

Energy UK response to Ofgem's consultation into the Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control (2022 consultation)

The consultation

In this [consultation](#), Ofgem set out and invite views on its minded-to position for the regulatory treatment in RIIO-ED2 of DNOs providing network voltage control and network management services, via the remote management of deployed network assets, to the electricity system operator for its balancing services activity.

Since 2016, DNOs have been allowed to sell balancing services to the National Grid Electricity System Operator (ESO) through remote voltage management at substations. This service is commonly referred to as Customer Load Active System Services (CLASS). CLASS can only be provided by DNOs as it requires the use of existing distribution network assets

Ofgem previously consulted on the same 4 regulatory options for CLASS in 2020.

Energy UK's previous response (2020)

In its response to the 2020 consultation, Energy UK did not support Ofgem's 'minded to' to allow CLASS to compete in competitive markets in the ED-2 period under regulatory class DRS8 decision. This decision was made because most members felt that allowing regulated monopolies to leverage their position to influence competition in a contestable market conflicted with Ofgem's requirement promote effective competition.

About Energy UK

Energy UK is the trade association for the energy industry with over 100 members spanning every aspect of the energy sector – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership. We represent the diverse nature of the UK's energy industry with our members delivering nearly 80% of the UK's power generation and over 95% of the energy supply for the 28 million UK homes as well as many businesses.

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Executive Summary

Energy UK welcomes the opportunity to respond to this consultation. However, as in 2020, Energy UK is not able to support Ofgem's 'minded to' decision to allow CLASS to proceed in RIIO-ED2 as regulated under DSR8. Given a complex range of views across membership, please find some additional detail on the range of views represented to Energy UK by its members, after which we have included responses to the consultation questions.

The vast majority of Energy UK's members hold a position of opposition in principle to the use of CLASS in ESO markets, a position historically shared by Energy UK itself. CLASS participation in markets is viewed by those members as unfair, anti-competitive and in conflict with Ofgem's principle that regulated monopolies should not be involved in the provision of flexibility services.

However, despite this 'opposition in principle', a small majority of members were prepared to explore under what conditions they could support a version of Option 1a in which mitigating measures, to reduce perceived and potential risks to market investment and competition, were implemented alongside the decision.

Members suggested the following mitigating measures which some felt could allow the market to explore the potential of CLASS but without what they saw as the clear risks to the market (and therefore ultimately to consumers too).

Mitigations proposed included:

- i) A cap to prevent CLASS accounting for more than 50 percent (for example) of any single market.
- ii) A reduced profit share for CLASS participants (down from 50 to c. 10 percent). This number was suggested as a useful value in relation to the average profit retained by aggregators in contract with consumers). By reducing the inherent advantage of CLASS, most members felt this would help to 'level the playing field', improve competition and ensure that CLASS would be concentrated in the most economically effective areas.
- iii) Regular monitoring and an annual review process.

There was some willingness to explore this and a view from some that, if there was a potential for customer savings via CLASS then this should be explored. Concerns about the current energy crisis and impact on consumers were a factor in this consideration. Where members did not support this approach they were concerned about the principle, the precedent this sets and that support for any version of the 'minded to' position risked both investment in the UK market and higher future costs to consumers.

Whilst this small majority of members could have supported such a position (support for 1a on the basis on the mitigating measures), the same number felt that such a position had clear risks regardless of any mitigation measures, and that a position prohibiting CLASS in ED2 would be the lower risk option for both the market and consumers overall.

Whilst a number of members could have backed a position that supported either view, Option 3: Prohibition scored slightly better on both first preferences and on 'red lines' – fewer members indicated that they would be *unable* to back a prohibition stance.

This mixed picture is further complicated by a general agreement across the vast majority of members that members were being asked to make a decision without adequate information and that the impact assessment should be recommissioned before any further action was taken in this area. A larger majority supported this view than either of the other two positions.

