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Consultation

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

Subject	Details
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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 National Grid Electricity System Operator (ESO) for its balancing services activity. This service is commonly known as CLASS. We would like views from people with an interest in energy networks and flexibility. We particularly welcome responses from flexibility providers, DNOs, the ESO and consumer groups. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. 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

Our vision is for a secure, affordable, net zero system where all connected resources can flexibly respond to available energy and network capacity. We want to be able to take advantage of a fully flexible system to bring more renewable generation online, whilst simultaneously keeping costs down for all consumers.

In July 2021, we published our second joint Smart Systems and Flexibility Plan with government; setting out a vision, analysis and suite of clear policy actions to drive a net zero energy system.[1] Full Chain Flexibility is a key strategic priority for Ofgem and we are working to remove barriers to flexibility, and encourage the development of markets and signals that appropriately reward it.[2]

Since 2016, DNOs have been allowed to sell balancing services[3] to the National Grid Electricity System Operator (ESO) through remote voltage management at substations. This service is commonly referred to as Customer Load Active System Services (CLASS). CLASS can only be provided by DNOs as it requires the use of existing distribution network assets, although the companies do have to invest in separate technology, software and expertise to deliver the service. We believe that flexibility service requirements for distribution and transmission markets, and for net zero targets, will continue to grow. CLASS is one potential solution among the many flexibility services that will be needed to meet the full scope of the ESO's future balancing service requirements.

Previously, in February 2020, we consulted on the regulatory treatment of CLASS as a balancing service in the RIIO-ED2 network price control.[4] Responses were extensive and highly varied, with a number of stakeholders expressing doubts over our minded-to position and/or requesting further analysis of the options under consideration. For these reasons, we have elected to consult again on the regulatory treatment of CLASS as a balancing service and have produced a supporting Impact Assessment, which should be read in conjunction with this document, to provide a detailed assessment of the costs, benefits and wider impacts. Where stakeholders raised concerns in response to the 2020 consultation, we have

[1] BEIS & Ofgem (2021), Transitioning to a net zero energy system: Smart Systems and Flexibility Plan 2021
[2] Ofgem (2022), 2022/23 Forward Work Programme Consultation
[3] Balancing services are procured by the ESO to balance demand and supply, and to ensure the security and quality of electricity supply, across the transmission system in Great Britain.
[4] Ofgem (2020), Consultation: Regulatory treatment of CLASS as a balancing service in RIIO-ED2

taken these into account and used the evidence set out in our Impact Assessment to assess their materiality.

In this consultation, we are seeking views on the treatment of CLASS for the next electricity distribution price control (RIIO-ED2), which starts on 1 April 2023 and will end on 31 March 2028. 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 the same options as in our 2020 consultation, which are:

- **Option 1A:** a continuation of the current regulatory treatment of RIIO-ED1, allowing DNOs to sell CLASS to the ESO and remunerating this through Directly Remunerated Services category 8 (DRS8).
- **Option 1B:** continuing to allow DNOs to sell CLASS to the ESO, but instead remunerating this through Directly Remunerated Services category 9 (DRS9).
- **Option 2:** requiring DNOs to provide CLASS to the ESO outside of market mechanisms and thereby funding the costs through the RIIO-ED2 price control.
- **Option 3:** prohibiting CLASS's use as a balancing service entirely.

Our **initial view that we are consulting on** is that allowing DNOs to continue to offer CLASS to the ESO, 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 mechanisms, and include it under DRS8 for the purpose of revenue treatment. Our analysis shows that CLASS is a cost effective, low carbon technology that has the potential to reduce energy bills for consumers. This option would have the additional benefit of rewarding consumers for sound investments made by the DNOs in the form of lower Distribution Use of System (DUoS) charges when DNOs earn profits.

To be clear, as new roles are required to deliver effective distribution system operation (DSO), our starting position is that DNOs should not undertake activities that can be performed by third parties. However, the circumstances in this case lead us to conclude that it is in the consumer interest to take an alternative stance; only DNOs can provide CLASS and our updated assessment suggests that the net economic benefit is likely to be significant. Prohibiting CLASS would narrow the set of choices available to the ESO and mean consumers faced higher electricity bills than they might otherwise do.

We emphasise in Chapter 3 of this consultation that, in providing CLASS, DNOs are required to ensure that they do not leverage their monopoly position or any information they hold as a result of that position to gain an unfair advantage; they must not act in an anti-competitive manner.[5] We have the powers to take stringent action if they were to breach any of these requirements. In addition to these protections, we would like to hear from stakeholders if they have proposals for further measures DNOs should adopt to effectively and proportionately address any conflicts of interest associated with CLASS.

At the same time, we acknowledge that stakeholders in their responses to the 2020 consultation raised broader concerns around conflicts and transparency in DNOs' decision making that go beyond the regulatory treatment of CLASS in RIIO-ED2. Recognising that a decision on CLASS will not include all the considerations or analysis for alternative DSO governance arrangements, we highlight to stakeholders that Ofgem has also set out a new baseline expectation that DNOs, at a minimum, include demonstrable executive-level accountability and board-level visibility of key DSO decisions across the planning, operation and market facilitation functions.[6] In parallel, Ofgem is continuing to explore the value of alternative DSO governance arrangements with respect to conflicts of interest, including requiring further separation of some or all DSO roles from DNOs. In Spring 2022, we will be launching a Call for Input to explore whether governance arrangements in place for distribution network and systems operation need to be reformed to ensure efficient energy planning, operation and flexibility market development at a local level.

We invite stakeholders to consider the analysis we set out in this document, and the supporting Impact Assessment, and **we are keen to hear your views**. Responses are due by **18 May 2022** and should be sent by email to flexibility@ofgem.gov.uk. 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 regulatory treatment of CLASS in Summer 2022, to align with the timing of the RIIO-ED2 Draft Determinations.

[5] We provide a review and analysis of potential theories of harm to competition in Chapter 6 of the Impact Assessment, covering both coordinated and foreclosure effects.
[6] See Appendix 4 in Ofgem (2021), RIIO-ED2 Business Plan Guidance

1. Introduction

Chapter summary

This chapter provides a summary of the consultation on CLASS's regulatory treatment as a balancing service in RIIO-ED2. We explain:

- What we are consulting on
- What CLASS is
- Our strategic priorities for flexibility and DSO, and how CLASS interacts with them
- The consultation stages and associated timelines

What are we consulting on?

1.1. In this consultation, we are seeking views on the regulatory treatment of CLASS as a balancing service for the next electricity distribution price control, RIIO-ED2, which starts on 1 April 2023. Our 2016 Direction only provides for the use of CLASS as a balancing service for the current price control period, RIIO-ED1.[7]

1.2. We set out, in this consultation document, several options for the regulatory treatment of CLASS in RIIO-ED2. We have considered:

- **Option 1A:** a continuation of the current regulatory treatment of RIIO-ED1, allowing DNOs to sell CLASS to the ESO and remunerating this through DRS8.
- **Option 1B:** continuing to allow DNOs to sell CLASS to the ESO, but instead remunerating this through DRS9.
- **Option 2:** requiring DNOs to provide CLASS to the ESO outside of market mechanisms and thereby funding the costs through the RIIO-ED2 price control.
- **Option 3:** prohibiting CLASS's use as a balancing service entirely.

1.3. As part of our updated assessment, we have reviewed the costs, benefits and wider impacts of the deployment of CLASS as a balancing service. We have also considered stakeholder feedback, including views related to the indirect costs of CLASS and potential impact on competition in the market for balancing services.

[7] Ofgem (2016), Class DRS8 Direction to DNOs

1.4. We have also taken into account our strategic priorities, including our Full Chain Flexibility vision for a secure, affordable, net-zero system where all connected resources can flexibly respond to available energy and network capacity. Our DSO regulation, through the RIIO-ED2 framework, is intended to drive DNOs to more efficiently develop and use their network, taking into account flexible alternatives to network reinforcement. In Spring 2022, we will also be launching a Call for Input on reforms needed to the institutional framework at a local level to deliver cost-effective net zero. This will explore whether governance arrangements in place for distribution network and systems operation need to be reformed to ensure efficient energy planning, operation and flexibility market development at a local level.

Context and related publications

Our strategic priorities

1.5. Our vision is for a secure, affordable, net zero system where all connected resources can flexibly respond to available energy and network capacity. We want to be able to take advantage of a fully flexible system to bring more renewable generation online, whilst simultaneously keeping costs down for all consumers.

1.6. Ofgem's objective is to protect consumers' interests now and in the future by working to deliver a greener, fairer energy system. We do this by:

- Working with government, industry and consumer groups to deliver a net-zero economy, at the lowest cost to consumers.
- Ensuring fair treatment for all consumers, especially the vulnerable.
- Enabling competition and innovation, which drives down prices and results in new products and services for consumers.

1.7. We recognise that a smart and flexible energy system is essential to hitting the UK's net zero climate goals, and that this will require new investment in flexibility services. We believe our proposed position on CLASS is complementary to our broad objectives on flexibility. In our 2022/23 Forward Work Programme Consultation[8], we set out how the Smart Systems and Flexibility Plan (a joint initiative between BEIS and Ofgem) and our Full Chain Flexibility strategic change programme plan to:

[8] Ofgem (2022), 2022/23 Forward Work Programme Consultation

- Remove barriers to flexibility on the grid for storage and interconnectors.
- Encourage the markets and signals needed to bring forward and reward flexibility.
- Facilitate flexibility from consumers (including products, tariffs and how we regulate smart appliances load controllers).
- Introduce the data and digital architecture required to underpin planning and markets (including greater network visibility and monitoring, cyber and data privacy).

1.8. We are also pursuing several initiatives through the RIIO-ED2 price control to unlock the benefits of flexibility at the distribution level:

- Under Electricity Distribution Standard Licence Condition 31E, DNOs will be encouraged to take a coordinated approach with other parties to the procurement and use of flexibility services.[9]
- We are also introducing a new DSO financial output delivery incentive to drive DNOs to more efficiently develop and use their network, taking into account flexible alternatives to network reinforcement.[10]
- We have also set out a baseline expectation that DNOs, at a minimum, include demonstrable executive-level accountability and board-level visibility of key DSO decisions across the planning, operation and market facilitation functions.[11] In parallel, Ofgem is continuing to explore the value of alternative DSO governance arrangements with respect to conflicts of interest, including requiring further separation of some or all DSO roles from the DNOs.

What is CLASS?

1.9. 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), 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

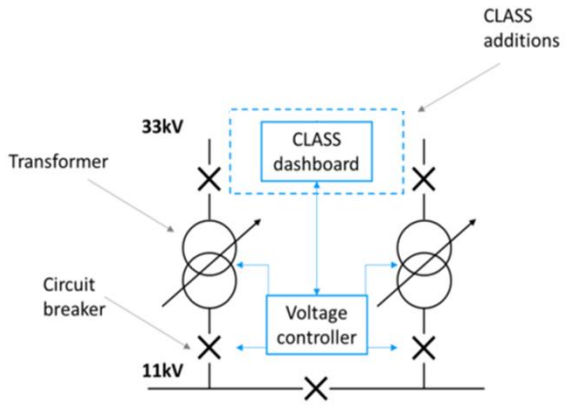
[9] Ofgem (2021), C31E Flexibility Reporting for March 2021 Letter
[10] Ofgem (2020), RIIO-ED2 Methodology Decision: Overview
[11] See Appendix 4 in Ofgem (2021), RIIO-ED2 Business Plan Guidance

power.[12] In this consultation, we use CLASS as the collective term to describe this set of remotely managed voltage control and network management services.

1.10. Only DNOs can provide CLASS. This is because, in addition to the assets specifically required for CLASS, it involves the operation of monopoly network assets that are essential for a DNO's business as usual operation to provide a reliable system. It is therefore distinct from other forms of demand side response in which an aggregator groups together disperse distributed energy resources with the aim of enabling these small energy sources to provide services to the ESO.[13]

1.11. CLASS capability requires DNOs to invest in additional communications and control systems. Figure 1 shows, at a high level, the components of a primary substation with CLASS additions. To participate in the balancing services market, CLASS fulfilled the definition of a demand unit and reserve providing group, and thus was approved by the ESO to provide select balancing services[14]. The capabilities of CLASS have the potential to meet the requirements of a subset of balancing services that the ESO procures. More information about balancing services, procurement processes and market information can be found on the ESO's website.[15]

Figure 1: Illustration of a primary substation with CLASS additions



Source: Adapted from Baringa (2016), Assessing the impact of CLASS on the GB electricity market.

