# Regulatory treatment of Customer Load Active System Services (CLASS) as a balancing service in the RIIO-ED2 price control

## ENGIE response to the Consultation

### Background to ENGIE

In the UK, ENGIE owns First Hydro Company in a 75/25 JV with Brookfield Renewable Partners. First Hydro Company comprises 2088MW of pumped hydro generation at two sites, Dinorwig (6 units each of 288MW capacity) and Ffestiniog (4 units each of 90MW capacity), both in North Wales. These assets compete in the provision of balancing services.

ENGIE also operates a UK retail business supplying gas and electricity to I&C customers.

### Key points

- Of the options presented, ENGIE supports option 3 – prohibiting CLASS.

- ENGIE acknowledges that DNOs using their regulated assets to provide balancing service can deliver bill savings to consumers and that these savings cannot be ignored. However, there is a big question as to whether allowing these assets to compete in a competitive environment is fair given that non-regulated assets cannot compete with regulated assets on an equitable basis.

- The fundamental issue with CLASS being allowed to compete in the markets for Balancing Services is that the DNOs will be selling energy that they haven't paid for, that is generated by other market participants, to the ESO and making a profit on its sale. Put plainly, this is untenable. That the Impact Assessment shows a net benefit to consumers is largely irrelevant.

- Setting aside the above point, the NPV calculation relies heavily on displacing Dynamic Containment (DC) providers. CLASS to date has not taken part in DC - possibly because DC uses up a lot of CLASS asset to provide a limited amount of service. Participation in Dynamic Moderation and Dynamic Regulation will be equally or more resource intensive.

- We would also observe that the NPV calculation is over a 30 year period whereas Ofgem is consulting on allowing CLASS during the 5 year RIIO-ED2 price control. The Impact Assessment should cover the price control rather than this longer period, otherwise there is a presumption that CLASS will continue for the 30-year duration of the NPV model – Ofgem isn't consulting on this.

- Taking the points about the challenge of participating in the Dynamic services and the timescale over which the Impact Assessment has been undertaken together, the Impact Assessment therefore substantially overstates the benefits to consumers of CLASS.

- We would also question whether CLASS is the best use of the DNO assets. Ohers services (for example the BEET trial) have been shown to deliver greater savings to consumers but this service is not being provided in a competitive environment. Allowing CLASS into ED-2 could lead to a perverse outcome where the DNOs pick this use case for the technology because it leads to a higher benefit for themselves rather than the consumer.

**For the above reasons, of the options presented, ENGIE supports option 3 – prohibiting CLASS.**

- If Ofgem does decide to procced with CLASS then this should be with the following changes:
    - the balancing markets that CLASS can take part in are defined; and
    - a CLASS specific volume cap is placed on the extent to which CLASS can take part in any balancing market; and
    - to align with the margins earned by aggregators, the profit split should be 90:10 in favour of the customer.

## Questions

**Question 1: Do you agree that the approach taken in our Impact Assessment is proportionate and balances the trade-offs between the scale of expected impacts and the cost of doing further analysis relative to the benefits such analysis may yield?**

Whilst we welcome that Ofgem has now undertaken an Impact Assessment, ENGIE views the benefits as being greatly overstated. This is for two reasons:

1. the benefits are measured over 30 years rather than the 5 years of the RIIO-ED2 price control; and
2. over the period of the next price control, in ENGIE's view, DNOs are likely to compete predominantly in the Fast Reserve-type timescales. ENGIE estimates that the NPV of the Reduction in Annual Cost of Alternative Providers ranges from zero to £43m – which is far short of the NPV set out in NERA's Impact Assessment.

We have expanded on these two points below.

<u>Duration of NERA's Impact Assessment</u>

The consultation seeks views on allowing CLASS into the next 5 year price control but the Impact Assessment extends to 2052/53. Ofgem says in paragraph 4.94 of its Impact Assessment that "*we note*

*that our minded-to position would be in effect a direction on the use of CLASS in RIIO-ED2 only, such that there would be scope to review the future regulatory treatment if some of these concerns were to materialise*". It needs to be explained why the IA covers a much longer period as without this, there is the implication that Ofgem has already made the decision to allow CLASS until at least 2053.