The main issues cited were:

- i) The economic modelling only dealt with half the apparent risks. Most members felt that the 'minded to' decision risks market investment, competition and diversity, but there was no attempt to model the impacts here. Most members felt that (at least some) modelling here is both feasible and essential to ensure that any decision does not lead to higher overall costs.
- ii) The IA did not compare how CLASS might perform compared with alternative uses for CLASS. An NPG trial here suggests that consumer benefits could be much larger here (£20 compared with £0.3-£1.24 per customer p.a). The two functions makes use of the same assets and voltage and therefore competes with the ENWL approach to use of CLASS assets. The 'minded to' decision would

incentivise DNOs to deploy CLASS over voltage optimisation - potentially closing down an avenue for higher consumer benefits. Energy UK accepts that there may be valid reasons why alternative uses were not considered but as this was not covered in the IA, members are concerned that alternative uses have been overlooked.

- iii) Concerns with the overall accuracy of the IA. The IA forecasts 50 percent of the savings to come from Dynamic Containment (DC). CLASS has not participated in this market to date and stakeholders have queried the economic efficiency of CLASS for both this and the related Dynamic Regulation (DR) and Dynamic Moderation (DM) markets. If these markets are either less attractive or less efficient for CLASS participants, then it could significantly alter the rationale for proceeding. Whilst members accept that the very low costs for CLASS participants could still mean that returns are possible even in suboptimal markets, if the underlying assumptions about how CLASS will operate in the market are inaccurate, then further work would be needed here before a decision can be made.

Given this nuanced mix of members views, Energy UK's overall position is that it cannot support Ofgem's 'minded to' position. A strong majority of members feel that the evidence presented for the 'minded to' decision is not sufficient to justify the position, and that if it goes ahead without strong mitigating measures in place to safeguard investment, competition, market diversity and the cumulative impact of 'wear and tear' on the relevant assets that it risks exposing consumers to higher overall costs.

There was frustration amongst members that more progress has not been made in this area since the last consultation in 2020. It is a difficult area for all parties but members feel that tensions could be reduced if there were efforts at greater transparency and closer working with industry. Energy UK is happy to support closer working in this area.

1. Overview of member views

The next section summarises member views on key themes.

Members agree that the potential for consumer benefits should not be ignored. Members agree that since CLASS uses existing assets and has no fuel bills, that it has the potential to deliver bill savings to consumers. Members agree that these savings are particularly pertinent in the context of escalating energy bills.

However, members also feel that the following questions need to be addressed before CLASS is extended to RIIO-ED2 on the proposed basis:

- A. Could the long-term costs outweigh the short-term gain?** This could occur if the decision:
- ii) reduced investment into other technologies and services needed for the transition
 - iii) reduced the competition needed to drive innovation
 - iv) reduced system resilience
 - v) had a cumulative impact on assets that outweigh the modelled benefits

B. Is CLASS the best way to use DNO assets to benefit consumers?

C. Can any identified risks from the decision be successfully mitigated?

The next section summarises member views on each of these questions

A. Could the long-term costs outweigh the short-term gain?

The IA focusses on the potential benefits but does not model the future impacts on the market in any meaningful way.

i) Risk to investment

The ED2 price control period is also a critical period for investment in emerging flexibility technologies and services such as demand-side response (DSR). Recent analysis by [LCP](#) suggests that by 2030 the UK will have an oversupply of electricity 53 percent of the time. To ensure that this does not increase balancing and constraint payments (and push up consumer prices), LCP estimate that 53GW of supply-side flexibility will be needed. Investment in emerging services such as DSR will play a key role here.

Whilst the DSR market is currently small, providers use the more lucrative Response and Reserve markets such as Fast Frequency Response (FFR) to revenue stack. The experience of ENWL in ED1 showed that it quickly gained a significant market share in this market, and can be reasonably expected to continue to do so.

If investors have valid concerns for anticipating that CLASS, as a suite of services, has the capacity (3GW) and low enough costs to dominate certain ancillary markets, for example, then they will direct their investment to markets deemed as lower risk and potentially other jurisdictions.

ii) Risk to competition and innovation

The IA suggests that if CLASS participants dominate some markets, competition will be served if there are still six participants competing against each other to drive down prices.