[12] For an overview of the CLASS project and technology see Electricity North West (2015), Customer Load Active System Services Second Tier LCN Fund: Project Closedown Report 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] It should also be noted that CLASS is not a storage technology, as it does not involve the conversion of energy into electricity, and it differs from supply which relates to the supply of electricity to premises.
[14] The definition for 'reserve providing group' can be found in Commission Regulation (EU) 2017/1485.
[15] See https://www.nationalgrideso.com/balancing-services

The 2016 Direction and 2020 Consultation

1.12. The current regulatory treatment for CLASS will remain in effect until 31 March 2023 (ie the end of the RIIO-ED1 price control).[16] Ofgem is therefore required to form a position on DNOs providing CLASS to the ESO for the RIIO-ED2 period (1 April 2023 to 31 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.[17]

1.13. Ofgem previously consulted on its minded-to position to remunerate CLASS activities through DRS8 in its consultation, Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control, which was published on 10 February 2020.[18] Ofgem received 31 responses to this consultation, of which 8 were in support of Ofgem's minded-to position and 3 were generally supportive but believed further analysis of the considered options should be undertaken. A further 8 suggested that CLASS should be remunerated through the price control. However, 12 were in favour of prohibiting CLASS, often citing that it should only be utilised outside of the balancing services market.

1.14. Section 5A (s.5A) of the Utilities Act 2000 places a duty on the Authority to undertake an Impact Assessment (IA) if it is: (i) proposing to do anything for the purpose of, or in connection with, the carrying out of any function exercisable by it under or by virtue of Part 1 of the Gas Act 1986 or Part 1 of the Electricity Act 1989, or (ii) it appears to the Authority that the proposal is "important" within the meaning of s.5A. Ofgem has not reached a definitive position on whether an IA is required under s.5A. but, in any event, we have decided to carry out an IA before issuing a direction on CLASS's regulatory treatment in RIIO-ED2. This reflects the extensive nature and wide variation in the responses to the 2020 consultation, and requests from stakeholders for further analysis of the options under consideration. This IA has been published alongside this consultation and should be read in conjunction with this document. In light of the new analysis undertaken, we wish to provide stakeholders an opportunity to review this information and provide their response.

[16] Unless the Authority revokes the Direction after consulting DNOs and giving reasonable notice.
[17] See https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions
[18] Ofgem (2020), Consultation: Regulatory treatment of CLASS as a balancing service in RIIO-ED2

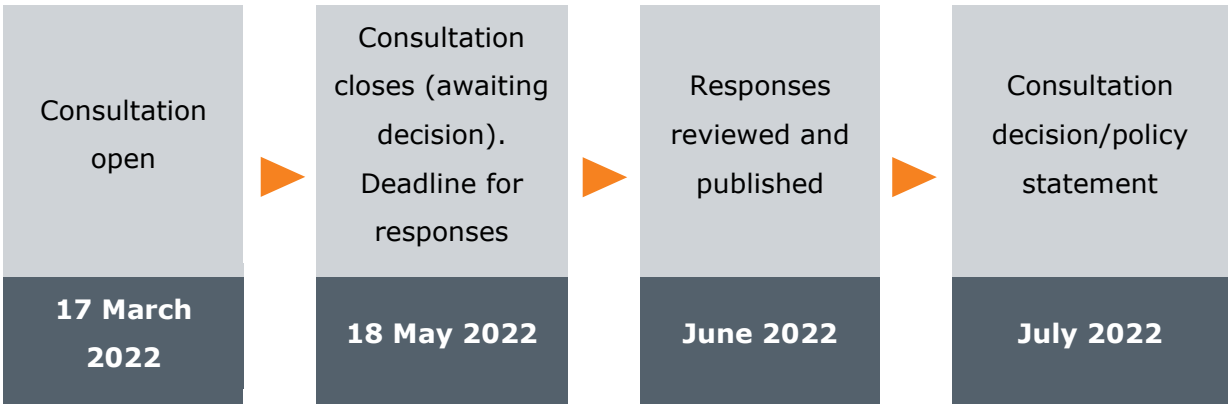
Associated documents

- The Electricity Safety, Quality and Continuity Regulations 2002
- Baringa (2016), Assessing the impact of CLASS on the GB electricity market
- BEIS & Ofgem (2021), Transitioning to a net zero energy system: Smart Systems and Flexibility Plan 2021
- CMA (2021), Merger Assessment Guidelines
- CMA (2021), Full text decision: National Grid Holdings One plc acquisition of PPL WPD Investments Limited
- Electricity North West (2015), Customer Load Active System Services Second Tier LCN Fund: Project Closedown Report
- HM Treasury (2020), The Green Book: Central government guidance on appraisal and evaluation
- National Grid ESO (2021), Operating Code No. 6
- Ofgem (2016), ED1 Specials template
- Ofgem (2014), ED1 Specials template: Supplementary annex 1
- Ofgem (2016), Class DRS8 Direction to DNOs
- Ofgem (2019), Position paper on Distribution System Operation
- Ofgem (2020), Consultation: Regulatory treatment of CLASS as a balancing service in RIIO-ED2
- Ofgem (2020), Impact assessment guidance
- Ofgem (2020), RIIO-ED2 Methodology Decision: Overview
- Ofgem (2021), Decisions on the ESO guidance documents for 2021-23
- Ofgem (2021), C31E Flexibility Reporting for March 2021 Letter
- Ofgem (2021), RIIO-ED2 Business Plan Guidance
- Ofgem (2022), 2022/23 Forward Work Programme Consultation

Consultation stages

1.15. This consultation will open on 17 March 2022 and close on 18 May 2022. We will consider all consultation responses carefully and will in due course publish non-confidential responses on our website. We are seeking to publish our decision in Summer 2022 to align with the RIIO-ED2 Draft Determinations.

Figure 2: Consultation stages



2. Our approach and minded-to position

Chapter summary

This chapter provides:

- An overview of the options under consideration for the regulatory treatment of CLASS in RIIO-ED2
- A summary of the responses that emerged from the 2020 consultation
- Our approach to assessing the options under consideration
- Our minded-to position

Options under consideration

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

- **Option 1A:** a continuation of the current regulatory treatment of RIIO-ED1, allowing DNOs to sell CLASS to the ESO and remunerating this through DRS8.
- **Option 1B:** continuing to allow DNOs to sell CLASS to the ESO, but instead remunerating this through DRS9.
- **Option 2:** requiring DNOs to provide CLASS to the ESO outside of market mechanisms and thereby funding the costs through the RIIO-ED2 price control.
- **Option 3:** prohibiting CLASS's use as a balancing service entirely.

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

Table 1: Overview of policy options under consideration for the regulatory treatment of CLASS in RIIO-ED2

<table>
<tr><th colspan="2">Option 1: CLASS competed as DRS</th></tr>
<tr><td colspan="2">• Costs of CLASS are not covered under allowed revenue in the RIIO-ED2 price control
• Market signals drive DNOs' investments and participation in CLASS
• The ESO procures CLASS based on its competitiveness with other balancing services</td></tr>
<tr><th>Option 1A: DRS8</th><th>Option 1B: DRS9</th></tr>
<tr><td>• DNOs' revenues from the ESO for CLASS are based on market prices and not subject to regulatory approval
• Consumers share DNOs' profits or losses at the totex efficiency incentive rate via decreases / increases to DUoS charges</td><td>• Prices to the ESO for CLASS are set at a level that allows recovery of efficient costs and a reasonable margin
• Consumers do not share in DNOs' profits or losses</td></tr>
<tr><th colspan="2">Option 2: CLASS provided as price control service</th></tr>
<tr><td colspan="2">• Costs of CLASS are covered under allowed revenue in the RIIO-ED2 price control
• The price control also defines the required CLASS capacity or utilisation
• CLASS is free to the ESO, so DNOs will be utilised before any other provider</td></tr>
<tr><th colspan="2">Option 3: CLASS is prohibited</th></tr>
<tr><td colspan="2">• Limited incentive for new investment in CLASS capacity
• Existing CLASS capacity cannot be procured by the ESO as a balancing service</td></tr>
</table>

Directly Remunerated Services (DRS)

2.3. DRS are where DNOs directly charge a customer. DRS are not covered by the price control determination. This means costs that are solely attributable to developing and operating CLASS as a balancing service would be included within the scope of the DRS, and would not be included under the allowed revenues which are recovered from consumers via DUoS charges. These attributable costs would include new assets (eg those in Figure 1), additional operating costs, associated maintenance costs and any other costs that would not otherwise be incurred. DNOs seek remuneration for these costs through direct charges to the customer, which in the case of CLASS is the ESO.

2.4. Payment by the ESO to a DNO for the provision of CLASS would be determined by the agreed contractual terms between those parties. In general, these terms would be set out in the competitive tenders that the ESO runs for different balancing service products, eg firm frequency response (FFR) and fast reserve (FR). More bespoke bilateral arrangements could be established for DNOs, but the ESO has been moving away from bilateral contracts in the interests of greater transparency and liquidity. The

ESO has licence obligations to ensure that the procurement of balancing services is efficient, transparent and non-discriminatory.[19]

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

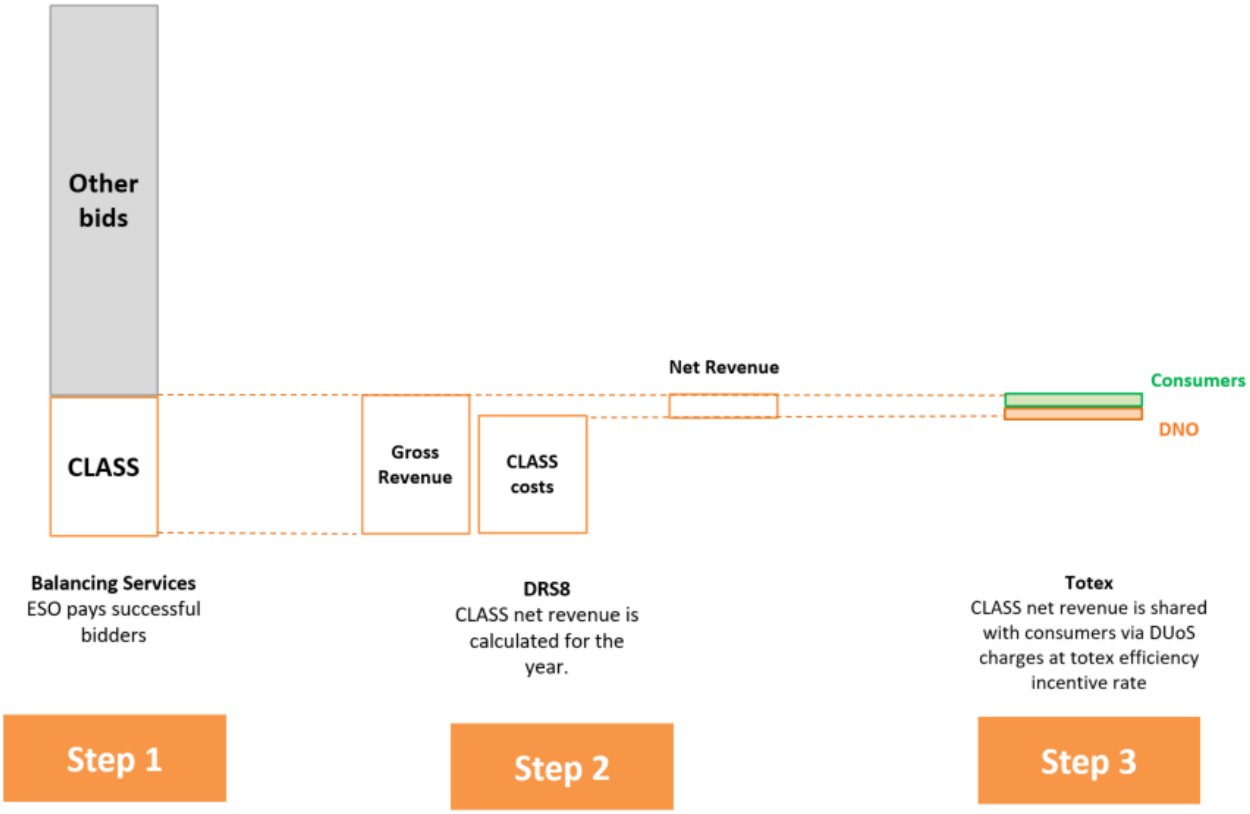
2.6. There are nine DRS categories which are each based on the nature of the service. CLASS does not fall within the scope of DRS categories 1 to 7, which relate to specific services like provision of metering services. For the purpose of our RIIO-ED2 position, we consider CLASS in DRS8 (Value Added Services) or DRS9 (Miscellaneous). In DRS8 and DRS9 there are different rules about the calculation of charges for DRS, and how costs and benefits are allocated and recovered.[20] In RIIO-ED1, forecast net revenues from both DRS8 and DRS9 services were deducted from a DNO's opening base revenues, thereby reducing the costs paid by DUoS customers.

