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Consultation

Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control

Publication date:	10 February 2020	**Contact:**	Edwin Tammas-Williams, Senior Manager Freya Kerle, Manager
		Team:	DSO and Whole Systems
Response deadline:	23 March 2020	**Tel:**	020 7901 3926
		Email:	flexibility@ofgem.gov.uk

We are consulting on our 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 ESO for its balancing services activity. This service is commonly known as CLASS. We welcome views from a wide range of stakeholders including providers of flexibility services, DNOs, the ESO, consumer groups and others with an interest in energy networks and flexibility. In addition to receiving consultation responses by email, we are piloting an online portal for consultation responses to streamline the consultation process. The online portal for responses is linked here.

Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at **Ofgem.gov.uk/consultations**. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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Executive summary

In June 2019, Parliament went beyond the UK's existing commitment to an 80% reduction on 1990 emissions levels by legislating for a net zero greenhouse gas emissions target by 2050. Reflecting the different circumstances of different parts of Great Britain, in September 2019 the Scottish Parliament legislated to set a net zero target for 2045[1], and the Welsh government intends to introduce legislation to set a net zero target for Wales. Ofgem's goal is to enable the most effective path for the GB energy system to meet these targets at lowest cost to consumers whilst ensuring their protection. We set out in our 'Decarbonisation Action Plan' the actions we will take in the next 18 months to achieve this.[2] We highlight the importance of greater flexibility in the energy system and our work to achieve markets that adequately reward flexibility. We are committed to regulating energy networks through our RIIO price control model to be efficient, provide value for consumers, and contribute to meeting the net zero targets.[3] We are reviewing the way our energy system is managed and the Electricity System Operator's (ESOs) role, and undertaking distribution system operation (DSO) reforms to help achieve these strategic priorities.[4] The DSO reforms include clarifying the role of distribution network operators (DNOs) in contestable markets and ensuring DNOs neutrally procure grid operational services and facilitate the development of – and coordination between - flexibility markets.

Currently, DNOs are allowed to sell the ESO balancing services through remote voltage management at substations. This service is commonly referred to as CLASS (Customer Load Active System Services), from the innovation project of the same name developed by Electricity North West Limited (ENWL). Whilst CLASS uses the existing electricity network, to actually enable CLASS, DNOs have to invest in additional technology, software and expertise. In 2016 we published a Direction for the regulatory treatment of CLASS as a balancing service. In this treatment we allow DNOs to offer the ESO CLASS, as the service, which can only be provided by the DNOs, has the potential to promote efficient procurement of balancing services, and consumers could also benefit by sharing any profits DNOs make.[5]

[1] This provision has not yet been brought into force.
[2] https://www.ofgem.gov.uk/system/files/docs/2020/02/ofg1190_decarbonisation_action_plan_web_0.pdf
[3] https://www.ofgem.gov.uk/network-regulation-riio-model/network-price-controls-2021-riio-2
[4] https://www.ofgem.gov.uk/publications-and-updates/ofgem-position-paper-distribution-system-operation-our-approach-and-regulatory-priorities
[5] https://www.ofgem.gov.uk/system/files/docs/2016/04/dno_voltage_control_drs8_direction.pdf

In this consultation, we are seeking views on the treatment of CLASS for the next electricity distribution price control (RIIO-ED2), which starts in April 2023. Our 2016 Direction only provides for the use of CLASS as a balancing service for the current price control period, RIIO-ED1.

We set out in this document several options for the treatment of CLASS in RIIO-ED2. We have considered (1) continuing to allow DNOs to sell CLASS to the ESO, maintaining the regulatory treatment of RIIO-ED1 or with alternative revenue arrangements;[6] (2) requiring DNOs to provide it to the ESO outside of market mechanisms and thereby cover the costs in the DNO price control; or (3) prohibiting CLASS's use as a balancing service completely. As part of our analysis, we have looked at where, when and how CLASS has been bought by the ESO. We have taken into account our strategic priorities, particularly the objectives for our DSO reforms. We have also considered stakeholder feedback, including views related to competition.

We believe it would not be in the consumer interest to prohibit CLASS. Excluding CLASS would reduce the ESO's ability to utilise balancing services from the widest range of technologies and providers, ultimately precluding consumers from benefitting from potential efficiencies. We also do not think that requiring DNOs to provide CLASS services to the ESO and covering the costs of CLASS in the distribution price control would be efficient. Provision of balancing services is contestable, so covering the costs of CLASS in the price control would not lower costs for consumers if it isn't cheaper than what could be offered by other providers. In contrast, allowing DNOs to compete with CLASS, and not funding it automatically through the price control, gives DNOs an incentive to participate in balancing services markets only where it is expected to be competitive and therefore assist in delivering lower balancing costs.

Our **initial view that we are consulting on** is that allowing DNOs to continue to offer the ESO CLASS in competition with other providers is the best way to ensure the most efficient overall solution. Our minded-to position is thus to maintain the existing regulatory treatment into RIIO-ED2, allowing DNOs to provide CLASS to the ESO through market-based

[6] Maintaining its inclusion in directly remunerated service category 8, or including in directly remunerated service category 9 (in which there would be a limit on DNOs' charges to the ESO, and net revenue would not be shared with consumers)

mechanisms, and including it as a directly remunerated service 8 (Value Added Services) for the purpose of revenue treatment. This would have the additional potential benefit of rewarding consumers for good investments made by the DNOs, via lower distribution use of system charges where DNOs profit.

To be clear, as new roles are required to deliver effective distribution system operation, our starting position is that DNOs should not undertake activities that can be done by third parties; individual circumstances may lead us to conclude that it is in the consumer's interest to take an alternative stance. In this case, CLASS services can only be provided by DNOs.

We emphasise that in providing CLASS services, the DNOs are required to ensure that they do not leverage their monopoly position, or any information they hold as a result of that to give them an unfair advantage; they must not act in an anti-competitive manner. We have the powers to take stringent action if they were to breach any of these requirements. At the same time, we are taking forward measures to address conflicts and promote transparency in DNO's decisions. In addition to these protections, **we would like to hear from stakeholders if they have proposals for further measures DNOs should take** to effectively and proportionately address actual or perceived conflicts of interest associated with CLASS.

We invite stakeholders to consider the analysis we set out in this document. **We are keen to hear your views and would welcome any further evidence stakeholders can provide.**

Responses are due by **23 March** and should be sent by email to flexibility@ofgem.gov.uk, or via our online portal. Once the consultation is closed, we will consider all responses.

Responses to this consultation will inform the analysis that will underpin our final decision on the regulatory treatment of CLASS in RIIO-ED2. We aim to make our decision on the treatment of CLASS this summer, to align with timing of the RIIO-ED2 sector methodology consultation.

1. Introduction and background

Section summary

We explain:

- Our strategic priorities and objectives for DSO reforms
- What CLASS is and its use as a balancing service
- The scope of this consultation

Our strategic priorities for DSO

1.1. In 2019, Parliament legislated to achieve net zero greenhouse gas emissions by 2050. Reflecting the different circumstances of different parts of Great Britain, the Scottish Parliament legislated to set a net zero target for 2045[7] and the Welsh government intend to introduce legislation to set a net zero target for Wales. We have a critical role in ensuring that the energy system is fit for the future. Given our principal objective of protecting the interests of existing and future consumers, we act to promote a reliable, affordable and lower-carbon GB energy system. We embedded these priorities in our strategic narrative, where we said stakeholders can expect us to enable competition and innovation to drive down prices, protect consumers and facilitate decarbonisation at lowest cost.[8]

1.2. Since our strategic narrative we have published more information on our expectations for the future energy system, and our approach to regulating it. Earlier this month, we published our Decarbonisation Action Plan.[9] One of the nine actions we set out is to support flexibility, which we consider essential to integrating a growing volume of renewable and low carbon power into the energy system. New flexible technologies can reduce the need for more generation and other new infrastructure. Ensuring markets adequately reward flexibility is a priority.