Members acknowledge this impact but dispute the narrow framing of 'competition'. In the context of the energy transition, the market is the best tool for driving innovation in new technology, products and services. Members do not agree that this necessary drive for

innovation nor the long-term interests of consumers will be best served by a view in which six CLASS participants completing against each other using the same technology and software platforms is seen as a sufficient level of competition.

iii) Risk to system resilience

Energy UK spoke to the NG ESO to gain some clarification about member concerns about system resilience. NG ESO clarified that single markets dominated by similar technologies using the same software platform would constitute a risk to system resilience, but one that NG ESO felt confident that could be addressed within existing NG ESO powers.

iv) Cumulative costs in long-term outweigh the benefits modelled for ED2

Members highlighted that even if a tiny fraction of the wear and tear from CLASS were born by the regulated rather than the commercial part of the business then it could constitute a competitive advantage that could outweigh the modelled benefit. In practice, it would be difficult for the participant to apportion these costs.

Similarly, with consumer assets, low levels of wear and tear would be unlikely to be picked up by customers especially since (unlike commercial aggregators) CLASS participants do not need to seek permission from customers or to alert them to when CLASS activity will happen.

Members did not feel that the IA dealt with this adequately.

If CLASS does proceed in ED2, members urge that better visibility and reporting is developed here.

B. Is CLASS the best way to use DNO assets to benefit consumers?

ENWL in ED1 showed that CLASS can undercut competitors and quickly achieve a strong position in the markets it has entered to date. However, as our response to Q1 sets out, it is not clear that the benefits modelled in the IA will materialise (though members acknowledge that does not rule out scope for consumer benefits).

A more fundamental concern is whether CLASS is the best use of the DNO assets. Here members highlighted the voltage optimisation trial by Northern Power Grid's [Boston Spa Energy Efficiency Trial](#) (BEET).¹ This suggested that that voltage optimisation across the NPG network could deliver a £20 p.a. per customer - significantly higher than modelled benefit of CLASS of £0.30 to £1.24. As voltage optimisation cannot be sold as a competitive service, this decision could incentivise CLASS participants to use their assets in a sub-optimal way for consumers.

Given the lack of modelling into impacts on future markets, the potential inefficiency of CLASS in DC, DM and DR and importance of modelling CLASS against alternative, potentially conflicting uses of CLASS assets, members would like to see the IA recommissioned before any decision proceeds so that the basis for the decision is clear.

C. Can any identified risks from the decision be successfully mitigated?

Whilst Energy UK does not support the 'minded to' decision, all members felt that mitigating measures were necessary if the decision is implemented. Whilst a minority would support lighter touch measures such as integrating a monitoring process and an annual review, most

¹ WPD conducted a similar trial in South Wales

members felt strong measures such as a cap and much lower revenue cap would be necessary.

2. Response to questions

Q1: Agree Impact Assessment approach is proportionate and balances trade-offs between impacts and cost of doing further analysis?

No.

The IA outlines potential benefits of an expansion of CLASS without balancing these against the potential risks.

By doing this, the IA assesses only one side of the picture – putting the impacts in a ‘too hard to model’ box.

It is unclear why modelling has not been attempted here. The impact on ancillary services under different scenarios for example, could be modelled by a range of approved Ofgem vendors. Energy UK notes that the tender specification for the economic assessment does not include modelling of the potential impacts.

The risks that members have identified include:

- ❖ Loss of investment into flexibility technologies and services (for example DSR) that will be vital for future markets and delivery of net zero at most efficient overall cost to consumers.
- ❖ Less vibrant markets during the ED2 period (due to a real or perceived risk of CLASS dominance of early stage markets) may not deliver the consumer propositions (for example ‘heat as a service’) that will be vital in reducing future energy costs
- ❖ An increase in the cost of ancillary services that CLASS cannot participate in. If current providers cannot ‘stack’ revenues from lower cost markets with those from more lucrative services such as Response and Reserve products then current provision may not be commercially viable. If CLASS cannot provide these services, then the system operator may need to procure these at a significantly higher cost. This impact should be considered in the economic modelling.

Part of the modelling difficulty could be resolved with a tighter definition of what CLASS is and what ESO services it is eligible to participate in given DNO license requirements.