Option 1A: CLASS is included in DRS8

2.7. Category DRS8 includes services that utilise a DNO's distribution system assets in a commercial arrangement between the DNO and another party. This may involve 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.[21] The below figure, and the accompanying steps in paragraphs 2.8 – 2.12, explain how revenue is calculated through this mechanism.

[19] See C16 paragraph 1, 1(g), and 2 https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions
[20] See CRC 5C in Ofgem (2016), ED1 Specials template
[21] See CRC 5C in Ofgem (2014), ED1 Specials template: Supplementary annex 1

Figure 3: Illustration of how costs and revenues are treated when CLASS is included in DRS8 (not to scale)



2.8. In Step 1, the ESO procures balancing services and makes payments to a DNO for the provision of CLASS if it is successful in its bids. The overall amount the ESO spends on balancing services is passed through to consumers via BSUoS charges.

2.9. In Step 2, CLASS net revenue is calculated for the year. Net revenue is the gross revenue earned through participation in the market for balancing services (ie what the ESO has paid the DNO in the year) less CLASS specific costs incurred or allocated in the year, such as the costs of developing and operating any assets.

2.10. In Step 3, the net revenue is shared with consumers through the totex incentive mechanism (TIM) 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 55%, then consumers would retain 45% of the profit or pay for 45% of the loss.[22]

2.11. In practice, these steps mean that, when a DNO makes a profit from CLASS, consumers (in the relevant DNO licence area) will pay lower DUoS charges than they otherwise would have if CLASS had not been provided. If a DNO makes a loss, consumers will pay higher DUoS charges. The DNO is incentivised to make a profit (and avoid losses) because it retains a share of the profit and is exposed to the risk of losses. DNO incentive rates under the TIM in RIIO-ED1 range between ~ 53% and 70%. For RIIO-ED2, the TIM incentive rate for each DNO will be set out in our determinations later this year.

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 which is not covered under any other DRS category.

2.14. There are two key differences between DRS8 and DRS9. First, in DRS9, DNOs would retain or bear all profits or losses; there would be no sharing with consumers. Second, prices in DRS9 would be set at a level that allows DNOs to recover their efficient costs and a reasonable margin. Conversely, under DRS8, there is no restriction on the price at which a DNO can offer its balancing services. Instead, the prices would be constrained by the 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 would deliver CLASS directly to the ESO as an activity under the price control and not through a market mechanism. This means that the costs of developing and operating CLASS 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. It

[22] The mechanism is described in CRC 5C in Ofgem (2016), ED1 Specials template

follows that the ESO would utilise CLASS in the first instance, which would reduce the size of the market available to competitive providers of balancing services.

2.16. In this option, Ofgem 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. As DNOs submitted their final RIIO-ED2 business plans in December 2021, this would require Ofgem to introduce a re-opener for CLASS.[23] 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 via DUoS charges.

Option 3: Prohibit

2.17. Under option 3, we would not allow DNOs to offer CLASS in the market for balancing services in RIIO-ED2. There would be limited incentive for DNOs to invest in any new CLASS capacity. Any capacity that had been developed prior to the start of RIIO-ED2 would no longer be eligible for provision as a balancing service.

Responses to 2020 consultation

2.18. Ofgem previously consulted on its minded-to position to remunerate CLASS activities through DRS8 in its consultation, Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control, which was published 10 February 2020.[24] Ofgem received 31 responses to this consultation from a wide range of stakeholders including the ESO, Elexon, DNOs, generators, suppliers, aggregators, third parties and a consumer advocacy group. Our detailed assessment of the 2020 consultation responses can be found in Appendix 3.

2.19. From these 31 responses, 8 were in support of Ofgem's minded-to position and 3 were generally supportive but believed further analysis of the considered options should be undertaken. A further 8 suggested that CLASS should be remunerated through the

[23] Re-openers are a type of RIIO uncertainty mechanism, which allow Ofgem to adjust a licensee's cost allowances (up or down) in response to changing circumstances during the price control period.
[24] Ofgem (2020), Consultation: Regulatory treatment of CLASS as a balancing service in RIIO-ED2

price control. However, 12 were in favour of prohibiting CLASS, often citing that it should be only utilised outside of the balancing services market.

2.20. Several concerns emerged out of responses that did not support Ofgem's minded-to position. 1 stakeholder provided new evidence to support their concerns, while others suggested either DNOs, the ESO or Ofgem were best placed to explore these concerns further. We can categorise these concerns broadly as:

- CLASS activations may involve indirect costs or negative externalities such that the social cost is higher than the private cost to DNOs.
- It may be construed as unfair for monopoly regulated networks to compete with commercial providers, and this could also undermine investment in flexibility.
- CLASS could create system reliability issues, such as in DNOs ability to meet obligations under the Grid Code.
- The entry of DNOs into the market for balancing services could undermine the competitive process and outcomes.
- Various challenges around the legal justification for the consultation position.
- Concerns around conflicts of interest and the ability of a DNO to discriminate against rivals in its monopoly role.

2.21. Due to the high variance in responses, and requests for Ofgem to further analyse the options under consideration, we have decided to consult again on the regulatory treatment of CLASS as a balancing service in RIIO-ED2. As set out in the previous Chapter, we also elected in this case to develop a supporting IA to evaluate the available evidence and explore the materiality of the concerns raised by stakeholders. This IA is where we set out our detailed analysis and evidence to support our minded-to decision making, which is contained within this consultation document.

Approach to the assessment

2.22. The purpose of an IA is to help explain the impact of regulatory proposals on consumers, industry participants, and social and environmental issues. Whilst IAs do not determine a final decision, they provide an evidence base to inform our decision-making process and provide a structured framework for understanding the impacts of our most important decisions.

2.23. In developing the scope of our IA, we have reviewed the themes that emerged from the responses to our 2020 consultation on the regulatory treatment of CLASS as a balancing service in RIIO-ED2. This was supplemented by our own research, analysis and literature review to arrive at a list of direct and indirect impacts of all the relevant options that require careful consideration.

2.24. The need to support policy decisions with proportionate analysis is important to Ofgem as our decision making process is subject to time and resourcing constraints. In undertaking the IA, we have considered the scale of the expected impact, as well as the ability and cost of doing further analysis relative to the benefits such analysis may yield. We undertook an exercise, drawing on our proportionality principle, to identify costs and benefits where there was sufficient evidence to monetise the impact. However, we do not rely purely on monetisation of direct costs and benefits, but rather have considered hard to monetise impacts as part of our framework.

2.25. Our approach to the IA closely follows the guidance set out by HM Treasury in the Green Book[25], as well as Ofgem's own guidance on how to appraise regulatory proposals.[26] It consists of a monetised Cost Benefit Analysis (CBA), which we commissioned from NERA Economic Consulting (NERA), and an assessment of hard to monetise costs and benefits with respect to CLASS (see Chapter 2 in the IA for further detail).

2.26. In the IA, we also consider the potential implications of the roll out of CLASS under different deployment scenarios. We develop three illustrative deployment scenarios for CLASS to provide further insight on how costs and benefits could change under varying rates of uptake of the service. These scenarios are:

- **Scenario A**: a conservative roll out, in which we assume that during RIIO-ED2 only one DNO (ENWL) will offer CLASS in the market for balancing services.
- **Scenario B:** a medium roll out, based on 3 of the 6 DNOs offering CLASS in the market for balancing services.
- **Scenario C:** a large scale roll out, which assumes that all 6 of the DNOs deploy CLASS in RIIO-ED2.

[25] HM Treasury (2020), The Green Book: Central government guidance on appraisal and evaluation
[26] Ofgem (2020), Impact assessment guidance

2.27. As part of the IA, we have taken concerns and suggestions contained in the responses to the 2020 consultation into consideration. However, where qualitative concerns could not be addressed by the framework of the IA, we have considered them directly in this consultation document. These qualitative arguments include stakeholder concerns about whether a DNO providing CLASS is eligible to compete in the market for balancing services, as well as concerns around perceived and actual conflicts of interest with respect to a DNO's decision making.

Consultation 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?

Our minded-to position

2.28. In this section, we set out our minded-to position for the regulatory treatment of CLASS as a balancing service in RIIO-ED2. In the following chapter, 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.

2.29. We have carefully assessed the costs, benefits and wider impact of each regulatory option, using evidence from our IA 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 minded-to position on CLASS in the context of the DSO transition and our strategic priorities for a smart and flexible energy system that is essential to hitting the UK's net zero climate goals.

2.30. 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, ie 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. Our analysis shows that CLASS is a cost effective, low carbon technology that has the potential to reduce energy bills for consumers. We consider that, by using market-based mechanisms, this option sets efficient incentives for DNOs to invest in CLASS, and creates opportunity for greater competition in balancing services markets. Meanwhile consumers would benefit from

sharing in any profits to reflect that CLASS requires, in part, the use of network assets that have been paid for through allowed revenue in the price control.

2.31. If we did take this decision, we would continue to monitor DNOs' participation in the market for balancing services. We will also continue to drive forward a wider package of measures to address any conflicts of interest in DNOs' decision-making and to facilitate investment in flexibility services that is essential to realising our vision of a secure, affordable, net zero system.

3. Assessment of options

Chapter summary

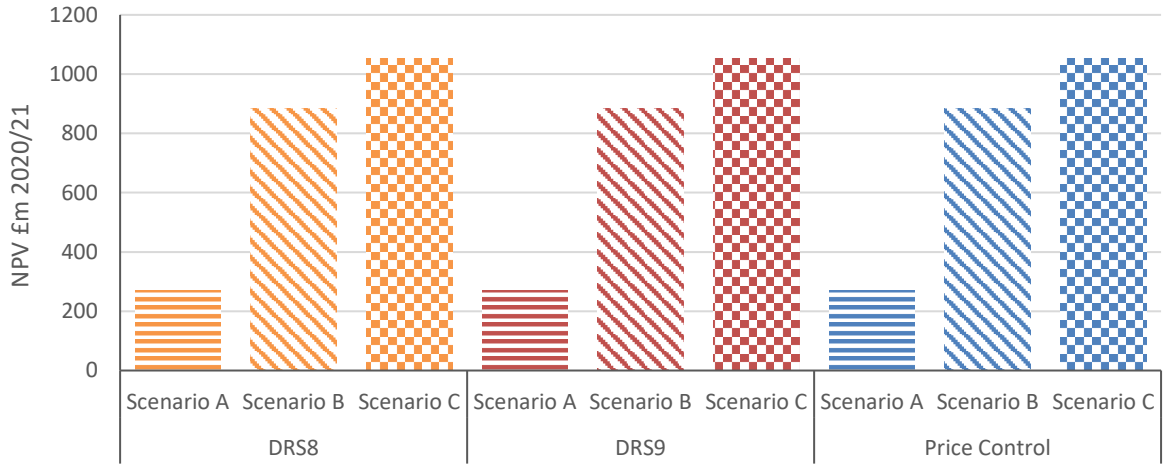
This chapter provides an assessment of each of the regulatory options for CLASS, drawing on the analysis and findings in the accompanying IA that we undertook to address arguments that were raised in response to our 2020 consultation. We conclude by setting out our reasoning for the minded-to position.

Monetised Cost Benefit Analysis

3.1. We commissioned NERA to undertake a monetised CBA of the regulatory options that were set out in the previous chapter against a counterfactual where CLASS is prohibited from operating as a balancing service (ie Option 3). The findings of the analysis are set out in Chapter 3 of the IA, but we summarise them here.