1.3. Delivering an efficient, flexible energy system requires significant action on the distribution network. In summer 2019, we published a position paper on distribution

[7] This provision has not yet been brought into force.
[8] https://www.ofgem.gov.uk/publications-and-updates/ofgem-strategic-narrative-2019-23
[9] https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-decarbonisation-action-plan

system operation that set out our strategic objectives for reform at distribution.[10] We think that by embedding these strategic objectives in our work programmes and policies on DSO, we can promote effective markets, technical innovation and coordination that is required to facilitate effective flexibility on the distribution network. These objectives are:

a) Effective competition for balancing and ancillary services, and other markets

b) Neutral tendering of network management and reinforcement requirements, with a level playing field between traditional and alternative solutions

c) Strongly embedded whole electricity system outcomes

d) Clear boundaries and effective conflict mitigations between monopoly activities and market activities

1.4. As part of the objective for clear boundaries, we need to make decisions about what activities DNOs are allowed to do – and with what regulatory treatment – in order to promote effective competition and innovation. For example, we have made clear that DNOs cannot operate storage or act as commercial aggregators, which can both be done by third parties.[11]

1.5. The focus of this consultation is the treatment of CLASS (Customer Load Active System Services) as a balancing service utilised by the ESO. CLASS represents a flexibility service that, unlike storage or aggregation, can only be provided by DNOs. In the consultation, we set out our minded-to position for the regulatory treatment in this wider strategic context of promoting a low cost flexible electricity system, with particular attention to the objectives in our 'DSO position paper'.

[10] https://www.ofgem.gov.uk/publications-and-updates/ofgem-position-paper-distribution-system-operation-our-approach-and-regulatory-priorities
[11] https://www.ofgem.gov.uk/publications-and-updates/enabling-competitive-deployment-storage-flexible-energy-system-changes-electricity-distribution-licence

CLASS

What is CLASS?

1.6. DNOs can provide network voltage control and network management services via the remote management of deployed network assets. CLASS was an Electricity North West Limited (ENWL) innovation project that demonstrated this capability. The CLASS project, funded through our Low Carbon Network Fund (LCNF) that operated under the previous electricity distribution price control to March 2015, showed that by remotely managing transformers and circuit breakers at primary substations to change voltage, DNOs can reduce or increase effective electricity demand and absorb reactive power.[12] The changes in voltage were shown to be unperceivable to consumers,[13] but could be used to manage peak demand constraints on the DNO's network and provide the ESO with balancing services. In this consultation, we use CLASS as the collective term to describe this set of remotely managed voltage control and network management services.

1.7. Only DNOs can provide CLASS. This is because, in addition to assets specifically required for CLASS, it involves the operation of monopoly network assets that are essential for the DNO's business as usual operation to provide a reliable system. DNOs operate their networks within voltage boundaries set by the Electricity Safety, Quality and Continuity Regulations.[14] This means DNOs can only change voltage by ±6% of the declared voltage when providing CLASS. DNOs also have the option to use voltage control as part of procedures to comply with Operating Code 6 'Demand Control' in the Grid Code.[15] CLASS does not and shall not undermine the ability of DNOs to deliver their Grid Code obligations. It is the responsibility of DNOs to ensure they take any necessary measures to ensure compliance.

1.8. As noted above, CLASS capability requires DNOs to invest in additional communications and control systems. Figure 1 shows at a high level the components of

[12] For an overview of the CLASS project and technology see ENWL's LCNF closedown report https://www.ofgem.gov.uk/sites/default/files/docs/2015/11/class_closedown_report_master_0.pdf and the technical reports for more detail https://www.enwl.co.uk/zero-carbon/innovation/key-projects/class/learning-and-key-documents/class-technology/
[13] https://www.enwl.co.uk/zero-carbon/innovation/key-projects/class/learning-and-key-documents/class-customer-engagement/
[14] https://www.hse.gov.uk/esqcr/index.htm
[15] https://www.nationalgrideso.com/codes/grid-code?code-documents

a primary substation with CLASS additions, which include transformers, circuit breakers, and control and communications equipment.

1.9. The capabilities of CLASS have the potential to be used to provide the ESO with balancing services. The ESO is responsible for balancing electricity supply and demand in real time, and ensuring system reliability. As part of the ESO's responsibilities, it procures a range of energy balancing and locational service products from a range of providers and technology types. It is required to do so in accordance with its licence obligation, which requires that it shall not discriminate in its procurement and use of balancing services having taken into account relevant price and technical differences.[16] Balancing services the ESO procured include frequency response services, reserve services, and reactive power services. This application of CLASS as a balancing service used by the ESO is the focus of this consultation. More information about balancing services, procurement processes and market information can be found on the ESO's website.[17]

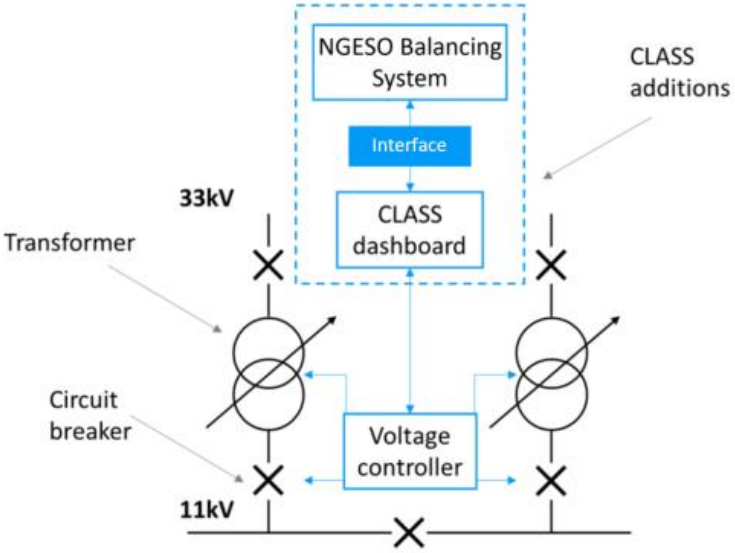

Figure 1 Illustration of a primary substation with CLASS additions (Baringa)[18]

[16] See Condition C16 Procurement and use of balancing services paragraph 2 https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions
[17] https://www.nationalgrideso.com/balancing-services
[18] https://www.enwl.co.uk/globalassets/innovation/class/class-documents/assessing-the-impact-of-class-on-the-gb-electricity-market_redacted.pdf

Our 2016 decision

1.10. We published a Direction in 2016 that CLASS as a balancing service was to be included in directly remunerated services (DRS) category 8 for RIIO-ED1 (the '2016 Direction').[19] These arrangements are outside of the price control, so DNOs are not provided with additional price control revenues to offer CLASS. Instead, DRS8 allows DNOs to sell CLASS to the ESO, charging it directly for the provision of the service. The net revenue (ie revenue from the ESO less the cost of investing in and using CLASS) is then shared with consumers; profits would reduce consumer's distribution network charges (in the relevant DNO area), while losses would increase them. We explain how the mechanism works in more detail and compare it to alternative regulatory treatments in section 2.

1.11. In the 2016 Direction, we set out the reasons for this approach. First, because CLASS uses distribution system assets we consider it appropriate to share any profits with consumers.[20] Second, by incentivising the DNO to provide CLASS to the ESO where it is economical, it should benefit consumers by contributing to the efficient procurement of balancing requirements.

Participation of CLASS in balancing services since our 2016 Direction

1.12. The ESO procures balancing services from a range of flexibility providers using different technology types. It procures energy balancing products to balance demand and supply at all times, keeping frequency at 50 Hz ±1%, and also system security services and locational services to ensure safe operation of the networks.

1.13. While the 2016 Direction applies to all DNOs, ENWL have been the only DNO to offer CLASS to the ESO as a balancing service. Since 2016, ENWL have rolled out CLASS capability to 243 primary substations with the intention to increase this to 260 (of the 441 primary substations in the ENWL area).[21] The existing rollout translates to an estimated technical capacity of 40MW (summer minimum) to 110MW (winter

[19] https://www.ofgem.gov.uk/system/files/docs/2016/04/dno_voltage_control_drs8_direction.pdf
[20] This is the rationale for DRS8, which consists of other services that use distribution system assets to provide a commercial service
[21] This commercial rollout has been funded as a DRS8 service, not using the LCNF funding

maximum).[22] The maximum capacity ENWL has bid as a balancing service has been 75MW.