Energy UK here notes that the definition proposed in the current consultation is wider than that used in the Ofgem-funded ENWL Innovation project. It is also unclear whether participants could be paid for ESO voltage services (or, whether the license requirement to use their assets to contribute to ‘whole system optimisation’ would preclude this).

Members acknowledge that modelling could be difficult and are not proposing exhaustive modelling. However, Energy UK feels that high-level modelling here is both feasible and would be proportionate as it would help to anticipate potential risks and where intervention might be justified.

Alternative uses for network assets

Members also highlight that pilots such as Northern Power Grid (NPG)’s [BEET](#) project on voltage optimisation suggests that there are alternative ways to use CLASS assets which could deliver higher consumer benefits.

The BEET pilot suggests that using CLASS assets to optimise voltage rather than deliver CLASS could directly save consumers £20 a year. This contrasts with an estimated £0.30-£1.24 (indirect – via BSUoS) saving with CLASS.

Before incentivising one usage (CLASS) over another (voltage optimisation) that could provide a stronger benefit for consumers, Energy UK recommends more work is carried out here by Ofgem.

Accuracy of the Impact Assessment

Members note that the IA may not be accurate on the source of the benefits.

The IA expects 50 percent of the benefit to come from Dynamic Containment (DC). Members have observed that ENWL, the only DNO to use CLASS in ED1, has not entered the DC market since it was launched 18 months ago. This was identified as an anomaly by members as it seemed that ENWL would have generated higher returns by accessing the DC market rather than using its assets in the FFR market.

A suggestion here was that the DC market impacts the tap changer technology in the substations thereby incurring higher wear and tear than other services. Energy UK's understanding here, is that the dynamism required to fulfil the DC service using CLASS technologies could be inefficient for CLASS. This may mean the DC market is less attractive for CLASS participants that envisaged in the IA. Energy UK cannot confirm this as we do not have direct access to the data required, nor has this approach been tested.

If this theory is correct, then since the other secondary FFR markets (Dynamic Response and Dynamic Moderation) are more resource intensive than DC, these too could be impacted:

- DC is triggered at 0.2Hz deviation with full capability delivered with a 0.5Hz deviation.
- DM is triggered at a 0.1Hz deviation with full delivery by 0.2Hz deviation. There is a 0.2Hz frequency deviation on average 3 times a day and there is a 0.1Hz deviation > 50 times a day.
- DR is a dynamic service, so it should be doing something most of the time.

The conclusion here, is that if this market is less profitable for CLASS participants, the same is likely to be the case for both the DM and DR markets. If this is the case, it is unclear where (outside the FR markets) the anticipated benefit will come from. Energy UK accepts that this does not mean that there will be no benefits from CLASS. However, it is important that the IA is reasonably accurate on the proposed benefits.

Given this, Energy UK recommends that the IA be recommissioned with a more comprehensive specification. This revised modelling should include benefits only over the 5-year period of the proposed decision (rather than the 30-year timeframe used in the IA).

Q2: Agree sensitivity analysis captures reasonable uncertainty over likely costs & benefits?

Members disagree that the sensitivity analysis captures reasonable uncertainty over likely costs and benefits.

Please see Energy UK response to Q1 where we set out member concerns that the underlying assumptions (the markets that CLASS can compete in) and the duration may be overstated. Given these concerns, Energy UK recommends that the IA is recommissioned to correct these and consider the impact on future markets.

Q3: Agree not proportionate for Elexon to develop solution to adjusting supplier imbalance positions via Modification process?

Energy UK spoke to Elexon to inform this response.

Members agree that a Modification was not proportionate for the ED1 period when only ENWL was providing CLASS and in a relatively limited way. If the scale of CLASS increases significantly in ED2 however then it may be proportionate.

The IA suggests there were £415,000 of imbalance charges for a 9-month period in a single DNO region (so £553,400 for a 12 month period). In the context of the total imbalance cashflow, this is small – less than 0.01% of the total imbalance cashflow. ENWL could have deployed CLASS more extensively than they did in the 5 year ED1 period. If all 6 DNOs participate in CLASS in ED2 and sought to maximise their returns, it could be expected that the supplier imbalance exceed £3.3 million (£553,400 x 6) per year or £16.6 million over the 5 year ED2 period.