3.2. The results of the CBA indicate that the economic net benefit of CLASS is expected to be strongly positive across all regulatory options and deployment scenarios. There is very little variation in the Net Present Value (NPV) under each regulatory option – CLASS is a competitively priced technology (and therefore procured) irrespective of the assumed bidding strategy. However, there is considerably more variation in the estimated economic net benefit under different deployment scenarios, and this is summarised in the below figure. Whilst the total NPV is increasing with the scale of CLASS deployment, the average net benefit per unit of CLASS capacity decreases as the marginal unit increasingly displaces less costly alternative providers.

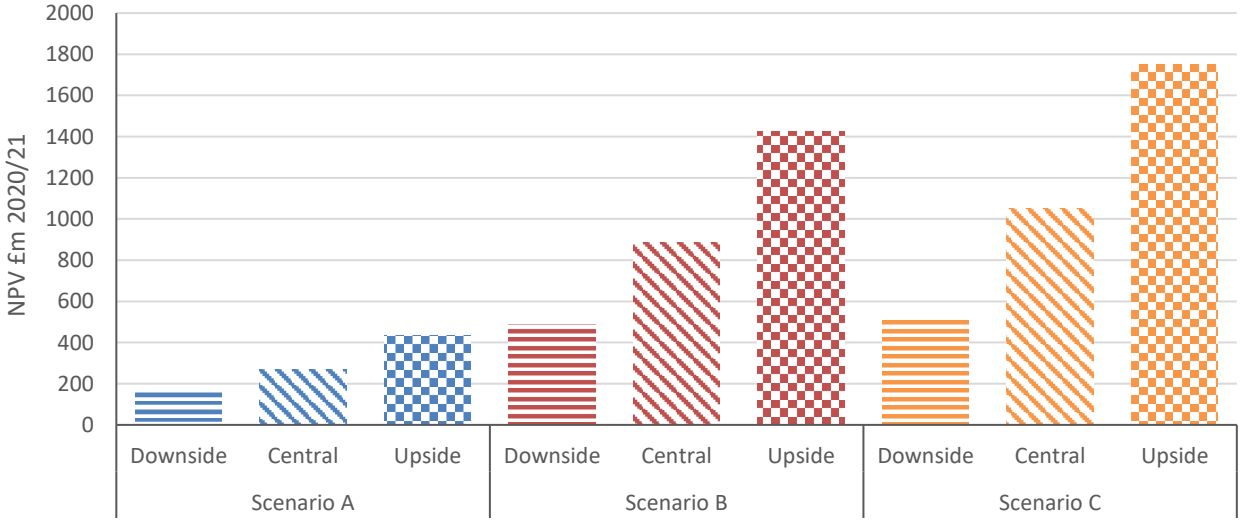
Figure 4: NPV of net benefit across regulatory options and deployment scenarios, £m 2020/21 prices



Source: NERA (2022). Impact Assessment for CLASS – Supporting Annex.

3.3. We also recognise that CLASS is a new technology and there is some uncertainty over its likely costs and benefits. For these reasons, we asked NERA to prepare alternative assumptions that could account for some of the key uncertainties in its estimates. The downside and upside scenarios are set out in detail in the IA in paragraphs 3.14 to 3.17, but the results are summarised in the below figure. They suggest that the CBA findings are robust and CLASS might be expected to return a positive NPV under a range of different scenarios.

Figure 5: NPV of economic benefits under regulatory Option 1A: DRS8, £m 2020/21 prices



Source: NERA (2022). Impact Assessment for CLASS – Supporting Annex.

Consultation questions:

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?

3.4. The distributional impact for different groups varies more considerably across the regulatory options and can be summarised as follows:

- **Customer impact:** the total NPV reduction in customer bills (ie combining changes in DUoS and BSUoS charges) would be relatively significant under all regulatory options, although lower under Option 1A: DRS8 than Option 1B: DRS9 or Option 2: Price control for a given CLASS deployment scenario.
- **DNO impact:** DNOs would be able to make profits under Option 1A: DRS8, but not under Option 1B: DRS9 or Option 2: Price control.
- **Alternative balancing service provider impact:** the displacement of alternative providers is assumed to be highest under Option 2: Price control as the DNOs would offer CLASS to the ESO free of charge (as the cost of developing and operating assets would instead be funded through allowed revenue in RIIO-E2).

3.5. With respect to each regulatory option, the monetised CBA leads us to the following conclusions:

- **Option 1A:** DRS8 generates a net economic benefit, although to the extent that DNOs are able to make profits the benefits to consumers are diminished.
- **Option 1B:** DRS9 limits DNOs' ability to make profit (beyond a reasonable rate of return), but could diminish the incentive to invest in CLASS and therefore reduce the total NPV through a lower rate of deployment.
- **Option 2:** Price control also limits DNOs' ability to make profit and supports a higher rate of deployment, but results in a larger impact on alternative balancing service providers.
- **Option 3:** Prohibit CLASS would not appear to yield a net economic benefit.

3.6. While the distributional analysis implies that the consumer benefits would be highest under Option 2: Price Control, these results do need to be interpreted with caution. Under this option, investments in CLASS would be subject to considerably less risk and this could result in higher levels of capacity being deployed than would be required under a competitive scenario. CLASS is still a relatively novel technology, and we

believe that Option 1A: DRS8 provides the economic signals that are needed to reveal efficient prices and effective allocations. Conversely, under Option 2: Price Control, we contend that it would be challenging to determine, on an ex ante basis, the optimal rate of deployment for CLASS over the duration of RIIO-ED2 given the uncertainty over future balancing service requirements.

Hard to monetise costs

3.7. While we have sought to identify all the costs that may be associated with the deployment of CLASS as a balancing service, there are several areas in which quantification is particularly complex. As a relatively new technology, there is more limited literature and evidence on the real-world financial impact of CLASS.

3.8. From our 2020 consultation, we heard from a number of respondents that believed there were additional costs associated with CLASS that Ofgem had not considered or explored in sufficient detail. Whilst some of those costs are accounted for directly in the monetised CBA, the remaining hard to monetise costs are assessed in Chapter 4 of our IA where we analyse the available evidence to form a view on the magnitude of impact. The rest of this section provides a summary of these hard to monetise costs.

Impact on network and customer asset health

3.9. Several stakeholders were concerned that the use of CLASS would lead to wear and tear of both network and customer assets, increasing the frequency of maintenance and reducing the useful lifespan of assets. This could result from increased operation of network assets, such as tap changers, in the activation of CLASS or due to more frequent variations in voltage at CLASS-enabled primary substations.

3.10. With regard to deterioration in network assets from increased use, we have reviewed academic research conducted during ENWL trials of the technology and recent maintenance records on CLASS-enabled sites and sites that are not CLASS enabled (see paragraphs 4.10 to 4.42 in the IA). We believe this evidence indicates that CLASS has a minimal impact on network asset health and results in only a limited need to alter routine maintenance as conducted on non-equipped sites. We think DNOs should review their existing maintenance policies to understand if existing routines would be affected by the planned utilisation rate of CLASS. However, we also note that ENWL has observed some maintenance costs reducing due to the increased reliability of the newly installed electronic relays.

3.11. With regard to damages or degradation to consumer assets as a result of CLASS causing a controlled temporary reduction in voltage, we have been unable to find evidence to support this claim. CLASS utilisation is required to maintain voltage with statutory limits as outlined in the ESQRC[27] and, as such, customers continue to receive voltage within a compliant range during CLASS activations. Ofgem does not consider it to be proportionate to conduct a willingness-to-pay study for voltage stability within statutory limits. A more detail discussion of conclusions on this concern can be found in paragraphs 4.43 to 4.79 in the IA.

3.12. For these reasons, we do not consider impacts to network or customer asset health to be factors that would prevent CLASS from offering a positive outcome for consumers. Nor do we believe that they give sufficient justification for prohibiting CLASS.

Impact on regulatory cost of capital

3.13. In response to the consultation of February 2020, some respondents argued that allowing DNOs to invest in CLASS might have an impact on Ofgem's determination of the Weighted Average Cost of Capital (WACC) as part of the RIIO price control. These stakeholders were concerned that a commercial venture like CLASS would be perceived as riskier than a DNO's core activities that are funded through the price control. This could result in investors requiring a higher rate of return as compensation for this risk.

3.14. From analysis within our IA, found in paragraphs 4.80 to 4.88, we have determined that CLASS investments are immaterial compared to the investments required in support of core DNO activities. In any case, Ofgem uses an external benchmarking approach when determining the cost of capital for DNOs and this means that any proposed CLASS investments would not be expected to impact on its allowed cost of capital. These conclusions would hold whether CLASS is funded through DRS8 or DRS9.

Impact on investor confidence

3.15. In response to the consultation of February 2020, some respondents also raised concerns that the deployment of CLASS by DNOs could crowd out or otherwise deter investment by providers of other technologies and services that may be required to

[27] The Electricity Safety, Quality and Continuity Regulations 2002

meet requirements under further energy scenarios. The risk premia associated with regulatory and revenue uncertainty could feed through to a higher hurdle rate that means more marginal investment cases are not brought forward.

3.16. We recognise that a smart and flexible energy system is essential to hitting the UK's net zero climate goals, and that this will require new investment in flexibility services. It is important to note that any decision on CLASS should be understood within Ofgem's broader strategic objectives and programmes. In our 2022/23 Forward Work Programme Consultation[28], we set out how the Smart Systems and Flexibility Plan (a joint initiative between BEIS and Ofgem) our Full Chain Flexibility strategic change programme plan to remove barriers for flexibility providers, facilitated flexibility from consumers and enable the necessary data and digital architecture for flexibility markets to grow.

3.17. In addition, we are taking steps in RIIO-ED2 under Electricity Distribution Standard Licence Condition 31E to encourage DNOs to take a coordinated approach with other parties to the procurement and use of flexibility services.[29] This should further facilitate market liquidity and investment in flexibility.

3.18. We also note that there are a number of factors that would tend to improve the investment case for providers of balancing services, or otherwise limit any detrimental impact of the deployment of CLASS. This includes the requirements of the ESO increasing in the future due to, for example, changes in inertia levels on the system and increased loss sizes from larger interconnectors or generation sites. Additionally, we note that CLASS is limited in its capacity and technical capabilities and, as such, there is still a great need in the market for a diverse range of balancing service providers.

3.19. We do recognise concerns that the deployment of CLASS as a balancing service could undermine investor confidence in flexibility services under any of the regulatory options for allowing CLASS. However, on balance, we feel these challenges are mitigated by the factors we set out above. We also do not feel it would be proportionate to prohibit the use of CLASS on these grounds alone as the system will requirement investment in a suite of different flexibility services to meet future needs.

[28] Ofgem (2022), 2022/23 Forward Work Programme Consultation
[29] Ofgem (2021), C31E Flexibility Reporting for March 2021 Letter

3.20. It should be noted that any regulatory option would be 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 in manner that had significant impacts on Ofgem's strategic focus on Full Chain Flexibility.

Potential for cross-subsidy through the price control

3.21. Some stakeholders also argued, in response to the 2020 consultation, that procuring CLASS might result in negative externalities as the private cost to a DNO of operating CLASS may be lower than the social cost of deploying the technology as a balancing service. This could take the form of a cross-subsidy, ie a DNO recovering costs associated with the commercial provision of CLASS through its allowed revenue under the RIIO-ED2 price control that is intended to cover only the costs of developing and operating the distribution network. In such circumstances, this could mean that the price at which DNOs offer CLASS as a commercial service (the private cost) does not represent its actual costs (the social cost).

3.22. Within the IA, between paragraphs 4.96 and 4.108, we consider both whether DNOs have a clear incentive to include CLASS-related costs within price control totex and to the extent that this is possible. The magnitude of cross subsidisation in either option is likely to be very low. For DRS8, we do not consider there to be a within period risk of cross-subsidisation as the single till approach means the costs of CLASS and actual totex are treated equally. The likelihood of cross subsidisation differs, and is more likely, with DRS9.

3.23. Price control determinations could also be affected by misreported costs. It may be difficult in some instances to identify any costs that are not reported under DRS8, but a consequence of CLASS deployment. However, recognising that the investment and operational costs of CLASS are quite low, we also expect the scale of misreported costs to be low. The effects on price control determinations would also be further limited by a cost assessment approach which benchmarks efficient totex across DNOs.