1.14. Of the ESO's balancing services ENWL have exclusively provided firm frequency response (FFR) and fast reserve (FR) products. It made its first bids into the ESO's tenders for FFR and FR in March 2018 and April 2019 respectively. There are categories within those products; ENWL has bid into non-dynamic secondary FFR,[23] and firm and optional FR. In 2019, ENWL provided 1.6% of secondary FFR and 13% of firm FR that was procured by the ESO in tenders for those products. The tendered volume may not reflect all of the ESO's requirement for those services, which could also be met through bilateral contracts and other actions in the balancing mechanism.

1.15. A range of participants are active in providing FFR and FR. For example, in FFR over 60 providers across a range of technology types have bid into the tenders and over 50 participants have had accepted bids since 2017. In FR, 12 providers have bid into the market since 2017. There have been changes in the types of providers in recent years. There has been a transition towards demand side flexibility and particularly storage. Energy storage providers represented 59% of FFR bidders in 2019. In the FR market, no participants were storage providers in 2017 and in 2019 they represented 11% of FR bids. In Appendix 2 we provide more details of these markets.[24]

Scope of our consultation

1.16. The current regulatory treatment for CLASS will remain in effect until 31 March 2023 (ie the end of the RIIO-ED1 price control).[25] The scope of this consultation is our position on DNOs providing CLASS to the ESO for the RIIO-ED2 period (April 2023 to March 2028). That is the regulatory treatment of DNOs providing network voltage control and network management services via the remote management of deployed network assets to the ESO for the purpose of its balancing services activity as described in the Electricity Transmission Standard Licence Conditions.[26]

[22] Capacity varies because it is proportionate to the underlying load behind the substation
[23] But not dynamic secondary response, primary response or high response
[24] Information can be found at https://www.nationalgrideso.com/balancing-data/system-balancing-reports
[25] Unless the Authority revokes the Direction after consulting DNOs and giving reasonable notice
[26] https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions

1.17. We seek to address issues raised by stakeholders around the provision of CLASS, and set out our proposed position in the context of our wider objectives. We invite parties to provide their views on our position and assessment, providing evidence and reasoning for their view. In section 2 we set out and explain the regulatory options we have considered for CLASS as a balancing service in RIIO-ED2. In section 3, we demonstrate the analysis we have undertaken to reach our minded-to position (with additional analysis in Appendix 2). Finally, in section 4 we describe the process for responding to this consultation and our next steps.

2. Regulatory options for CLASS as a balancing service in RIIO-ED2

Section summary

In this section we:

- explain, compare and contrast the options we have considered
- set out our minded-to position.

Questions

Q1. Are there other options we should have considered? Please provide the reasons for your suggestion.

Options we have considered for RIIO-ED2

2.1. We have considered three broad options for the treatment of CLASS as a balancing service in RIIO-ED2:

(1) we continue to allow DNOs to offer CLASS to the ESO in a competitive market and for it to be included as a directly remunerated service (DRS), either

a. continued in DRS8, or

b. instead included in DRS9

(2) we require DNOs to provide CLASS to the ESO and they are remunerated through the price control

(3) we prohibit CLASS from being provided as a balancing service

2.2. The differences between the mechanisms in the options are summarised in Table 1. The rest of this section describes those mechanisms in more detail.

Table 1 Summary of differences between options

Option 1: CLASS competed as DRS	Option 2: CLASS provided as price control service	Option 3: CLASS is prohibited
Costs of CLASS are not covered for in price control Market signals drive DNOs' investment and participation with CLASS ESO procures CLASS based on its competitiveness with other balancing services **Option 1A: DRS8** DNOs' charges to the ESO for CLASS are set by the market and are not subject to our approval Consumers share DNOs' profits or losses at totex efficiency incentive rate via decreases/ increases to DUoS charges **Option 1B: DRS9** Charges to the ESO for CLASS are to be set at a level that allows recovery of reasonable costs and a reasonable margin Consumers do not share DNOs' profits or losses	Costs of CLASS are covered for in the RIIO-ED2 price control Price control defines required CLASS capacity or utilisation CLASS is free to ESO, so will be utilised before any other provider	No incentive for new investment in CLASS capacity Existing CLASS capacity cannot be procured by the ESO

Option 1: Competitive provision of CLASS as balancing service

Directly remunerated services

2.3. DRSs are services for which DNOs directly charge a customer. DRSs are not covered by the price control settlement. This means costs that are solely attributable to providing CLASS as a balancing service would be included within the scope of the DRS, and would not be included in the allowed revenues which are recovered from consumers via distribution use of system (DUoS) charges. These attributable costs would include new

assets (eg those in Figure 1), additional operating costs, associated additional maintenance costs, and any other costs that would not otherwise be incurred. DNOs seek to be remunerated for these costs instead through their charges to the customer; in the case of CLASS, that customer is the ESO.

2.4. Payment by the ESO to a DNO for the provision of CLASS is determined by the agreed contractual terms between them. Generally, these terms would be set out in the competitive tenders the ESO runs for different balancing service products, eg firm frequency response (FFR) and fast reserve (FR). More bespoke bilateral arrangements where DNOs would not participate in tenders alongside other providers, but with alternatively agreed terms, could also be established. However, the ESO has been moving away from bilateral contracts in the interest of transparency and liquidity. The ESO has licence obligations to ensure that the procurement of balancing services is efficient, transparent and non-discriminatory.[27]

2.5. The price the ESO pays for balancing services is ultimately passed through to consumers via balancing services use of system (BSUoS) charges. So the lower the amount the ESO has to spend on actions to balance the system, the less consumers will pay.

2.6. There are nine DRS categories with services categorised based on the nature of the service. CLASS does not fall within the scope of DRS categories 1 to 7 which relate to specific services, for example provision of metering services. For the purpose of our RIIO-ED2 position, we consider CLASS in DRS8 (Value Added Services) or DRS9 (Miscellaneous). In DRS8 and DRS9 there are different rules about the calculation of charges for DRSs, and how costs and benefits are allocated and recovered.[28] In RIIO-ED1, forecast net revenues from both DRS8 and DRS9 services were deducted from opening base revenues, reducing the costs paid by DUoS customers.

Option 1A: CLASS is included in DRS8

[27] C16 paragraph 1, 1(g), and 2 https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions
[28] https://www.ofgem.gov.uk/ofgem-publications/98695

2.7. Category DRS8 includes services that utilise a DNO's distribution system assets in a commercial arrangement between the DNO and another person, involving the installation of equipment for electronic communications or data transfer, the display of adverts or promotional material, or any service specified in a direction that would otherwise be included in category DRS9.[29] Figure 2 and the accompanying steps in paragraphs 2.8 – 2.10 explain how revenue is calculated through this mechanism.