NPV saving from allowing CLASS

Almost all of the benefits of DNOs providing class are attributed to the cost of avoided balancing services (as shown the table below taken from NERA's Impact Assessment).

**Table 1.1: Net Present Value of Economic Benefits in DRS8, £m 2020/21**

| Category | Conservative | Medium | Large-Scale |
|---|---|---|---|
| Direct Costs | -12.1 | -67.9 | -132.7 |
| Indirect Costs | -1.8 | -6.6 | -8.3 |
| Avoided Cost of Balancing Services | 283.3 | 944.1 | 1166.5 |
| Avoided Carbon Cost | 0.0 | 13.9 | 26.5 |
| **Net Benefit** | **269.4** | **883.4** | **1052.1** |

*Notes: Net present value of benefits from 2023/24 to 2052/53.*
*Source: NERA Analysis.*[2]

NERA has provided more granular data to show how these savings are derived. Just over half of this avoided cost is through the provision of Dynamic Containment.

**Table A.2: Reduction in Annual Cost of Alternative Providers in DRS8, £m 2020/21**

| Service | Conservative | Medium | Large-Scale |
|---|---|---|---|
| Secondary FFR | 7.1 | 17.2 | 21.0 |
| DC | 8.3 | 28.9 | 32.4 |
| Optional FR | 0.0 | 5.2 | 10.0 |
| Total | **15.4** | **51.3** | **63.4** |

We can observe that, whilst DC has been operational since October 2020 and DC is currently the highest priced of the services that Ofgem has assumed CLASS will compete to provide, ENWL has chosen not to participate in the DC service.

A discussion between Energy UK and the ESO has brough to light that whilst CLASS can do DC, "*doing this service chews up a lot of its capability because of the requirement to meet the dynamic requirement of how it works - DC uses up a lot of asset to provide a limited amount of service – so participants may be attracted to the less valuable products*".

ENGIE would also note that FFR will be replaced by Dynamic Moderation (DM) and Dynamic Regulation (DR) this year. Above we explain why CLASS may not wish to participate in DC. DM and DR will be more

resource intensive for CLASS than DC because there will be many more activations[1]. Ofgem notes in 6.82 of the IA that CLASS providers are unlikely to take part in STOR. This leaves Fast Reserve. Table 10 of the Ofgem Impact Assessment shows that the ESO needed 600MW of Fast Reserve in 2021 with this growing to 1400MW (renamed Quick Reserve) by 2025.

The highest level to date of ENWL assets bidding into the Optional Fast Reserve market is 75MW. One would assume that other DNOs will provide CLASS if allowed to under RIIO-ED2[2] and will also enter the FR market as this is the most profitable[3] given the much lower resource intensity compared to other markets.

It will only be when this market is saturated that these assets will migrate to less profitable balancing and / or more resource intensive services. In ENGIE's view, this will not be during the next price control as with a requirement of 600MW, growing to 1400MW of Quick Reserve, it will take time for this to be met once other DNOs start to provide CLASS.

If it is assumed that:

1) CLASS is only competing in the provision of Optional Fast Reserve over the next 5 year price control; and
2) that the expected cost savings for Fast Reserve in table A.2 above apply; and
3) that the IA extends over 5 years not 30 years,

then applying the same 3.5% discount rate proposed by NERA, the PV of the cost saving of alternative providers is zero under the conservative approach, around £23m under the medium approach and £43m under large scale deployment.

Whilst it is accepted that this calculation is simplistic compared to the one undertaken by NERA, this is a very large difference to the NPV presented by NERA in Table 1.1 of their Impact Assessment where NPV savings range from £270m to just over £1bn.

We would also question whether CLASS is the best use of the DNO assets. The voltage optimisation trial by Northern Power Grid's (NPG) Boston Spa Energy Efficiency Trial (BEET)[4] has 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

[1] 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 of this is that if DNOs are not attracted to DC, they will be even less attracted to DM and DR.

