CLASS, thereby displacing up to 40% of tendered Frequency Reserve, and that ultimately CLASS could scale up to 3GW by 2027. It would be useful to understand the level of provision from commercial, non-DNO participants that Ofgem expects to be awarded contracts if this order of magnitude of potential is correct.

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