3.24. In short, under either the DRS8 or DRS9 remuneration option, we do not consider there to be a material risk of cross-subsidisation resulting from CLASS-related costs. For these reasons, we conclude that the risks of cross-subsidisation are not justification for prohibiting CLASS.

Impact on settlement distortions

3.25. Several stakeholders raised concerns that the use of CLASS may distort settlement calculations for market participants that utilise the relevant network underneath a CLASS-enabled substation. For example, suppliers may appear to over (or under) procure energy when the activation of CLASS serves to reduce (or increase) customer demand. As a consequence, energy would need to be transferred from the settlement periods where suppliers had originally procured it to settlement periods where customers are now consuming additional energy. Ultimately this could expose suppliers to financial risk as they would need to pay the difference in the imbalance price between the two settlement periods.

3.26. We worked with Elexon, the Code Manager for the Balancing and Settlement Code (BSC), to understand the scale of distortion associated with historical CLASS activations. Our analysis, seen in paragraphs 4.109 to 4.117 of the IA, indicates that the aggregate impact of CLASS on settlement cashflows is limited. As such it would not seem 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.

Consultation questions:

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?

Implications for security of supply

3.27. In the 2020 consultation on CLASS, stakeholders responded with concerns that a high level of uptake of CLASS by the ESO may lead to over-reliance on a single technology platform. This concern suggests that further deployment of CLASS may cause other providers and investors to lose market confidence, which will in turn reduce market liquidity and limit the number of providers available to the ESO. This ultimately represents a concern for reliable operation of the system and security of supply. To be clear, these concerns were speculative and no stakeholder provided evidence that CLASS as a technology posed any unique risks when compared to any other technology relied upon in the balancing services market.

3.28. As is discussed further in paragraphs 4.120 to 4.127 of the IA, Ofgem has provided clear incentives through the ESO's role guidance[30] to maintain diversified and competitive markets. We are confident that the ESO is fully capable of assessing the cost and risk of CLASS's utilisation to ensure the reliable operation of the system, and that end consumers receive efficient security of supply. We contend that the existing framework would guard against the risks that stakeholders put forward.

3.29. Separately, several stakeholders raised concerns that DNOs may not be able to perform their Operational Code (OC) 6.5 and 6.6 requirements[31] when operating CLASS. Specifically, it was argued that CLASS operation would reduce a DNO's ability to reduce voltage in response to an instruction from the ESO as part of Operation Code No. 6 of the Grid Code[32]. We note this was not a concern shared by the ESO in their response to the 2020 consultation.

3.30. The pertinent code for CLASS under OC6 is requirement 6.5, which requires a DNO to either utilise voltage reduction or disconnections to respond to instruction from the ESO. OC6.5 does not state that DNOs are obligated to utilise voltage reduction. Therefore, we have determined that CLASS does not prevent a DNO from effectively meeting its obligations. Additionally, the statutory voltage boundaries do not apply during an emergency event, so DNOs are not limited in reducing voltage further to deliver required demand reduction.

3.31. For these reasons, we do not consider that the relationship between CLASS as a balancing service and OC6 provides a rationale to prohibit CLASS. CLASS could, however, affect the actions the DNO has to take to meet its OC6 obligations, so it is the DNOs responsibility to ensure that interactions between CLASS and OC6 are adequately taken into account.

Hard to monetise benefits

3.32. In addition to the consideration of hard to monetise costs, we also consider the hard to monetise benefits that we were unable to directly capture within the monetised CBA

[30] Ofgem (2021), Decisions on the ESO guidance documents for 2021-23
[31] Through OC6.5 the ESO issues instructions to DNOs to deliver demand reduction where it anticipates insufficient supply. OC6.6 sets out the procedures of an LFDD event, which aims to limit consequences of a major generation loss event. The DNOs can achieve this in two ways, by either disconnecting customers and reducing voltage, or just disconnecting customers alone. However, for OC6.6 there is no requirement or option for DNOs to provide demand reduction with voltage reduction in this event, instead relays are set to automatically disconnect customers in defined blocks.
[32] National Grid ESO (2021), Operating Code No. 6

under the IA framework. We sought to identify the nature and assess the extent of these benefits where possible, including the circumstances that would give rise to them. The full details of this analysis can be found in Chapter 5 of the IA, but in this section we summarise our findings.

Impact on network reinforcement

3.33. Deferral or avoidance of network reinforcement is expected to play a significant role in the transition to a net zero energy system. ENWL's historical focus has been on CLASS in its role in the balancing services market, but CLASS could also offer a temporary alternative to reinforcement across distribution networks by managing voltage to reduce peak consumption. However, in practice, the ability of CLASS to meet needs in distribution flexibility markets is likely to be limited; such markets are very localised and CLASS is only able to generate small variations in demand in these areas.

3.34. It is unclear whether DNOs may have intentions to utilise CLASS for these purposes in the future. We note that there are other voltage control management technologies that share similar principles with CLASS that are being explored and trialled by DNOs, with benefits of the technologies being accrued through, amongst other things, reductions in customer bills.[33] Given this uncertainty, and the fact that they emanate from a different use case for CLASS, we have not formed a view on the magnitude of these potential benefits in our IA.

Support for Operational Code 6 (OC6) buffer

3.35. In response to the 2020 CLASS consultation, stakeholders including the ESO observed that CLASS could be deployed to reduce or, in some cases, eliminate the need for automated disconnection as part of the OC6 obligations. CLASS could be considered as a new response option that would fall between existing secondary response and the automatic low frequency demand disconnection (LFDD) scheme (49.2 - 48.8 Hz). At present, there is no service in this region and when response is exhausted (or frequency falls too fast) LFDD is activated at 48.8Hz. The potential dynamic response of CLASS could be operationally attractive, allowing the ESO to scale the response magnitude as required by system conditions.

[33] These include Conservation Voltage Reduction (CVR) innovation projects in RIIO-ED1. These technologies are targeted at energy efficiency, as opposed to balancing services, and would not be covered by any Direction on the use of CLASS.

3.36. To provide an indicative understanding of the quantifiable benefits that could be realised by CLASS preventing lost load during an LFDD event, we calculated the Value of Lost Load (VoLL) of the 9 August 2019 event as an example (see paragraph 5.10 in the IA). The 9 August outage lasted approximately 40 minutes, and 931 MW capacity was disconnected at the peak, resulting in approximately 620 MWh of energy lost. Multiplying this by a £/MWh figure for the VoLL indicates that the cost of lost load during the 9 August outage was around £13.5 million.

3.37. While recognising the possibility of using CLASS for these purposes, the IA was focused on CLASS's role in the balancing services market. To fully evaluate whether CLASS should be utilised as part of an emergency low-frequency response scheme, Ofgem or another party would need to undertake a separate assessment that explores the full range of options and other initiatives that are available to address or reduce the risk of LFDD events.

Competition impacts

3.38. Ofgem's principal objective is to protect the interests of consumers, wherever appropriate by promoting effective competition. With respect CLASS, we need to consider how each regulatory option may be expected to contribute to effective competition, including whether a proposal would have substantially different effects on different types of consumers. While the IA provides our full assessment of the competition impact in Chapter 6, below we set out how this analysis informed our minded-to position.

Relevant market for CLASS

3.39. In paragraphs 6.3 to 6.33 of the IA, we set out our views on the relevant market for CLASS which informs our subsequent analysis on potential market power. We consider that different providers and technologies can compete across multiple product categories in providing balancing services to the ESO. Furthermore, ongoing reforms of the balancing market is serving to reduce barriers to entry and promote further competition among providers to the benefit of consumers. For these reasons, we consider it appropriate to consider the relevant market for CLASS as being the full suite of ESO residual balancing activity as per our previous 2016 Direction.

Historical impact of CLASS's participation in the market for balancing services

3.40. To date, ENWL has only participated in three balancing market services: Static Secondary Firm Frequency Response (FFR), Fast Reserve (FR) and Optional Fast Reserve. ENWL has participated in each service for a varying amount of time and, at time of writing, had not participated in Static Secondary FFR nor FR for over a year.

3.41. From analysing ENWL's historical participation in these service across paragraphs 6.34 to 6.74 of the IA, we conclude that ENWL's entry into the market did not result in a substantial lessening of competition. We note that there is not a specific threshold for share of supply, market share, number of competitors or any other specific measurement that is widely recognised for determining whether a loss of competition is substantial. However, the evidence suggests that ENWL has not gained significant market power.

3.42. We also note, as part of this historical analysis of ENWL's participation, that bid prices and availability fees were on average lower across services such as Secondary FFR and Firm FR once ENWL began participating in a service. This was driven in part by other providers lowering their prices as well, in the case of Secondary FFR. For Firm FR, we see that while other providers did not reduce prices, the total average cost to the ESO for the service decreased due to ENWL offering capacity at an average price significantly lower than other providers. Finally, for Optional FR, we identified that ENWL's participation in the service lowered average prices across all providers, but largely due to the unprecedented rise in energy prices during 2021, prices across providers have risen sharply. We see this analysis as providing evidence that ENWL's entry into the balancing services market resulted in a positive outcome for consumers.

Projected future impact of CLASS' participation in the market for balancing services

3.43. Drawing on the deployment scenarios we described in Chapter 2, we estimated the total CLASS MW response possible from a number of CLASS-enabled primary substations. We have determined that under Scenario C, a large scale deployment of CLASS across all DNOs, a single DNO could achieve between 5 – 10% of the ESO's 2021 requirement for a *subset of procured response and reserve services*. These services represent only a fraction of the balancing services market. Specific figures for this calculation can be found in paragraphs 6.74 to 6.91.

3.44. As we expect the ESO's MW capacity requirement to grow for the services that CLASS is eligible to participate in, we may also expect that a CLASS provider's possible share of supply will decrease. Recall that reserve and response are only a subset of services in the broader balancing services market and that, when accounting for a wider scope of the ESO's balancing activities, CLASS providers would have a further reduced level of participation in the balancing services market.

3.45. We note that it is possible that, under Option 1A: DRS8, that DNOs would seek to participate in services that are most profitable, perhaps leading to a scenario where DNOs achieve higher shares of supply in particular services. This may result in a DNO holding a larger share of a particular service, although this would be counteracted by the scope for supply-side substitution and the ESO's commitments to maintaining security of supply through diversified suppliers and technologies.

3.46. Nevertheless, achieving a high percentage share of supply for one service or more alone is not evidence of abuse of dominance nor harm to consumers. Should abuse of dominance or anti-competitive behaviour arise, Ofgem has the power to investigate potential infringements of competition law in the energy sector. These powers are held concurrently with the Competition and Markets Authority (CMA).

3.47. In the future, the ESO expects its MW capacity requirement for Response and Reserve services to grow. In the long-term, this growth will reduce CLASS providers ability to achieve higher shares of supply, although we do also note that CLASS capacity may gradually grow in the future too in line with the capacity of distribution networks. Thus, the future share of supply of CLASS over time is uncertain.

3.48. In short, our competition assessment indicates that a DNO would be unlikely to secure significant market power in the provision of balancing services. For these reasons, we do not consider it necessary to introduce caps or other measures that would limit the scale of CLASS that could be deployed in the market for balancing services.

Consultation questions:

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?

Conflicts of interest

Theories of Harm

3.49. In paragraphs 6.100 to 6.137 of the IA, we consider if, and to what extent, the provision of CLASS as a balancing service could adversely affect competition in the RIIO-ED2 period and beyond. We recognise that anti-competitive behaviour by providers of CLASS would have the potential to deter investment in the market and result in negative outcomes for consumers.

3.50. For the avoidance of doubt, we have not identified any instances of anti-competitive behaviour by ENWL with respect to its provision of CLASS as a balancing service, and nor have stakeholders provided evidence of any examples to us. Rather, we are concerned with the likelihood of whether a DNO or group of DNOs that use CLASS to participate in the balancing services market could, in the future, have an opportunity and incentive to engage in anti-competitive behaviour.

3.51. Stakeholders from the 2020 consultation raised concerns that DNOs may be able leverage their monopoly position to influence competition in a contestable market. Examples could include operational decisions in dispatch that could impact market participants or access to greater information, providing a competitive advantage. Actual conflicts of interest, or even the perception of them, could have the potential to distort competition, deter new entry and affect efficient investments in the future.