[2] The returns on offer and the expressed interest to date suggest that all 6 DNOs will engage and seek to maximise their returns (as private entities, this is their duty to shareholders).

[3] CLASS providers will target those markets with the highest prices first – as noted by Ofgem in paragraph 6.79 of the Impact Assessment

[4] WPD conducted a similar trial in South Wales

competitive service, and CLASS can, the decision to allow CLASS to continue could incentivise DNOs to use their assets in a sub-optimal way for consumers. It could lead to a perverse outcome where the DNOs pick this use case for the technology because it leads to a higher benefit for themselves rather than the consumer.

Part of Ofgem's legal justification for allowing CLASS references Article 3 (2)(c) of the EBGL. This requires that "*relevant regulatory authorities, and system operators shall….. apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved".*

Taking into account the analysis above, it isn't obvious that Ofgem can conclude in paragraph 3.79 of the consultation that *"for the period of RIIO-ED2, extending the regulatory treatment of CLASS under DRS8 is the optimal outcome for consumers*". From the above, it isn't clear that Ofgem can conclude this.

ENGIE considers that this IA should fully redone for the 5 year price control period, and assume that DNOs only provide Fast / Quick Reserve during this period. It should also consider the NPV of other services that DNOs could provide outside of this competitive environment that would be more beneficial for the consumer bill and whether in providing CLASS, DNOs would be unable to provide these more beneficial services.

**Question 2: Do you agree that our sensitivity analysis captures a reasonable range of uncertainty over the likely costs and benefits of deploying CLASS as a balancing service?**

No. As noted in the response to question 1, the underlying data used to determine the savings that will be achieved through using DNO assets to provide balancing services requires reassessment and the Impact Assessment has been carried out over too long a time frame. This makes the sensitivity analysis irrelevant.

**Question 3: Do you agree that it would not be proportionate for Elexon to work with industry to develop a solution to adjusting supplier imbalance positions via the Modification process in response to CLASS activations at this stage?**

This is a difficult question as the industry resource is limited and time must be devoted to those changes which create the most benefits (in terms of cost reduction). However, we can note two things: firstly, some market participants will incur costs over which they have no control and they will have to recover those costs somehow (this will be necessarily inefficient); secondly, the Impact Assessment (IA) indicates a substantial increase in CLASS provision with a concomitant increase in supplier imbalances. Therefore, the minded-to position is to accept a known inefficiency at the design stage and hope that the distortion is not too great or that suppliers are willing to bear the cost despite the expected growth in the utilisation of CLASS.

Embedded benefits are a case in point here, these created distortions that became so large that eventually they have been / are being removed. It would be better to address a known distortion at the outset rather than ignore it until it becomes an unmanageable problem that will take a lengthy period to resolve.

In terms of whether this solution is worth pursuing, please see the Energy UK response on this question.

**Question 4: Do you agree with our assessment that there is no evidence that competition is currently being distorted or impeded by the participation of CLASS?**

The current volumes of CLASS are too low to indicate that there is any distortion to competition; and the approach in the IA implies an over-confidence when considering the future development. However, CLASS participation in balancing services will grow as other DNOs inevitably start to provide this service if it is approved under the next price control.

Ancillary Services (AS) markets are very limited in size (even with the growing requirement) and are very specific (e.g. there is a limited requirement for DC and a limited pool of providers). The growth in CLASS that is being estimated is likely to be sufficient to saturate certain aspects of the AS markets - particularly if the Baringa prediction of 3GW of class capability is correct[5].

CLASS providers will target those markets with the highest prices first – CLASS will not spread itself around the markets. Ofgem acknowledges this potential in paragraph 6.79 of the IA but goes onto say in 6.80 that 'there is a strong degree of supply-side substitution in the market for balancing services and any given DNO would face strong competitive constraints if it used its capacity to try to exert dominance in one service'.

DNOs will not face strong competitive constraints - they can provide balancing services at close to zero cost using regulated assets paid for elsewhere and do not have to pay for the fuel to deliver the service. Non regulated assets simply cannot compete on price in this environment. Inevitably, as the participation of CLASS grows, competition will be impeded.