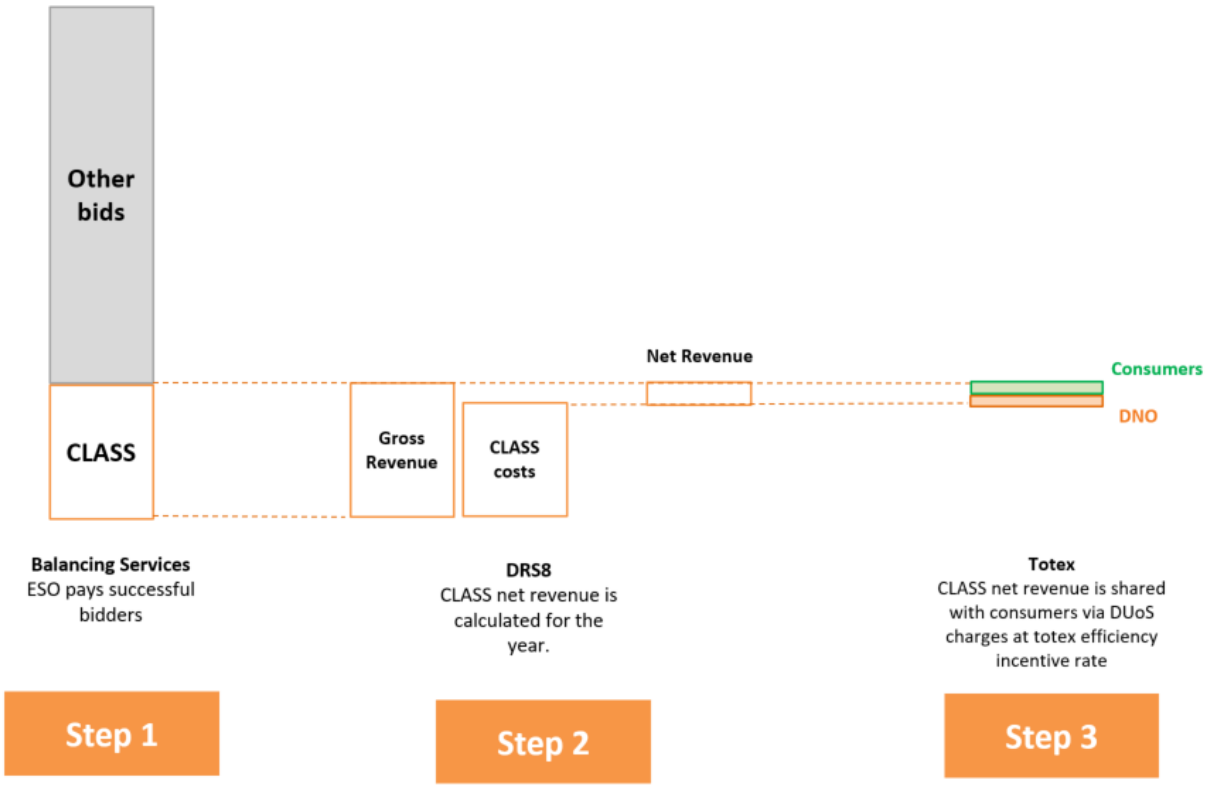

Figure 2: Illustration of how costs and revenues are treated when CLASS is included in DRS8. The illustration is not to scale.

2.8. Step 1: ESO procures balancing services, paying DNOs for CLASS if they are successful in their bids. The overall amount the ESO spends on balancing services is passed through to consumers via BSUoS charges.

2.9. Step 2: CLASS net revenue is calculated for the year. Net revenue is the gross revenue earned by participating in balancing services (ie what the ESO have paid the DNO) that

[29] https://www.ofgem.gov.uk/ofgem-publications/85493/crcsupannex1pdf

year, less CLASS specific costs incurred or allocated that year, for example bid team costs and any assets paid for.

2.10. Step 3: The net revenue is shared with consumers through the totex incentive mechanism, and reflected in DUoS charges. The ratio of the revenue that is retained (or paid for if net revenue is negative) by the consumer is determined by the totex efficiency incentive rate. If a DNO has, for example, a totex efficiency incentive rate of 45% then consumers would retain 55% of the profit, or pay for 55% of the loss.[30]

2.11. In practice, these steps mean when DNOs make a profit from CLASS, consumers (in the relevant DNO area) will pay lower DUoS charges than they otherwise would if CLASS had not been provided. If the DNOs make a loss, consumers will pay higher DUoS charges. The DNO will be incentivised to make a profit (and avoid losses) because it would keep a share of the income and would be exposed to the risk of losses. Totex efficiency incentive rates across DNOs in RIIO-ED1 range between 53% and 70%. We will consult on the rates for the next price control in our RIIO-ED2 Methodology Consultation.

2.12. The ESO is incentivised to procure CLASS where it is efficient, so we expect it would do so when it would reduce the overall amount it would spend on balancing services, which would be passed through to consumers via BSUoS charges.

Option 1B: CLASS is included in DRS9

2.13. DRS9 consists of the provision of any other service that is for the specific benefit of any third party who requests it that is not under any other DRS.[31]

2.14. There are two key differences between DRS8 and DRS9: (1) the calculation of charges and (2) how each would apply in relation to CLASS. First, in DRS9, DNOs would retain or bear all profits or losses; there would be no sharing with consumers. Second, prices in DRS9 are to be set at a level that will allow DNOs to recover their reasonable costs and a reasonable margin. In DRS8 there is no restriction on the price at which the DNO can offer its balancing services. Instead, the prices would be constrained by the

[30] The mechanism is described in CRC 5C https://www.ofgem.gov.uk/ofgem-publications/98695
[31] https://www.ofgem.gov.uk/ofgem-publications/98695

competition faced in the relevant tender exercise (or other competitive process) run by the ESO.

Option 2: Price control remuneration

2.15. In option 2, DNOs deliver CLASS directly to the ESO as a price controlled activity and not through a market mechanism. This means the costs of developing and utilising CLASS capability would be covered by the RIIO-ED2 price control, and collected via DUoS charges. The ESO would not pay the DNO directly for the service. Therefore, the ESO would utilise CLASS first, reducing the size of the market available to competitive providers of balancing services.

2.16. In this option, we would define a requirement for DNOs to provide CLASS. For example, we could determine a specific capacity (MW) of CLASS capability each DNO must make available to the ESO. DNOs would then be required to identify and justify the capital and operational costs of developing CLASS to meet that requirement in their RIIO-ED2 business plans. As part of our cost assessment process, we would make a decision as to the efficient costs for providing CLASS. These efficient costs would be treated as allowed revenue that would be paid for by consumers.

Option 3: Prohibit

2.17. In option 3, we do not allow DNOs to participate in balancing services with CLASS in RIIO-ED2. There would not be an incentive for DNOs to invest in any new capacity. Any capacity that has been invested in prior to the RIIO-ED2 period would not be able to be used to provide balancing services.

Our minded-to position

2.18. We have carefully assessed the benefits and risks of each option, using evidence from internal analysis as well as that provided by stakeholders. Where stakeholders have raised concerns, we have taken these into account and used the evidence we have to understand their materiality. We have also considered our position in the context of changing roles for the DNOs, and challenges of the electricity system transition.

2.19. Our assessment of all these elements has led us to conclude that the option most likely to provide the greatest benefit to consumers is option 1A, to continue to allow CLASS to be sold to the ESO through a market framework where attributable costs and

revenues are included in the scope of DRS8. We consider that by using market-based mechanisms, this option sets efficient incentives for DNOs to participate with CLASS, and creates opportunity for greater competition in balancing services markets. Meanwhile consumers would benefit from sharing in any profits. If we did take this decision, we would continue to monitor DNOs' participation. We will also continue to drive forward a wider package of measures to improve transparency and address any actual or perceived conflicts of interest in DNOs' decision-making.

2.20. In the following section, we describe the analysis and arguments that led us to this initial conclusion in more detail. We invite comments – and particularly supporting evidence – so that our final decision takes into account all relevant information.

3. Options assessment

Section summary

We explain

- Approach to our assessment
- Extent to which each option addresses our primary considerations

Questions

For all questions please provide evidence and your reasoning. These questions relate to the section 3 of the consultation and also Appendix 2.

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

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)?

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

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

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

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?

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?

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?

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?

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?

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

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

Approach to our assessment

3.1. We have assessed the options against two primary considerations:

a) How the option promotes efficient system balancing, including considering allocation of costs

b) Alignment with our strategic DSO objectives

3.2. In promoting efficient system balancing, we assess investment and utilisation signals and wider effects on competition. This means evaluating how differences in the DNO's exposure to risks and revenue in each option incentivise participation in balancing services, and effects on consumer bills. We also consider the anticipated wider impacts to the overall competitiveness of provision of balancing services, with a more detailed analysis set out in Appendix 2.

3.3. We know from our engagement with stakeholders that positioning CLASS in the context of wider positions and objectives is important. We set out in our 'DSO Position Paper' that as roles and responsibilities of DNOs and other parties are evolving, and network and non-network solutions become increasingly substitutable, clarifying the role of DNOs in contestable services – including conflict mitigation – is a priority for us.[4] We therefore have as part of our analysis considered how each option aligns with broad strategic objectives set out in that paper: effective competition of balancing and ancillary services, and other markets; neutral tendering of network management and reinforcement requirements, with a level playing field between traditional and alternative solutions, and; strongly embedded whole electricity system outcomes. While we loosely structure our analysis around these strategic objectives, we also bring in consideration of priorities and principles we have set out in other papers, such as our 'Strategic Narrative 2019-2023' and our 'Decarbonisation Action Plan.'[8,2]

3.4. **Effective competition for balancing and ancillary services, and other markets:** In our 'DSO Position Paper' we set out that we want to see effective competition between flexibility providers, enabling all relevant providers to engage in markets, in order to put downward pressure on prices, promote innovative business models and widen choice. We also consider CLASS in the context of our wider approach to competition. In our strategic narrative we state our direction of travel is to increase significantly the role of competition in network regulation, and in general we will be consistent with the market principle – to use market mechanisms wherever possible.[8] We appreciate this means understanding where market mechanisms are not appropriate, and ensuring risks to effective competition are managed.