3.52. With reference to concerns that were raised by stakeholders in response to our 2020 consultation, and frameworks that include the CMA's Merger Assessment Guidelines[34], we consider two broad theories of harm that could potentially lead to consumer detriment in the future:

- **Coordinated effects:** this refers to the likelihood that a group of DNOs operating in the balancing services market would act on a common understanding to limit their rivalry.
- **Foreclosure effects:** this refers to the likelihood that a DNO would be able to use their position in other markets to harm the competitiveness of its rivals in the market for balancing services. This could arise from access to privileged

[34] CMA (2021), Merger Assessment Guidelines

information or through a DNOs role as the distribution network monopoly (eg connections decisions).

3.53. From our analysis in paragraphs 6.108 to 6.119 of our IA, we consider it unlikely that coordinated effects could arise in the market for balancing services in the event of a wider deployment of CLASS. A coordinating group of DNOs (or indeed any type of providers) may struggle to arrive at the terms of an agreement as the market is complex and difficult to segregate. Whilst there may be incentives to adhere to the terms of an agreement (if they could be arrived at), we think this would be offset by the ability of firms outside of the agreement to undermine its outcomes and compete with the coordinating group.

3.54. From our analysis of foreclosure effects, found in paragraphs 6.120 to 6.134 of the IA, we note that a DNOs ability and incentive to foreclose potential rivals is quite limited and it follows that any harm to competitors would therefore be minimal. For example, DNOs must provide connection offers whenever requested by a potential customer (other than in exceptional circumstances) and have limited ability to alter their offers to be more or less favourable to a customer due to regulatory and technical reasons. This was examined in detail by the CMA in relation to the National Grid Holdings One plc acquisition of PPL WPD Investments Limited.[35] To monitor compliance, Ofgem has an annual process that reviews the level of service that DNOs provide and in the event that discrimination in the connection process occurred, a DNO may be subject to penalties.

3.55. Our analysis of potential shares of supply also found that any given DNO would be unlikely to secure any dominant position in the market for balancing services. This would also imply that there would be limited impact on overall competition in the market as any barriers to entry for other competitors would be surmountable. For these reasons, we conclude that adverse foreclosure effects would be unlikely to arise if CLASS is further deployed as a balancing service in RIIO-ED2.

3.56. Ofgem also has enforcement powers if licensees breach compliance with relevant conditions and requirements or are alleged of anti-competitive agreements or abuses of dominant position. This grants us the tools to respond to the theories of harm we have discussed in this section if they were to materialise in the future. Any DNO found

[35] CMA (2021), Full text decision: National Grid Holdings One plc acquisition of PPL WPD Investments Limited

in breach of compliance is subject to penalties, such as revocation of licenses and fines of up to 10% of global turnover. We disagree with some stakeholders responses in the 2020 consultation that these enforcement powers held concurrently with the CMA would not be effective in preventing conflicts of interest, as we deem that these penalties far outweigh and exceed any potential benefit that a DNO could achieve through participation in the balancing services market.

Consultation questions:

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?

Perceptions of Conflicts of Interest

3.57. We recognise that there is a difference between material conflicts of interest (and their likelihood of occurring) and perceptions of conflicts of interest. As mentioned by stakeholders in their responses to the 2020 consultation, there is a broader policy direction currently undergoing consideration for RIIO-ED2 regarding perceived conflicts between DSO and network ownership roles or other non-regulated business interests. Several stakeholders noted this and highlighted their concern that allowing CLASS as a balancing service in RIIO-ED2 may set a wider precedent around the participation of DNOs in flexibility service and competitive markets.

3.58. To be clear, the policy decision under consideration for CLASS in RIIO-ED2 is its participation in the balancing services procured and commissioned by the ESO with respect to its incentivised system operator residual balancing role in GB. We do not consider this decision to be influencing or determining decisions on other purposes for CLASS.

3.59. Our starting position for the DSO transition[36] is that DNOs should not undertake activities that could be efficiently performed by third parties. However, individual circumstances may lead us to conclude that it is in the interest of consumers to take an alternative stance. In this case, only DNOs can deploy CLASS as a balancing service. Our analysis has shown a strong net economic benefit, including a positive impact on carbon dioxide emissions, such that we believe there is merit in this case to

[36] Ofgem (2019), Position paper on Distribution System Operation

allowing DNOs to deploy CLASS. Realising the vision of a cost-effective, net zero energy system will require a wide range of flexibility solutions and CLASS could play a meaningful part in this.

3.60. Recognising that a decision on CLASS will not include all considerations or analysis for alternative DSO governance arrangements, we highlight to stakeholders that Ofgem has also set out a baseline expectation that DNOs, at a minimum, include demonstrable executive-level accountability and board-level visibility of key DSO decisions across the planning, operation and market facilitation functions.[37]

3.61. We agree with stakeholders that there are broader policy considerations that still need to be explored as part of the DSO transition that go beyond CLASS's regulatory treatment in RIIO-ED2. That is why, in Spring 2022, we will be launching a Call for Input on reforms needed to the institutional framework at a local level to deliver cost-effective net zero. This will explore whether governance arrangements in place for distribution network and systems operation need to be reformed to ensure efficient energy planning, operation and flexibility market development at a local level.

Consultation questions:

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?

Legal framework

3.62. In their responses to the 2020 consultation, some stakeholders expressed concerns that it would be unlawful for the Authority to allow DNOs to provide CLASS in the balancing services market. Ofgem has given careful consideration to all of those concerns regarding the applicable legal framework, and has satisfied itself that, contrary to the views expressed by those stakeholders, it would not be unlawful to proceed with our minded-to position under Option 1A (or with Option 1B or Option 2).

3.63. This section summarises Ofgem's consideration of some of the main concerns expressed by stakeholders and, in particular:

[37] Ofgem (2021), RIIO-ED2 Business Plan Guidance, Appendix 4

- Whether the Authority has the power to direct that CLASS should be treated as a Directly Remunerated Service and, specifically, as a DRS8 service.
- Whether any direction to that effect would comply with applicable 'unbundling' legislation.
- Whether any direction to that effect would comply with applicable legislation in relation to electricity balancing and electricity transmission system operation.

Power to direct that CLASS should be treated as a Directly Remunerated Service (and DRS8)

3.64. Having carefully considered the stakeholder responses to our previous consultation, Ofgem does not agree with the suggestion that the Authority lacks the power to make the direction envisaged under our minded-to position. In particular, we do not agree with the view that CLASS cannot be treated as a Directly Remunerated Service at all, or the view that CLASS does not constitute a Value Added Service falling within the DRS8 category.

3.65. The Authority has power under Charge Restriction Condition (CRC) 5C.10 to give a licensee a direction that a service is to be treated as a Directly Remunerated Service (as defined) where the Authority is satisfied that a service should be so treated. The services listed in Appendix 1 to CRC 5C are Directly Remunerated Services to the extent that they comply with the General Principle: see CRC 5C.3. The General Principle set out in CRC 5C.4 is that a service provided by the licensee as part the normal activities of its Distribution Business (as defined) is to be treated as a Directly Remunerated Service if and to the extent that the service so provided is not already remunerated under any of the income categories set out elsewhere in CRC 5C. Appendix 1 to CRC 5C comprises nine categories, the first seven of which are specifically identified types of services. DRS8 is a general category for Value Added Services. DRS9 is a miscellaneous category.

3.66. We do not agree with the suggestion made in response to our previous consultation that CLASS is not part of the "normal activities" of a DNO's Distribution Business because CLASS is not "necessary" for distribution, and therefore not compliant with the General Principle. We note, for example, that neither the relevant licence condition (CRC 5C) nor the general definitions in Standard Condition 1.3 (including the definition for Distribution System) requires that CLASS must be "necessary" for distribution in order to qualify as a Directly Remunerated Service. On the contrary, the definition of Distribution Business provides expressly that it includes "any business that is ancillary

to the business in question"; and the DRS8 categories listed in Appendix 1 to CRC 5C expressly include services which utilise Relevant Assets in ways which are not remotely "necessary" for distribution (eg "the display of any advertising or promotional material").

3.67. We also do not agree with the suggestion that CLASS cannot be categorised as falling within DRS8 on the purported basis that the "original intention" of DRS8 was to apply only to services which constituted "incidental commercial opportunities without requiring additional investment". None of the material which we published when DRS8 was first introduced supports this narrow view of the intention and scope of DRS8. Further, categories (a) and (b) listed under DRS8 in Appendix 1 both expressly envisage additional investment, ie the installation of equipment for the purpose of enabling the distribution network assets to be utilised for (i) electronic communications or data transfer or (ii) the display of advertising or promotional material.

3.68. We therefore remain of the view that the Authority has the power to make the direction proposed in our minded-to position.

Compliance with unbundling legislation

3.69. Further, having evaluated the concerns expressed by some stakeholders, Ofgem does not consider that the action envisaged in its minded-to position would conflict with the legal constraints imposed by relevant unbundling legislation.

3.70. Article 35 of the Directive 2019/944 on common rules for the internal market for electricity (the '2019 Directive', as amended by Directive 2021/27/EU) requires that where a distribution system operator is "part of a vertically integrated undertaking, it shall be independent at least in its legal form, organisation and decision-making from other activities not related to distribution." 'Vertically integrated undertaking' is defined as an electricity undertaking where the same person or the same persons are entitled, directly or indirectly, to exercise control, and where the undertaking or group of undertakings performs at least one of the functions of transmission or distribution, and at least one of the functions of generation or supply. 'Generation' is defined as "the production of electricity" and 'supply' is defined as "the sale, including the resale, of electricity to customers". Article 35 of the 2019 Directive is materially the same as Article 26 of the earlier Directive 2009/72/EC (the '2009 Directive'). The definitions of 'generation' and 'supply' also applied in the 2009 Directive.

3.71. The UK transposed Article 26 of the 2009 Directive by amendments to section 6(2) of the Electricity Act 1989 and the application of relevant distribution licence conditions. Section 6(2) provides, "The same person may not be the holder of both a distribution licence and (a) a generation licence; or (b) a supply licence."

3.72. We do not consider that CLASS constitutes either supply or generation within the meanings provided under the 2019 Directive and the 1989 Act. CLASS is the provision of balancing services via demand control. Neither of those activities – provision of balancing services or demand control – requires a generation licence or a supply licence.

3.73. Consequently, the proposed direction under the present minded-to position does not conflict with the requirements of the unbundling legislation set out above.

Compliance with legislation on electricity balancing and transmission system operation

3.74. Furthermore, after considering stakeholders' concerns in response to our previous consultation, we do not consider that the action envisaged in our minded-to position is precluded by the legislation in relation to electricity balancing and electricity transmission system operation.

3.75. Commission Regulation 2017/2195/EU establishing a guideline on electricity balancing (EBGL) sets out rules to govern the functioning of electricity balancing markets, including rules defining the role of balancing service providers. The EBGL defines balancing service providers as "a market participant with reserve-providing units or reserve-providing groups able to provide balancing services to TSOs." Commission Regulation 2017/1485/EU establishing a guideline on electricity transmission system operation (SOGL) defines reserve-providing units as "a single or an aggregation of power generating modules and/or demand units connected to a common connection point fulfilling the requirements to provide FCR [frequency containment reserves], FRR [frequency restoration reserves] or RR [replacement reserves]."

3.76. In responses to our previous consultation, it was suggested that DNOs do not fall within the definition of "balancing service providers" under the EBGL, and that CLASS-enabled substations do not fall within the definition of "a reserve-providing unit" under the SOGL; and therefore that DNOs are precluded from playing a role in the provision of balancing services.

3.77. However, in our view, neither the EGBL nor the SOGL precludes a DNO from providing CLASS as a balancing service. CLASS-enabled substations provided by DNOs meet the definition for a reserve-providing unit as set out above.

3.78. In responding to our previous consultation, it was also suggested that allowing CLASS under any regulatory option would conflict with the objective set out at EGBL Article 3(1)(e), ie "ensuring that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue distortions within the internal market for electricity".

3.79. We do not share that view. On the contrary, as set out above and below, and in the accompanying Impact Assessment, Ofgem has taken, and will continue to take, appropriate steps to work towards the achievement of the objectives of the EGBL, including the specific objective set out above, and to ensure that the principles set out under Article 3(2) of the EGBL are respected. For example, in accordance with Article 3(2)(c), Ofgem has consistently applied "the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved" and, after the careful analysis recorded in our Impact Assessment, we have concluded that, for the period of RIIO-ED2, extending the regulatory treatment of CLASS under DRS8 is the optimal outcome for consumers.