The P354 documentation was the first BSC Modification that adjusted supplier positions for balancing services with impacts measured at the metering system level. Energy UK understands that this is what a BSC Modification for CLASS would seek to do and so can be used as a proxy for estimated the costs. The Final Modification Report (for P354) quotes an implementation cost of £300k for Elexon and £1.2m for NGESO, £1.5 million in total, with minimal ongoing costs for both. Given the estimated £1.5 million cost for the Modification, the estimated costs suggest that a Modification would be proportionate.

It does however, exclude the supplier costs for the Modification which may push the cost benefit into a negative overall value.

Aside from the costs, an argument from principle would support this approach. It is acknowledged that CLASS leads to a distortion in the supplier imbalance payments. Whilst these costs are not currently significant in the overall context of imbalances, there is a question of whether it is better to address a known distortion at the outset or when it becomes 'significant'.

The situation could be seen as a parallel to 'embedded benefits'. Embedded benefits were always acknowledged as a distortion but when not addressed at the outset, became harder to address thereafter.

Q4: Agree no evidence competition being distorted or impeded?

Members agree that there is no evidence from the ED1 period that that competition is being distorted or impeded. However, it is not clear that this is the most relevant question here.

Only one of the six DNOs participated in CLASS in ED1 and to a limited extent. As a comparator, this is not the best way of understanding if future expansion will be an issue.

The returns on offer and the expressed interest to date suggest that at least 4 DNOs will engage and seek to maximise their returns. As CLASS participants use existing assets to deploy CLASS, their entry costs are very low (mainly software). Unlike competitors with fuel costs or commercial aggregators who retain around 10 percent of the revenue from acting as an intermediary, the ongoing costs of CLASS are very low (not all members agree this is a legitimate parallel). Given these advantages, most members felt that CLASS could quite legitimately saturate some markets.

Some members offered their view that the first market to be impacted would be the Optional Fast Reserve market as this offers the best combination of revenues and lowest resource depletion. Once this market is saturated, it is possible, given the low entry costs, that CLASS could move to the Response and Reserve services such as Dynamic Containment and

Dynamic Moderation (potentially even if they are resource depleting as suggested in our response to Q1).

The IA highlights that the one CLASS participant to date has not engaged in any practices that are against competition law (predatory pricing for example).

This misses the point – such practices would not be necessary – CLASS has the ability to saturate some markets due to its inherent advantages as discussed earlier in this response.

The issue here is not policing the market but the necessity of intervening in this market if this decision were to go ahead to ensure more of a level-playing field and effective competition that benefits consumers (note most but not all members agreed with this).

Q5: Existing safeguards (inc. license obligations & competition law) against DNOs taking advantage of role in balancing markets with CLASS sufficient?

There are risks to market dominance from one type of technology or provider – both in terms of system resilience and competition.

The IA suggests that the system operator would act to prevent this from happening. Energy UK spoke to NG ESO to understand how this would work in practice and how the duty to retain diversity operates in practice with an obligation to minimise costs to end users.

As we understand it, there is no specific mechanism for ESO to refuse a bid because one technology is dominating a market. It must accept the lowest bid and do this in a transparent manner.

However, NG ESO could act using its duty to maintain diversified markets. This could be enacted if Ofgem, for example, noticed an impact on markets and instructed NG ESO to act. NG ESO would then commission an economic impact assessment on impacts of acting and, if warranted, could intervene. For example, placing an artificial cap on a technology type (an example here is the CCGT derogation that happened in the early 2000s).

However, NG ESO would need to see the impact before acting and would not be able to act on an ad hoc basis. Since the main risks of CLASS (impact on investment and competition leading to higher future bill costs) would not be immediately apparent, this could make it difficult for NG ESO/ Ofgem to use their powers here to effect change in a timely manner.