3.5. Achieving efficient outcomes in networks will require **neutral tendering of network management and reinforcement requirements, with a level playing field between traditional and alternative solutions**. That is, we require transparency, consistency and justifiability in procurement. We discuss how each option for CLASS might affect a DNO's role as a neutral tenderer, and more broadly its role as a neutral provider of monopoly services. But also we consider each option's alignment with the overall aim of optimal decision-making; we say in our 'DSO Position Paper' that flexibility, smart use of existing network assets, and network reinforcement must be valued on a level basis.

3.6. In an increasingly interlinked electricity system, more effective outcomes may be realised where **whole system solutions are strongly embedded**. We consider how each option for CLASS aligns with the overall intent of this objective, that by considering solutions across multiple networks and assets, the best value solutions can be identified. But we also take into account the effects of enhanced DNO and ESO cooperation on any conflicts of interest. We are currently in the process of clarifying, through our licence requirements on network companies, that we expect electricity networks to cooperate and consider opportunities for best value outcomes outside of their own boundaries where it is not to the detriment of their own consumers.

Option 1A: CLASS is included in DRS8

3.7. We think DRS8 offers the most effective incentives for efficient use of CLASS. Allowing, but not funding, DNOs to offer CLASS to the ESO means DNOs are incentivised to participate where there is an investment case for doing so (reflecting costs of participation and balancing services prices). Good investments will enhance effective competition for balancing services by putting downward pressure on prices. More

competitive markets for balancing services are good for consumers, who will pay lower BSUoS charges when balancing costs are lower.

3.8. There is the potential additional benefit to consumers through sharing profits of good investments via lower DUoS charges. This does mean consumers face the risk of bad investment decisions, though DNOs' share of that risk should drive good commercial discipline. Moreover, given the delivery of CLASS requires use of network assets that have been paid for in allowed revenue (as well as additional costs), and builds on consumer funded learning via the low carbon network fund (LCNF) project, we consider it is appropriate that consumer share in any of the profits.[32]

3.9. We have considered the potential effects of option 1 (A and B) on competition in balancing services provision; in Appendix 2 we discuss the potential for direct and indirect impacts. We have no evidence that ENWL (the only DNO currently participating in balancing services with CLASS) has market power – the ability to raise prices profitably above competitive levels – or that its participation is otherwise distorting competition. Similarly, our analysis and engagement has not provided any evidence to suggest that distortions will occur if other DNOs are to invest in CLASS and begin to participate. Innovation and low barriers to entry in provision of balancing services make it unlikely that a participant, including a DNO, could sustain a position of market power, even if one was to materialise. Meanwhile, the ESO is obligated to take into account effects to competition of its procurement activity. As part of demonstrating compliance, we have provided guidance to the ESO that it must balance short-term reductions in balancing costs against the longer-term development of balancing services markets.[33] Therefore the procurement strategy that underpins when CLASS is used shall consider effects to competition.

3.10. Some flexibility providers have suggested that DNOs can provide CLASS at low prices as the network assets that they use have been paid for via allowed revenue in the price control, and that this is unfair. Costs for those assets would have been incurred whether or not DNOs are providing CLASS as a balancing service. We therefore think it

[32] This view is set out in paragraph 12.25 of our guide to RIIO-ED1 https://www.ofgem.gov.uk/system/files/docs/2017/01/guide_to_riioed1.pdf

[33] C16 sets out the ESO's obligations to procure balancing services efficiently taking into account impact on competition https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions and we have provided further guidance https://www.ofgem.gov.uk/system/files/docs/2019/03/eso_roles_and_principles_guidance_2019-20.pdf

is right that the regulatory framework focuses on the additional costs associated with the provision of CLASS. As part of our business plan review (in the price control process) we will ensure allowed revenues are not used to recover costs of DRS activities. We have received additional concern that low prices in balancing services will reduce profitability and potentially undermine the investment case of other flexibility providers. However, provided that competition for the provision of balancing services is effective and there is a level playing field, we do not consider it appropriate to protect individual market participants from lower prices.

3.11. Instead, our objective for competition in balancing and ancillary services is to drive lower costs for consumers. We believe allowing DNOs to participate in balancing services with CLASS is consistent with our principles around using competition to drive lower costs. This option means enabling more providers to engage in markets, the application of an innovative business model, and using competition where we can to drive efficient network investment. It also represents harnessing whole system solutions. CLASS is an example of one network company providing a network service to the benefit of another and we do not think it is or should be unique in that respect. More efficient whole system outcomes can be realised if network companies do not work in isolation, but are able to identify and utilise where efficient transmission network solutions, distribution network solutions, and energy resources connected to either network.

3.12. We understand concerns of potential conflicts between DNOs acting in competition with their customers (both as providers of balancing services) and their neutral market facilitator roles. Considerations of conflicts have formed part of our reasoning in preventing DNOs from engaging in storage or commercial aggregation. Unlike those, as a network solution CLASS can only be delivered by DNOs. Ultimately, an output of neutral market facilitation is a level playing field across network and non-network solutions. This does mean we expect non-network solutions can be harnessed where traditionally network solutions were used, for example in place of traditional reinforcement to manage network congestion. But it also means new (and existing) network solutions like CLASS can be used where they are better value, including where non-network solutions have traditionally been used.

3.13. Nonetheless we have taken concerns around conflicts into account, as exploitation of conflicts could undermine opportunities for enhanced competition. These include risks that the DNO could discriminate against its competitors through providing its monopoly services to those competitors, or abuse any privileged access to information that may

advantage its commercial position. Indeed, as networks increasingly coordinate with one another,[34] and particularly as the ESO and DNOs share more information, actual or perceived risks increase that the DNO has privileged information about the ESO's needs.

3.14. We have no evidence that ENWL is leveraging (or has leveraged) its monopoly position as network operator to improve its relative commercial performance. We take any allegations that this has happened or could happen extremely seriously.[35] Ensuring DNOs manage any actual or potential conflicts of interest effectively and that they procure network services and offer distribution services transparently, impartially and consistently is critical. We have existing protections in place to mitigate these risks. For example, DNOs are required not to abuse their special positions, and not to discriminate the provision of connection services and use of system.[36] But we want to see more proactivity from DNOs in embedding risk mitigations. Generally, we think a more holistic, consistent, and principled regulatory approach to managing conflicts of interest and transparency across DNOs' operations is appropriate, rather than introducing several bespoke mitigations. We are currently reviewing DNOs' conflict mitigation strategies and considering our next steps. However, we are using this consultation to invite views on what actual or perceived conflicts might exist in relation to CLASS specifically, and what additional measures, including ring-fencing or auditing, would be effective and proportionate to address them.

Option 1B: CLASS is included in DRS9

3.15. We think DRS9 offers some of the same advantages as DRS8, but that its differences are on balance disadvantageous. Like DRS8, this should incentivise DNOs to participate where there is an investment case for doing so, with associated benefits of enhanced competition in the provision of balancing services. However, the limit to prices in DRS9 – to a level that allows DNOs to recover its reasonable costs and a reasonable margin

[34] The specific requirements are subject to consultation. We will soon be publishing a statutory consultation on licence conditions and guidance for network operators to support and efficient, coordinated, and economical whole system

[35] Our enforcement guidelines describe how we will use our enforcement powers if businesses breach compliance with relevant conditions and requirements or are alleged of anti-competitive agreements or abuses of dominant positions https://www.ofgem.gov.uk/publications-and-updates/enforcement-guidelines

[36] Condition 4 and Condition 19 of the Electricity Distribution Standard Licence Conditions https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions More detail in Appendix 2

– and the complexity associated with identifying and demonstrating compliance with such a limit may disincentivise investment due to potentially lower revenues and any administrative burden associated with ensuring compliance. This could mean DNOs do not offer CLASS even where it could lower balancing costs. We do not think provisions to restrict revenue should be necessary in a competitive market; competition between DNOs and other balancing services should constrain prices.