3.80. We have therefore concluded that, contrary to the views expressed in response to our previous consultation, neither the EBGL nor the SOGL prevents the Authority issuing the direction proposed under our minded-to position.

Conclusion

3.81. Ofgem's principal objective is to protect the interests of existing and future consumers. We do not believe that it would be in the consumer interest to prohibit the use of CLASS as a balancing service:

- Excluding CLASS would reduce the ESO's ability to utilise balancing services from the widest range of technologies and providers, and our CBA found in Chapter 3 of the IA has shown that consumers would likely lose out in the form of higher energy bills.
- Whilst we recognise that some of the impact of CLASS may be harder to monetise, as discussed in Chapter 4 of the IA, we do not on balance feel that these effects

would be sufficient to negate the significant economic net benefit that we have identified.

- With respect to our analysis of competition impact found in Chapter 6 of the IA, we have not found any evidence to suggest that DNOs have or would be likely to acquire market power that would introduce distortions in the provision of balancing services. We also consider that our enforcement powers, if DNOs breach compliance with relevant conditions and requirements or are alleged of anti-competitive behaviour, guard against these risks.
- We do not believe there are any legal barriers that would prevent a DNO from acting as a balancing service provider, nor in Ofgem directing the use of CLASS through DRS8, DRS9 or the price control.

3.82. We have carefully considered, in light of the findings of the monetised CBA, whether it would be appropriate to pursue Option 2: Price control as a means of funding the deployment of CLASS as a balancing service in this case. However, this would reduce the volume of balancing services that the ESO would procure on a competitive basis and, therefore, would reduce the commercial opportunities available to other providers of balancing services. Whilst removing the commercial incentives from DNOs providing CLASS could allay perceptions or concerns around its effects on their neutrality, we do not believe this would be proportionate in this case as we have found that a DNO's incentive to discriminate against potential rivals through, for example, connections decision is limited in practice. Ofgem also has strong enforcement powers if licensees breach compliance with relevant conditions and requirements.

3.83. In terms of the commercial options, we do recognise the merits of Option 1B: DRS9 which, by limiting prices to a level that allows DNOs to recover its efficient costs and a reasonable margin, would ensure a greater share of benefits is passed on to consumers. However, this would introduce further complexity and administrative burden into the process. More importantly, it may dull the incentive for DNOs to invest in CLASS (particularly if there is uncertainty over the calibration of prices) and this may mean that CLASS is not deployed such that consumers miss out on the potential benefits.

3.84. For these reasons, we maintain that continuing with Option 1A: DRS8 would be the most appropriate model for the RIIO-ED period as it will:

- Ensure that DNOs are incentivised to deploy CLASS where there is a strong investment case for doing so.

- Continue to allow for competition in the market balancing services, putting downward pressure on prices and encouraging innovation.
- Benefit consumers through lower BSUoS charges and the potential to share in the profits from sound investments in CLASS via lower DUoS charges.

Consultation questions:

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

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?

3.85. We do recognise that a number of stakeholders consider that additional monitoring and reporting measures would help to ensure that there is transparency around a DNO's participation in the balancing services market. Suggested measures including auditing the decision making process around CLASS activations or placing constraints on the deployment and utilisation of CLASS.

3.86. As part of our decision, we intend to set out if DNOs would need to provide ongoing evidence on how CLASS activations did not impact on decision they made as part of their other roles and responsibilities. We are also considering whether any amendments are required as part of the reporting under DRS8 to provide greater visibility of CLASS costs and revenues.

3.87. To this end, we again invite stakeholders views on whether any additional measures would be effective and proportionate to address actual or perceived conflicts of interest with respect to CLASS and a DNO's other roles.

Consultation questions:

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.

4. Next steps

Chapter summary

This chapter sets out the next steps in our assessment of the regulatory treatment of CLASS in RIIO-ED2 and how stakeholders can respond to questions found in this consultation.

How to respond

4.1. We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

4.2. We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

4.3. We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, data and confidentiality

4.4. You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

4.5. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you do wish to be kept confidential and those that you do not wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

4.6. If the information you give in your response contains personal data under the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in domestic law

following the UK's withdrawal from the European Union ("UK GDPR"), the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 4.

4.7. If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

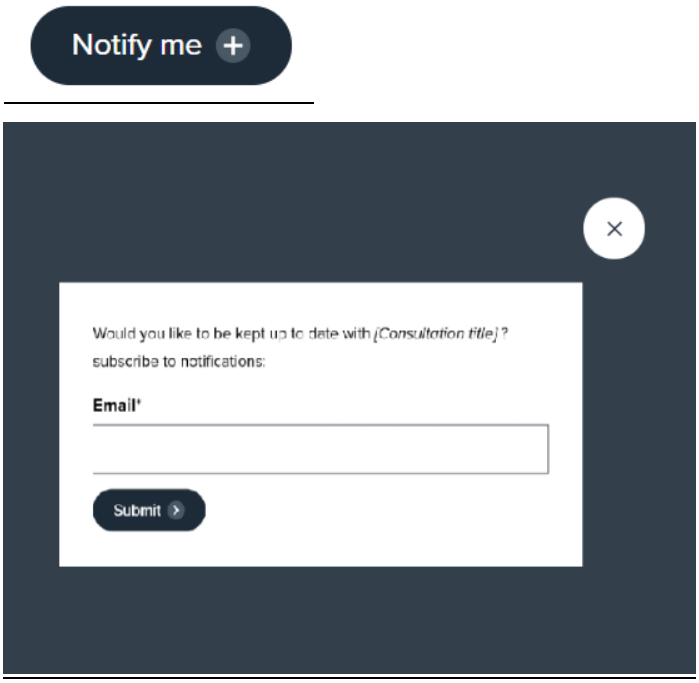
4.8. We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?
5. Did it make reasoned recommendations for improvement?
6. Any further comments?

4.9. Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

4.10. You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Ofgem.gov.uk/consultations.



4.11. Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:

Upcoming	▶ Open	▶ Closed (awaiting decision)	▶ Closed (with decision)

Appendices

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Appendix 1 – List of consultation questions

When responding to all questions, please provide evidence for your positions and your reasoning:

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?

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?

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?

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?

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?

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?

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

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?

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.

Appendix 2 – 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 dpo@ofgem.gov.uk

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, ie a consultation.

3. With whom we will be sharing your personal data

(Include here all organisations outside Ofgem who will be given all or some of the data. There is no need to include organisations that will only receive anonymised data. If different organisations see different set of data then make this clear. Be a specific as possible.)

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

Your personal data will be held for ***(be as clear as possible but allow room for changes to programmes or policy. It is acceptable to give a relative time eg 'six months after the project is closed')***

5. 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.

6. 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".

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

8. 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.)

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

Appendix 3 – Summary of responses to the 2020 consultation

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

A3.1. 12 stakeholders proposed there are other options we should have considered for the regulatory treatment of CLASS in RIIO ED2.

A3.2. 2 distributed generator associations and 2 suppliers proposed that where DNOs are participating in balancing services, the volume of DNO tenders that can be accepted by the ESO should be capped at 10% of the total MW volume of accepted bids. It was not clear from the responses whether this was only suggested for the DRS8 treatment of CLASS, nor why 10% would be the level that would provide the best outcome for consumers.

A3.3. We contend that this is not a regulatory option per se, but rather an approach to managing the roll out of CLASS. Ofgem has considered a broad range of deployment scenarios for CLASS as part of its IA, which are summarised in paragraph 2.26 of this document. The deployment scenarios represent varying levels of CLASS participation in the balancing services market and have been analysed in detail as part of the CBA in Chapter 3 of the IA and as part of the competition assessment in Chapter 6 of the IA. As we have found that CLASS yields a net benefit for consumers, and would not give rise to anti-competitive effects, we do not consider that it would be appropriate to subject its use to arbitrary thresholds.

A3.4. 2 distributed generator associations, 1 supplier and 1 generator proposed allowing DNOs to use CLASS to manage their own networks before low frequency demand disconnections is employed.

A3.5. Ofgem considers this approach to effectively fall under Option 3 of prohibiting CLASS's use in the balancing services market. Additionally, we do not consider the benefits of CLASS being utilised prior to low frequency demand disconnection to be exclusive to the benefits of CLASS participating in the balancing services as both functions could be operated concurrently.

A3.6. 1 distributed generator association and Citizens Advice proposed exploring whether the operation of network assets to provide balancing services could be opened up to competition, so that third parties are able to bid for the provision of CLASS.

A3.7. Ofgem's view is that CLASS is a technology only operable by DNOs as, 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.

A3.8. Some stakeholders proposed imposing a mechanism which protects consumers from financial risks associated with CLASS such as a cap-and-floor regime or changing the sharing factor to 50/50 between DNOs and consumers.

A3.9. We note that, under DRS8, net revenues from CLASS are already subject to a profit/loss gain share in line with the totex incentive mechanism (TIM). We do not feel it would be proportionate to develop a different sharing factor (or a cap-and-floor regime) for CLASS as the net revenues are small when compared a DNO's overall investments and the TIM is already calibrated to incentivise cost efficiency on the part of DNO.

A3.10. Alternatively, 4 DNOs and 2 generators and 1 supplier agreed that the options presented in the consultation were generally comprehensive. However, 1 distributed generator firm stated we needed to provide a more complete assessment of the four options proposed as being under consideration in the 2020 consultation.

A3.11. We believe that our supporting IA provides a comprehensive evidence base and strong rationale for our minded-to position.

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

A3.12. A small majority of stakeholders agreed that market-based mechanisms provide the most efficient incentive for CLASS participation in balancing services. 3 stakeholders explained that a market-based mechanism is only effective where DNOs are participating fairly and conflicts of interests which arise in the delivery of CLASS are mitigated.

A3.13. Chapter 5 of our IA assesses a number of hard to monetise costs that stakeholders cited when raising concerns around a level playing field. We reach the view that the magnitude of these impacts are low and would not be sufficient to negate the positive impact that CLASS could have on the competitive process and outcomes for consumers. Chapter 6 of our IA also examines a number of specific conflicts of interest

that could arise in the delivery of CLASS, but our analysis leads us to conclude that a DNO would have limited ability and incentive to exploit any potential conflicts in practice.

A3.14. 10 stakeholders, including 1 DNO and 9 distributed generators providers disagreed that market-based mechanisms provider the most efficient incentive for CLASS participation in balancing services. 1 DNO stated funding CLASS assets through the price control with a strong process for need case identification would ensure greater efficiency. The other stakeholders agreed a market-based mechanism for balancing services is best but not where DNOs are participating.

A3.15. We continue to believe that market-based mechanisms provide the economic signals that are needed to reveal efficient prices and effective allocations. Conversely, we see a risk that setting CLASS capacity on an ex ante basis through the RIIO-ED2 price control could result in sub optimal levels of deployment as there is considerable uncertainty over future balancing service requirements.

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)?

A3.16. Generally, industry responses were mixed about exposing consumers to DNOs loses. 11 stakeholders, including 5 DNOs, were in favour of the DNO sharing profits with consumers, even if this means consumers being exposed to losses. Stakeholders agreed the mechanism places the right incentives on DNOs to deliver CLASS efficiently. The majority of these stakeholders stated that exposing both DNOs and consumers to losses would reduce the risk of consumers being exposed to losses at all. 2 stakeholders proposed consumers should be able to consent to being exposed to the risk of CLASS losses. 1 DNO stated that to provide investment certainty it is important to maintain the RIIO ED1 sharing factor on CLASS costs and revenues in RIIO ED2. Finally, 1 flexibility provider proposed banding profits and losses such that, for example, profits outside of the tolerance band would be shared entirely with consumers while any losses outside of the tolerance band would be borne entirely by the DNO.

A3.17. 8 stakeholders, including 3 distributed generator associations and 5 distributed generator providers were opposed to exposing consumers to losses. Some argued this

was an unfair advantage that could distort competition as all other participants in balancing services markets are exposed to all losses. Others proposed it was unfair to expose consumers to financial risks they have not consented to. 1 distributed generator proposed capping consumer losses. The same stakeholder argued exposing DNOs to profits means DNOs are incentivised to bid with shadow marginal pricing thereby reducing the amount of savings consumers are exposed to through BSUoS.