Given this, members urge caution and the insertion of new checks and balances if an expansion of CLASS is permitted on the proposed basis. The build up to 2030 is a critical time for investment and change and it is vital that any detrimental impacts are identified and dealt with swiftly to prevent damage to future markets.

Examples of where change has not been effected quickly enough include:

- i) Triad – the high kick-back for distributed generators compared with transmission-connected generation led to a predominance of diesel generators in the Capacity Mechanism (CM)
- ii) Carbon emission limits in the CM – these were introduced to high carbon plant (i.e. coal) from participating and may be reduced further in future.

Q6: Additional measures to address actual/ perceived conflicts of interest?

Energy UK does not support the 'minded to' decision as a basis for expanding CLASS into the ED2 period.

If Ofgem proceeds with this position however, members have recommended the following mitigating measures. Most but not all members felt that such interventions could be justified to safeguard investment and effective competition.

Suggested measures included:

- ❖ **a larger profit share for consumers.** The retained share that members have proposed for CLASS participants is initially suggested at 10 percent (down from 50 percent in Option 1a). This is based on an understanding of a typical share retained by commercial aggregators. Most, although not all members, felt this was a useful parallel and by seeking to 'level the playing field' would better serve the interests of competition and innovation. Members recommend Ofgem conduct market research into the appropriate share here by, for example, speaking to commercial aggregators.
- ❖ **A cap to prevent CLASS from dominating any single market.** Whilst work would be needed here on an appropriate level, most members indicate that they could support a cap set at 50 percent of any market. This intervention can be justified on the basis of the need to de-risk the investment required for energy system transition (note there was slightly less support for a cap than for a higher profit share for consumers)
- ❖ **Annual review and improved visibility of CLASS.** This could include monitoring of the number of market participants with that this information being made publicly available in one accessible format (for example, a live register for market participants to review)
- ❖ **Clarification on the definition/ limits to CLASS and services it can fulfil** without conflict with existing license conditions. This would reduce regulatory risk for investors in other flexibility technologies

Members do not support the 'minded to decision' but most felt that these measures would reduce the risk that if it proceeded, that an expansion of CLASS in ED2 would deliver higher costs overall for consumers.

Q7: Agree 'minded-to' position provides most efficient incentive for CLASS's participation in balancing services?

As with Q4, this did not seem to be the most relevant question here.

Whilst Energy UK agrees that the 'minded-to' position is the most likely option to encourage CLASS participants to enter relevant markets (it is the option where they have the most to gain), it presupposes that incentivising CLASS is desirable. A more valid question might be to ask whether incentivising CLASS is desirable.

A number of members strongly backed Option 3 – that CLASS should be prohibited in ED2. The view here was that CLASS is an exception to the core principle, developed by Ofgem as the regulator that regulated providers should not provide commercial energy flexibility services given their role as regulated monopolies and conflicts of interest. An example of this is Ofgem's decision to not allow DNOs to own or operate storage assets. By undermining this principle, CLASS could be viewed as creating regulatory uncertainty making the market less attractive for investors.

Other members however, whilst agreeing with this principle, preferred to focus on how best the risks to the market might be mitigated if CLASS were to go ahead as proposed – Option 1a but with heavy caveats.

Overall, Energy UK is not able to support the minded to' position of 1a.

Q8: Agree CLASS in price control would not promote efficient investment signals and could distort competitive outcomes?

Members do not support Option 2. Members feel that it would distort the market and undermine investment in necessary but competing technologies and services.

Q9: Additional reporting/ monitoring in RIIO-ED2 to assess impact of CLASS?

Members agree that greater visibility on the impact of CLASS should be implemented in ED2 - the technical capacity and the monitoring of the assets and replacing relevant parts of the primary substation.

Members highlighted that even if a tiny fraction of the wear and tear from CLASS were born by the regulated rather than the commercial side of the CLASS participant, it could constitute a competitive advantage that could outweigh the modelled benefit. In practice, it would be difficult for the participant to apportion these costs.

Similarly with consumer assets, low levels of wear and tear would be unlikely to be picked up by customers especially as, unlike commercial aggregators, CLASS participants are not required to seek permission from customers nor to alert them to when CLASS activity will be taking place.