3.16. By not sharing net revenue with consumers, we remove the risk that consumers face higher DUoS charges if DNOs make losses from CLASS investments. However, we also remove the potential for them to share benefits. As set out in paragraph 3.8 we think this sharing is appropriate to enhance potential benefits to consumers, recognising the use of network assets funded via the price control.

3.17. Whether included in DRS8 or DRS9, we consider the effects of CLASS on competition, and our alignment with strategic objectives to be the same. Therefore paragraphs 3.9 to 3.14, and Appendix 2, apply to option 1B.

Option 2: CLASS is required in price control

3.18. We think option 2 does not incentivise efficient use of CLASS, and could lead to significant market distortions. It would reduce the volume of balancing services that the ESO would procure on a competitive basis and as such, reduce the commercial opportunities available to providers of balancing services. The overall cost for balancing would be higher if the volume that was to be provided by CLASS was not cost effective compared to what could be procured competitively by the ESO. DNOs would not have the incentive to invest in CLASS only where it would be a cost effective balancing service, as they would be remunerated through DUoS charges regardless. Therefore, consumers, by paying these DUoS charges, would take all the risk that the costs to provide CLASS are not outweighed by commensurate reductions in BSUoS charges.

3.19. As noted above, option 2 reduces the amount of balancing services that are procured competitively. There is of course a role for DNOs to deliver price controlled services. However, balancing service provision is not a monopoly service, and there is no evidence that competition is ineffective. This option could prevent those providers who could actually offer overall lower balancing costs for consumers from being procured.

3.20. We recognise that removing the commercial incentives from DNOs providing CLASS could allay concerns around effects on their neutrality. However, we believe option 2

would be disproportionate and would undermine the intent and desired outcome of this objective – to promote a level playing field between network and non-network solutions and deliver optimal decisions. This option affords DNOs with investment protection (as their costs are recovered by the price control) unavailable to non-network providers, who are exposed to changes in balancing service prices and will in effect be locked out from competing for the proportion of the ESO's requirements that are met by CLASS.

Option 3: Prohibit

3.21. We consider prohibiting the use of CLASS as a balancing service would not promote efficient system balancing. Doing so would exclude a particular type of technology from providing the service, and reduce the pool of potential providers the ESO can utilise. Whilst some concerns have been raised, we have no substantive evidence from our analysis or stakeholders that the participation of CLASS has distorted competition in the provision of balancing services or has led to worse consumer outcomes or that it might do so in future. Existing obligations and incentives on DNOs and the ESO, market structures, and uncertainties and constraints on CLASS deployment underpin this view.[37] However, in this consultation we are asking for views and evidence as to the impact (or potential impact) of CLASS on competition in the provision of balancing services, in particular in relation to any distortions that may arise.

3.22. We appreciate that this option would mitigate concerns that CLASS affects DNOs' neutrality in tendering and undertaking other monopoly activities. On balance, however, we believe this is disproportionate to the risk, and not in the consumer interest as it precludes potential benefits. Our requirements on network companies to coordinate with one another will be subject to further consultation this year, but broadly, we expect that network companies providing services to other network companies will be an important part of an overall efficient, economical system. Foreclosing the opportunity to use a particular type of solution is contrary to the objectives of our work to embed whole system outcomes; we believe efficient decisions for network planning and operation require knowledge of the full range of solutions.

[37] See more discussion in Appendix 2

Conclusion

3.23. Our minded-to position is to continue to allow DNOs to provide CLASS to the ESO competitively, with costs and revenues included in DRS8, for RIIO-ED2 (option 1A). We propose to continue to monitor participation for uncompetitive outcomes, and continue our programme of work to drive DNOs to implement robust, transparent measures to address actual or perceived conflict of interest. We are consulting on this position now to seek feedback on our assessment, understand whether there are other relevant considerations, and gather relevant evidence that supports or counters our minded to position. We will consider responses to this position before we take our final decision.

3.24. We believe allowing DNOs to offer CLASS as a competitive balancing service and including it in DRS8 promotes efficient system balancing. It aligns with our stance to promote competition between network and non-network solutions, creating incentives for DNOs to participate where there is an investment case. Good investments promote effective competition which will drive down balancing costs. We believe it is right that consumers should be able to also benefit from good investments in CLASS via lower DUoS charges because of the use of assets funded by consumers. We also think limiting revenues (as option 1B) could distort investment signals and is generally not necessary in competitive markets such as balancing service provision. We therefore favour option 1A over 1B. Meanwhile, requiring CLASS in the price control (option 2) detaches investment signals in CLASS from market signals; DNOs' investments are protected by consumers paying for all costs. Overall balancing costs would be higher if the cost associated with CLASS (as a price control service) were not cheaper than what could be provided competitively. Excluding CLASS (option 3) would reduce the ESO's ability to utilise balancing services from the widest range of technologies and providers, ultimately precluding consumers from benefitting from any associated enhancements in competition. Evidence provided by stakeholders and our analysis does not suggest the participation of CLASS will undermine good competitive outcomes, though we ask stakeholders to provide to us their views on this, with reasoning and evidence.

CLASS and wider strategic work on DSO

3.25. We understand the importance of making our position on CLASS clear in the broader context of DSO and evolving roles for DNOs in contestable services. We have discussed in this consultation alignment of our proposed position with the strategic objectives we set out in our 'DSO position paper': effective competition for balancing services, neutral tendering and level playing fields, and promoting whole system solutions. Ultimately, these objectives share an outcome of an optimal use of system resources. We think this is what our proposed position enables; continuing to allow DNOs to compete with CLASS enables the ESO opportunities to use the widest range of resources for balancing, puts a level playing field between network and non-network solutions, and incentivises new innovative business models.

3.26. There are contestable activities DNOs should not be involved in. For example, we have said DNOs should not operate storage (excepting certain special circumstances) and should not participate in commercial aggregation.[38] Unlike storage and aggregation, CLASS represents a network solution uniquely deliverable by DNOs. There are and may be an increasing number of opportunities for network companies to provide conventional and innovative network technologies to provide services that have conventionally been provided by non-network providers, in the same way that non-network providers are increasingly offering solutions to resolve issues conventionally resolved by network companies. There are grey areas, and we are seeking to make clear for RIIO-ED2 what roles and services should and should be delivered by DNOs. Generally, we do not think network companies should undertake activities that can be done by third parties. As we make more clarifications, we intend to follow the principles set out in this consultation to inform our positions, and are ultimately guided by what is in the consumer interest.

3.27. In any case, transparency and impartiality in DNO decision-making is essential. This is why we are taking forward a package of measures to deliver holistic, consistent, and principled approaches to managing conflicts of interest and embedding transparency across DNOs' operations.[39] In this consultation we invite views on what actual or

[38] https://www.ofgem.gov.uk/publications-and-updates/decision-enabling-competitive-deployment-storage-flexible-energy-system-changes-electricity-distribution-licence
[39] Including our work on DSO key enablers, wider data strategy, our letter to the Energy Networks Association, and commitments in our RIIO-ED2 framework decision

perceived conflicts might be associated with CLASS, and what additional measures, such as ring-fencing or independent audits, would be effective and proportionate to address them. Our work in this space is evolving and we will provide more clarity around our expectations as we formulate our position.

4. Next steps

4.1. Responses are due by 23 March and should be sent by email to flexibility@ofgem.gov.uk, or via our online portal.

4.2. Once the consultation is closed, we will consider all responses. We will use the responses as part of our analysis for developing our final position on the regulatory treatment of CLASS in RIIO-ED2. In our decision document we will set out the mechanism by which we will enact our policy position. We intend to publish our decision document this summer to align with the RIIO-ED2 Methodology Consultation.

4.3. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at www.ofgem.gov.uk/consultations. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

Appendix 1 – List of questions

For all questions please provide evidence for your positions and your reasoning.

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

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

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)?

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

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

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

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?

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?

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?

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?

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?

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

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

Appendix 2 – Effects on competition of DNOs offering CLASS as balancing services to the ESO competitively (Option 1A and 1B)

As part of our analysis of DNOs' continued participation in balancing services markets, we have considered the potential effects on the overall competitiveness of balancing services, and whether there could be an associated adverse effect on consumer outcomes. This represents a high level assessment of relevant factors and evidence. We are of the view that the evidence provided by this analysis does not indicate it would be proportionate to undertake a more comprehensive assessment at this stage.