The potential for a complete lack of competition should be of major concern to Ofgem. It is difficult to imagine why the other DNOs with a free option would choose not to take part. CLASS if used to its full capability will entirely crowd out the non-regulated assets some of these markets.

Not only will competition be driven out but the holistic capability to deliver more than one service simultaneously will be lost (for example inertia coupled with reserve or response). If current providers cannot 'stack' revenues from lower cost markets with those from more lucrative services such as

[5] https://www.vermilliontesting.co.uk/globalassets/innovation/class/class-documents/assessing-the-impact-of-class-on-the-gb-electricity-market_redacted.pdf

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 higher cost. This impact should be considered in the economic modelling.

With CLASS being able to undercut the costs of any other provider, if Ofgem does decide to approve CLASS under RIIO-ED2, caps on the extent of participation in any balancing service market by CLASS should be considered.

**Question 5: 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 existing safeguards are suitable and we do not expect that any participant would engage in anti-competitive behaviour. The inclusion of CLASS in competitive market remains problematic: by using regulated assets to provide balancing services, non-regulated providers (who will be amongst those providing the energy being sold by these regulated assets) will be placed at a disadvantage.

The approach in the consultation about the use of regulated assets is to consider only the incremental investment by the DNO. However, this is inadequate as the platform for the service is a regulated asset. The regulated assets are being used to give the DNO a "free option" for an investment opportunity using energy they have not bought but will be selling to the ESO. This is a luxury not afforded to non-regulated providers. It is difficult to think of any market where a product is sold and the provider has not incurred costs to obtain the product that it is selling on for profit.

**Question 6: What additional measures do you think would be effective and proportionate to address actual or perceived conflicts of interest with respect to CLASS?**

ENGIE's preference is to discontinue CLASS because of the distortions that it creates.

Beyond this, customers have no say in whether or not this service is used. Potentially it could impact on them – for example aggregators may not be able to deliver contracted services because their capability is impacted if networks are being used to deliver CLASS. There should be a requirement on DNOs to get approval to use CLASS where it affects customers.

Ofgem should be clear which markets CLASS can participate in and any change to this decision should be subject to consultation.

Ofgem should also monitor and report on the usage of CLASS in each balancing services market to enable a better understanding of market penetration and also impacts on new entrants delivering balancing services using unregulated assets.

**Question 7: Do you agree that out minded-to position provides the most efficient incentive for CLASS's participation in balancing services?**

ENGIE's preferred outcome is the discontinuation of CLASS as a balancing service.

If CLASS is allowed to continue, in the context of the direction the ESO is moving in to balance the system, there is a good argument to make the service a compulsory service that must be provided by DNOs and hence part of the regulated settlement.

If Ofgem does decide to adopt its minded to position, ENGIE questions the return for consumers. The 50/50 split seems unfair given that consumers are effectively paying for the DNO's free option.

ENGIE sees a 90/10 split in favour of the customer as being much more appropriate.

**Question 8: Do you agree that requiring CLASS in the price control would not promote efficient investment signals in CLASS and could distort competitive outcomes?**

This depends on the Regulator's view of the development of balancing services. The ESO is increasingly committed to using long term contracts to bring new assets online; this will necessarily impact the procurement in short term markets. Arguably, a regulated return for CLASS is consistent with the ESO's forestalling of balancing markets. Indeed, if the argument is that CLASS indicates that existing regulated assets are being underutilised then there is a good argument for CLASS being compulsory and hence part of the regulated settlement.

**Question 9: What additional reporting or monitoring in RIIO-ED2 could be valuable to assess the ongoing impact of CLASS? Please explain how Ofgem, the DNOs or any other party would be required to support the proposed measure.**

Ofgem should also monitor and report on the usage of CLASS in each balancing services market to enable a better understanding of market penetration and also impacts on new entrants delivering balancing services using unregulated assets.

In ENGIE's view it would be better to apply CLASS specific caps on participation in each balancing services market at the outset rather than waiting until CLASS inevitably becomes the dominant technology and then addressing the issue – this will take time to correct.

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