This is our initial view, but we are using this consultation to seek views on the validity of these conclusions with justification and any supporting evidence which either supports or conflicts with our conclusions.

To evaluate the impact to competition, we have considered three factors:

1. A DNO's ability to have or to gain market power

2. A DNO's ability to discriminate against its competitors in its monopoly role to artificially restrict competition

3. Indirect impact on other markets which could outweigh consumer benefits of CLASS

In considering the ability for the DNO to have or gain market power – the ability to raise prices profitably above competitive levels – in balancing services, we review the current state of balancing service provision, CLASS deployment to date, the ESO's licence obligations and the structure and dynamics of the various categories of balancing services. We consider how procurement of balancing services might change in future, and potential consequences if more DNOs invested in CLASS capacity. To evaluate the second factor, we assess the incentives and ability for DNOs to leverage their monopoly licensee role to restrict competition in the competitive provision of balancing services, considering existing protections and ongoing work to address conflicts of interest and transparency. Third, we discuss the potential indirect impact of CLASS's participation in the balancing services, ie effects on other markets.

DNOs' ability to have or gain market power

Description of balancing services and ENWL's participation

The ESO has a licence obligation to maintain the frequency of the system within ±1% of 50Hz and uphold relevant codes.[40] To meet these obligations, the ESO procures various types of energy balancing and locational services. To evaluate the extent to which the DNO has market power in the provision of these services, we focus on the markets that a DNO has participated in. To date, only one DNO, ENWL, has participated in balancing services, and has exclusively provided firm frequency response (FFR) services and fast reserve (FR) services.

FFR background

FFR can be categorised into non-dynamic and dynamic response. Dynamic frequency response is a continuously provided service, proportionally following frequency movements, while non-dynamic frequency response is a discrete service triggered by a defined frequency deviation. There are three main service types for dynamic: primary, secondary and high. Primary and secondary response services are an increase in generation or reduction of demand when the frequency is below 50Hz, with different ramp and duration times. High response is a reduction in generation or increase in demand when frequency is above 50Hz. Only for secondary response is a non-dynamic response procured as well as dynamic; primary and high services are provided by dynamic providers only.

It should be noted that providers participating in the FFR market will offer a bundled service comprised of their asset's primary, secondary and high response values. This bundled service is then assessed against other tenders and also against the expected price of the within day mandatory frequency response market.

The ESO first procures a minimum amount of dynamic response and then the remainder of the response requirement is met with either non-dynamic or dynamic services, based on what is economic. The ESO procures primary, secondary and high services through monthly tenders.

[40] https://www.nationalgrideso.com/codes/security-and-quality-supply-standards?code-documents

FFR market description

The amount of capacity bid and accepted in FFR depends on the tender month and type of service. In 2019, the amount of capacity bid into the primary response monthly tenders ranged 606MW – 1654MW; secondary response ranged 777MW – 1672MW; and high response 344MW – 1383MW. In each month, the ESO procured between 223MW – 890MW of primary response; 382MW - 890MW of secondary response; and 161MW – 803MW of high response.

In 2019, energy storage providers represented 71% of total capacity bid for primary, secondary and high services. One DNO, ENWL, has participated in the FFR tenders offering non-dynamic secondary services only. In 2019, ENWL represented 1.3% of the total capacity bid for secondary frequency response services and 1.6% of the ESO's procured capacity in the secondary frequency response tenders. As above, this does not reflect all of the ESO's secondary frequency response service utilisation, for example because the ESO will procure by comparing tendered prices against the mandatory frequency response markets.

ENWL had a bid acceptance rate of 71%, slightly higher than average; the ESO accepted 65% of all bids in the secondary response tenders. ENWL's prices have generally been in line with or lower than other providers. Its average overnight availability price for accepted bids is £1.15 (per MW per hour) compared to an average of £1.48 of accepted bids across all providers. Its average day time availability price for accepted bids is £2.35 (per MW per hour) compared to £2.30 for the market.[41]

FR market background and description

In the Fast Reserve market, services can be provided as either a firm service or optional service. Under the optional service, providers enter a bilateral agreement with the ESO which allows for the optional dispatch of FR services when available at pre-agreed prices. Under the firm service, providers compete to offer services through a monthly tender process, but are required to provide when called. The amount of capacity bid into firm FR tenders vary depending on the tender month and in 2019, the ESO received between 0MW - 2290MW. Meanwhile, the ESO procured between 0MW – 638MW. In 2019, distributed generators

[41] Figures provided by ENWL. (Market price is the weighted average price paid by NGESO for volume procured for each month). Overnight is EFA blocks 1 & 2. Daytime is EFA Blocks 3-6.

represented 82% of total capacity bid in firm FR tenders. To date, one DNO, ENWL, has offered both firm and optional services. In 2019 ENWL provided 13% of the ESO's procured capacity in firm FR tenders. From April to December 2019 it provided 21% of all accepted firm FR capacity. This does not necessarily reflect the total procured volume for reserve services, as the ESO also procures optional services and can use alternative balancing mechanism actions.

From a high level overview of ENWL's participation in balancing services, our evidence does not indicate ENWL have market power or there have otherwise been distortions to competition.

Factors affecting ability to have or gain market power in future

The ability for a DNO to have or gain market power will be constrained by its technical capacity (limited by the voltage boundaries within which DNOs must operate their networks, and demand behind the substation), its capability to provide different services, and the ESO's demand. Estimating investment in CLASS capacity and then the extent of DNOs' successful participation as a balancing service provider for the RIIO-ED2 period is not clear-cut. In 2016 Baringa published 'Assessing the impact of CLASS on the GB Electricity Market' for ENWL. They projected a high volume of CLASS capacity and significant market shares.[42] In the study, it was projected that by 2014-15 ENWL would be able to offer from 81MW to 105MW, and, by 2027, all DNOs could collectively be able to offer approximately 1.34GW to 1.75GW of CLASS capability as balancing services. In this scenario, this collective 2027 capacity would exceed and be able to fulfil the ESO's requirement for FFR and FR. The projection was based on assumptions around the technical capabilities of CLASS, all DNOs maximising that technical capability, and positive financial cases for investment. In practice, we have seen significantly lower deployment than projected in this report, and participation with fewer product types. To date, only ENWL have offered the ESO CLASS (up to 75MW), and it has not offered dynamic FFR services or short term operating reserve services as projected.

Even if there was to be significant deployment in CLASS capacity, there are several factors which are likely to prevent DNOs from gaining or sustaining market power. First we consider barriers to entry. The ESO's balancing services products are designed to be technology

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

agnostic and can be provided by transmission and distribution connected assets. Since 2017, there has been a transition in the type of providers offering FFR and FR. For example, in 2017 demand side flexibility providers made up 44% of the total number of bidders in FFR. In 2019, demand side flexibility providers like storage and load response participants represent 85% of bidders. In 2017, there were four different companies bidding in the firm FR market; in 2019 there were ten companies bidding in firm FR. Recent steps, such as reducing minimum capacity requirements, have reduced barriers to entry, and going forward a primary objective of the ESO's work programme on the future of balancing services is to further widen access to its markets.[43] As part of this, the ESO is testing closer to real-time procurement of frequency response markets which could create opportunities for wind, solar and other providers who are less able to forecast their availability to participate.[44] Evidence of a large number of participants, diverse providers and work to increase access indicate it would be unlikely for a DNO to gain market power and raise and sustain excessively high prices, as other providers would have the ability and incentive to enter the market if prices were high.

Second, the ESO's monopsony role as procurer of balancing services and its incentives reduce ability for a DNO to gain market power, and more broadly promote the long term competitiveness of balancing services. The ESO is obligated in its licence to develop competitive approaches to procuring balancing services wherever this is in the best interest of current and future electricity consumers.[45] As part of these obligations the ESO is required to consider how its procurement impacts competition on the total system, including considering behaviour of electricity market participants and efficiency of the national electricity transmission system. We have provided guidance to further explain our expectations of the ESO to meet these licence conditions.[46] We set out that we expect the ESO to strike an appropriate balance between short-term reductions in balancing costs and the longer-term development of balancing services markets. This includes taking a risk-based approach to planning and mitigating against adverse market conditions, taking into account the types of resources expected to be available and the types of services the ESO may require in future.

[43] https://www.nationalgrideso.com/publications/future-balancing-services
[44] https://www.nationalgrid.com/sites/default/files/documents/Product%20Roadmap%20for%20Frequency%20Response%20and%20Reserve.pdf
[45] https://epr.ofgem.gov.uk/Content/Documents/Electricity%20transmission%20full%20set%20of%20consolidated%20standard%20licence%20conditions%20-%20Current%20Version.pdf
[46] https://www.ofgem.gov.uk/system/files/docs/2019/03/eso_roles_and_principles_guidance_2019-20.pdf

Therefore the ESO shall not procure CLASS without due consideration of impacts to effective procurement of its future needs.

DNOs' ability to discriminate against balancing services competitors using its separate monopoly role

We have also considered the potential for a DNO to discriminate against its competitors in provision of balancing services by leveraging its monopoly distribution role. A DNO can be competing to provide balancing services with providers who are also currently (or plan to be) connected to its network. This could create an incentive for the DNO to use this role to exclude or limit a connected participant's ability to offer balancing services so that CLASS performs relatively better. For example, a DNO could offer a slow connection service to a new battery which could offer low FFR prices and potentially reduce the DNO's revenue from CLASS. In addition, the DNO has an increasing role as a neutral buyer of services to meet network and system needs. If a DNO competes against flexibility providers in the ESO's ancillary services markets, and the same flexibility providers could be providing flexibility to that DNO, the DNO may have privileged information about competitors' bidding strategies and also be able to discriminate in its procurement process. DNOs might have an actual or perceived advantages in the information they have about the ESO's requirements that it has gained from its monopoly role. Information exchange between DNOs and the ESO may increase as they are expected to enhance coordination and collaboration. We will be We ask stakeholders to respond to this consultation to let us know what information DNOs might have access to that could give them an unfair advantage.

There are existing protections to mitigate these risks. Condition 4 of the electricity distribution licence requires that DNOs do not abuse their special position; they must at all times operate their distribution business in a way that does not restrict, prevent, or distort competition in the supply or generation of electricity. Condition 19 prohibits discrimination, including in the provision of connection services and use of system. [47] In the Utilities Contracts Regulations 2016, DNOs are required to procure without discrimination.[48] In addition to obligations, DNOs are subject to price control incentives which would deter them from offering certain customers poor services; for example we have incentives around

[47] https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions
[48] http://www.legislation.gov.uk/uksi/2016/274/pdfs/uksi_20160274_en.pdf

connections times[49] and engagement with different types of connecting customers.[50] In question Q12 we invite views on the sufficiency of existing protections.

However, we recognise the increasing significance of actual and perceived impartiality of DNOs in the DSO transition, and are taking additional steps to improve transparency and conflict mitigation in DNO decision-making. In summer 2019, we published a joint letter with the Department for Business, Energy & Industrial Strategy that instructed DNOs to proactively engage with concerns around conflicts of interests and address them with appropriate mitigation measures.[51] We have a range of programmes to improve data practices. Our work programme on DSO key enablers includes introducing measures to enhance what data DNOs make available and how they share it.[52] Outcomes of improved transparency and data availability include a more level playing field for providers who want to use information, and also a greater ability to identify any anti-competitive practices.

We are monitoring the progress DNOs are making to address actual or perceived conflicts of interest. We have seen improvements in DNOs' engagement with stakeholders and commitments to address concerns. For example, as part of the Energy Networks Association's Open Networks Project, network companies have developed with stakeholder engagement a conflicts of interest tracker setting out risks and mitigations.[53]

We and the government have said we are prepared to take further action if DNOs do not take adequate measures to address conflicts of interest.[51] In January this year we and BEIS again wrote to the regulatory managers at all DNOs to ask what measures DNOs have taken in 2019, and plan to take in the first half of 2020, to mitigate conflicts of interest. We have since received responses and are reviewing approaches. Some DNOs have proposed to have independent audits of their decisions, and ring fencing or separation of teams where there is potential for actual or perceived conflicts. We are developing our view on what is adequate and are considering next steps. Generally, we think it will be more effective for DNOs to develop more holistic regimes to manage conflicts of interest that provide markets with

[49] https://www.ofgem.gov.uk/publications-and-updates/electricity-time-connect-incentive-decision-and-direction
[50] https://www.ofgem.gov.uk/publications-and-updates/incentive-connections-engagement-ice-guidance-document-decision
[51] https://www.ofgem.gov.uk/publications-and-updates/open-letter-ena-open-networks-project-ofgem-and-beis
[52] https://www.ofgem.gov.uk/publications-and-updates/key-enablers-dso-programme-work-and-long-term-development-statement
[53] http://www.energynetworks.org/electricity/futures/open-networks-project/workstream-products/ws3-dso-transition/products.html

confidence of impartiality, rather than introducing a range of bespoke conflict management approaches for different activities.

We are using this consultation to seek views on what additional conflict management regimes would be effective (considering particular conflict risks associated with CLASS) to inform our view on additional appropriate mitigations. We emphasise that addressing conflicts of interest is a priority for us. While we think network and non-network solutions competing can be good for consumers, relevant conflicts must be managed to ensure benefits are realised.

Indirect impacts on other markets

Here we consider the risk that any reductions in consumer bills associated with balancing services provided by CLASS are offset by consequential effects in other markets. This risk could occur where (1) flexibility providers are displaced by CLASS in a balancing services market, (2) a displaced flexibility provider is not able to recover this lost revenue by participating in a different market or raising prices in another market, (3) without that revenue, the flexibility provider is loss-making and so exits all markets, (4) the other markets from which the flexibility provider has exited now have fewer participants which allows some remaining participants exert market power to raise prices.

Our view is that the probably of negative outcomes from this issue is low. First, DNOs currently offer a small proportion of balancing services, and thus displacement of providers is small. We don't have evidence that DNO participation will increase substantially, either in volume or in the number of products provided. Second, the ESO has an obligation when procuring balancing services, through both its licence and incentive scheme, to take into account the impact such actions have on competition in the wholesale electricity market and on the total system.[54]

We have also considered concerns that where CLASS displaces other balancing service providers or lowers market prices, the investment case for those other providers is undermined by lost revenue. We are continuing to work to facilitate the right environment for effective, competitive markets, which ensures that flexibility providers are rewarded for the value they can offer the system. This includes ensuring that flexibility providers are correctly

[54] C16 paragraph 1(b) https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions

valued when compared to network reinforcement solutions, and that there are no undue barriers to access flexibility markets. This does not mean that flexibility providers should receive revenues if they are not the most efficient solution. Ultimately, the outcome of our work on flexibility is to reduce costs to consumers by finding the most efficient way to meet electricity system needs.

Conclusion

From our consideration of potential effects on competition we have not identified any distortions or potential distortions arising as a result of DNOs' ability to offer CLASS as a balancing service. We are of the view that there is unlikely to be an adverse effect on consumer outcomes. The ability and incentives for the DNO to gain market power or abuse its monopoly position as network operator low. We will, however, continue to monitor DNOs' behaviour in these markets, and take any action as may be required to address issues if and when they arise. We also believe the indirect impact to other markets is low and so does not outweigh the consumer benefit of CLASS. We think on balance that enabling a wider range of technologies to participate in flexibility markets can contribute to efficient competitive outcomes.

We welcome views on the analysis provided, and ask that they are provided with justification and evidence. Our final decision will take into account all such representations.

Appendix 3 – Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, Ofgem). The Data Protection Officer can be contacted at s

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. a consultation.

4. With whom we will be sharing your personal data

None

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for an appropriate duration.

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data
- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you

- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas (Note that this cannot be claimed if using Survey Monkey for the consultation as their servers are in the US. In that case use the Data you provide directly will be stored by Survey Monkey on their servers in the United States. We have taken all necessary precautions to ensure that your rights in term of data protection will not be compromised by this.

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system. (If using a third party system such as Survey Monkey to gather the data, you will need to state clearly at which point the data will be moved from there to our internal systems.)

10. More information For more information on how Ofgem processes your data, click on the link to our Ofgem privacy promise.