A3.18. Ofgem agrees with the aforementioned 11 stakeholders that, by exposing both DNOs and consumers to losses, should reduce the risk of consumers being exposed to losses at all. DNOs would be incentivised to only invest and deploy CLASS when there is a investment case to do so.

A3.19. Ofgem further considered options to alter the sharing factor, whether by tolerance bands or increasing the sharing factor of profit to consumers. However, the complexity of such bespoke arrangements was not considered as being proportionate to the current revenues delivered by CLASS. For this reason, we have not incorporated such analysis into the broader framework of options under consideration in the IA or consultation.

A3.20. With regard to the suggestion that DNOs should receive consent from consumers before deploying and activating CLASS, it is important to first note that DNOs are not presently required receive consent from consumers for CLASS activations. We note that introducing such a requirement may set an undesirable precedent that could have implications for other temporary voltage management situations, such as DNOs reducing voltage in response to an OC6.5 instruction.

A3.21. The technical implementation of this would also be highly complex and potentially curtail the overall benefits to consumers. As multiple customers are connected back to a single 33/11 (6.6) kV primary substation, it is unclear how a single customer could be made exempt from CLASS activations without preventing other consumers from benefiting from CLASS. We note that a benefit of CLASS is that it represents a whole-system solution that does not require an active behavioural change from customers, nor discriminate by their level of participation.

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

A3.22. 10 stakeholders stated that limits on charges to the ESO in DRS9 would negatively affect investment and utilisation signals for CLASS. 1 distributed generator proposed DRS9 may lead to different outcomes for different DNOs, and 1 DNO explained that given consumers have invested in much of the infrastructure required to deliver CLASS, as well as the research and development of CLASS, they should be able to earn the profits, which DRS9 would not enable.

A3.23. 4 stakeholders proposed DRS9 would provide better outcomes for consumers than DRS8 because it would ensure customers would not fund excessive returns for the DNO and would not be exposed to losses.

A3.24. Ofgem recognises the merits of Option 1B: DRS9 which, by limiting prices to a level that allows DNOs to recover its efficient costs and a reasonable margin, would ensure a greater share of benefits is passed on to consumers. However, this would introduce further complexity and administrative burden into the process. More importantly, Ofgem agrees with stakeholders that it may dull the incentive for DNOs to invest in CLASS (particularly if there is uncertainty over the calibration of prices) and this may mean that CLASS is not deployed such that consumers miss out on the potential benefits.

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

A3.25. 19 stakeholders agreed that requiring CLASS in the price control would not promote efficient investment signals in CLASS and could distort competitive outcomes. 1 supplier noted that CLASS assets should be funded through the price control where DNOs use CLASS to manage their own networks before low frequency demand disconnections is employed, rather than for participation in balancing services.

A3.26. 2 DNOs disagreed and explained the price control could be efficient where it includes an incentive regime or output measure linked to the utilisation rate of CLASS services, as this would place an incentive on DNOs to exclusively develop CLASS where it was valuable to the ESO. 1 DG stated it would not distort competitive outcomes as funding CLASS through the price control would prevent DNOs from yielding undue profits.

A3.27. We have carefully considered, in light of the findings of the monetised CBA, whether it would be appropriate to pursue Option 2: Price control as a means of funding the deployment of CLASS as a balancing service in this case. However, this would reduce

the volume of balancing services that the ESO would procure on a competitive basis and, therefore, represents the reduction of commercial opportunities available to providers of balancing services. This option also 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.

A3.28. Additionally, we recognise that for the duration of the RIIO-ED1 price control period, only one DNO has deployed CLASS. We understand that, for some DNOs, CLASS is not a service they plan to establish as it is not part of their strategic objectives. In some cases, a deployment of CLASS may interfere or otherwise conflict with other programmes, such as other voltage innovation projects. We also believe that constructing an incentive regime or output measure linked to the utilisation rate of CLASS services through the price control would be a second-best solution to using prices in the market for balancing services to drive the efficient allocation of services.

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

4.12. 14 stakeholders proposed CLASS could negatively affect system reliability. 4 distributed generation firms, 1 distributed generation association and 1 supplier explained system reliability would reduce because balancing services markets will become less liquid, resulting in the ESO having fewer diverse providers to procure from.

4.13. Ofgem has not found evidence of reduced market participation during RIIO-ED1, as detailed in our analysis of CLASS's competition effects in Chapter 6 of the IA. We recognise that should the ESO determine that a single technology platform has or will achieve a significant share of the market that poses risks to the security of supply, it has the ability to reject bids from this technology and alter a service's procurement guidelines or requirements, irrespective of short-term costs or efficiency.

4.14. Ofgem has provided clear incentives through the ESO's role guidance to maintain diversified and competitive markets and is confident that the ESO is capable of assessing the cost and risk of CLASS's utilisation, as with any technology, to ensure the reliable operation of the system and that end consumers receive efficient security of supply. To be clear, the ESO has not commented that CLASS poses a risk as a single technology in the balancing services market.

4.15. 2 distributed generation firms and 1 supplier proposed commercial and industrial customers would be negatively affected by CLASS because of how sensitive they are to voltage changes. Stakeholders did not provide evidence for this occurring or evidence that for the extent to which it would be likely to occur. We note that DNOs are required to maintain voltage within statutory limits for the purposes of ensuring that changes in voltage are not perceptible to customers, and compliance maintains compatibility of equipment and network safety. CLASS does not cause voltage changes to occur that breach statutory limits. Additionally, as part of the IA process, we engaged with ENWL to further understand any complaints or issues that may have arisen during their trialling and wider deployment of CLASS during RIIO-ED1. We provide further detail on this in Chapter 4 of the IA but, in short, we have not found evidence that CLASS would have a negative or distributional effect on commercial and industrial customers.

A3.29. 4 distributed generation companies and 2 suppliers stated CLASS limits the DNO's ability to provide demand control through voltage reduction resulting in customer demand disconnection earlier in emergency events.

A3.30. We identified this concern as relating to OC 6.5 of the Grid Code, where DNOs have the option to utilise either voltage reduction or demand disconnection to responding to instruction from the ESO. We provide detailed discussion of this concern in Chapter 4 of the IA. DNOs can choose to use demand disconnection or voltage reduction to respond to an OC 6.5 instruction, whether they are operating CLASS or not. It is not mandatory to utilise voltage reduction, however, we do note that DNOs would still be able to utilise voltage reduction when operating CLASS as part of their response. If a DNO was operating CLASS and decided to utilise voltage reduction as a first response to a OC6.5 instruction, then we may expect a DNO to begin demand disconnection if the required response is not met for the ESO. The point at which the DNO may be required to begin demand disconnection would come earlier than if they were not operative CLASS, but the extent of this would vary based on the DNO's level of CLASS deployment and activity at the time of an instruction. Nevertheless, as DNOs are able to choose between demand disconnection and voltage reduction for their response as outlined in OC 6.5, we do not see this as justification for prohibiting CLASS or that DNOs would be unable to fulfil their OC6 requirements.

A3.31. Finally, some stakeholders proposed CLASS will reduce the asset life of transformers. As part of our IA, we have provided analysis of CLASS activations, academic studies conducted on CLASS and reviewed ENWL's maintenance records, which can be found

in Chapter 4 of the IA. In short, we have not found evidence that CLASS will significantly reduce the asset life of transformers, and any reduction in asset life that may occur would be hard to quantify and unlikely to outweigh the benefits of CLASS. This can directly be seen in the CBA included within the IA in Chapter 3, in which sensitivity analysis is conducted on the results, including a parameter for a large increase in asset health costs. Despite this, deployment of CLASS still resulted in a financially positive outcome for consumers.

A3.32. 8 stakeholders stated they had no evidence CLASS could affect the likelihood of system reliability issues, including ENWL who has been using CLASS to bid into balancing services since 2018. 2 DNOs proposed CLASS could enhance system reliability as DNOs would have access to more technically advanced network infrastructure, and the ESOs would have access to a wider pool of market participants in balancing services.

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 [of the 2020 consultation document]?

A3.33. 11 stakeholders disagreed with our assessment that it is unlikely that DNOs have or will have market power in the future. This includes 3 flexibility providers, 2 distributed generators, 2 aggregators and one supplier, as well as 4 distributed generation associations or coalitions. 8 stakeholders, including 5 DNOs, agreed with our assessment and stated that there is no evidence that competition is currently being distorted by CLASS. 4 further respondents agreed that with our assessment that DNOs do not have market power at present. 2 of them suggested that further analysis is needed to understand DNOs market power in the future, whilst the other 2 stated that DNOs could have market power in the future.

A3.34. Of those that disagreed with our assessment on DNO market power, many pointed to the 2016 report produced by Baringa on behalf of ENWL[38], suggesting that other DNOs are considering offering CLASS. These respondents warned that this could displace all non-CLASS technologies in balancing services. 4 respondents pointed to ENWL's existing share of supply of the Firm FR market as evidence of this.

[38] Baringa (2016), Assessing the impact of CLASS on the GB electricity market

A3.35. We would direct these stakeholders to Chapter 6 of our IA, where we analyse ENWL's past participation in the balancing services market and discuss the future outlook for the balancing services market. In this section, we conclude that ENWL has not achieved market power and deem it unlikely that a CLASS provider would in the future, in part due to the strong supply side substitutability found in the balancing services market.

A3.36. 2 stakeholders, including a distributed generation firm and a distributed generator association, further suggested that the risk of competition being distorted was sufficient to raise investment risk and deter market entry. We have carefully considered this concern and have outlined our understanding of how competition and investor confidence may be impacted by further deployment of CLASS in the IA. These sections can be found in Chapter 4 of the (on investor confidence) and in Chapter 6 on our competition assessment.

A3.37. Other concerns raised include the fact that DNOs do not face the same costs and overall face a very different set of commercial conditions than others operating in the market, that allowing CLASS is inconsistent with previous Ofgem decisions, that DNOs are imposing costs on other network users and the risk of cross-subsidisation.

A3.38. We would direct stakeholders with these concerns to Chapter of the IA, which discusses the risks of cross-subsidisation. In short, we consider these risks to be low, in both incentive for DNOs to misreport costs under DRS8 and DRS9, and their materiality.

A3.39. Those agreeing with our assessment highlighted that ESO procurement processes would prevent DNOs having market power, and that balancing services are largely non-locational meaning that DNOs offering CLASS would be in competition with one another. Respondents also highlighted that existing distribution licence requirements and competition law prohibit anti-competitive behaviour. Finally, it was noted from a DNO that, due to the long timescales needed to reach the technical limits of CLASS on the system, market power was unlikely to be an issue in the ED2 price control period.

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

A3.40. 16 stakeholders stated that DNOs have privileged access to information that could offer an unfair advantage in balancing services provision, including 4 flexibility providers, 3 suppliers, 3 distribution generation firms and 3 aggregators. Key information raised by respondents that could offer an unfair advantage include: ESO control room planning and actions; network visibility; bidding strategies from distribution ancillary services; ESO demand and procurement strategy; network maintenance and interruption schedules; and, information on the assets connected to the distribution network.

A3.41. In our IA, in Chapter 6, stakeholders can find a table outlining all of the information and data we identified as being shared between DNOs and the ESO that may be relevant to CLASS activities. We evaluate what purpose the information serves, and to what extent it could be utilised to provide a competitive advantage to DNOs providing CLASS in the balancing services market. In short, we have found that information shared between the ESO and DNOs provides limited competitive advantage to a DNO. Where an advantage may be realised by utilising such information, we believe that incentives to do so are very limited. The costs of utilising such information is unlikely to provide a proportional benefit, particularly considering the already low costs of CLASS. The risk of penalties and fines for inappropriate conducts would also far outweigh any benefit.

A3.42. 6 respondents stated that DNOs do not have access to privileged information, including 5 DNOs and one generator. It was noted, for instance, that DNOs have no visibility of which customers on their network are providing services to the ESO. A stakeholder further suggested that the ESO moving to closer to real time, and publishing pricing information, meant that publicly available information was likely to be more useful in analysing market trends and developing bidding strategies than any information DNOs exclusively receive. One respondent suggested that visibility of the local network was of limited value as balancing services are largely national.

A3.43. The following were raised as upcoming or potential changes to how DNOs and the ESO coordinate: the Energy Data Taskforce recommendation for DNOs and the ESO to coordinate on Future Energy Scenarios; a Grid Code modification (GC013939) to

[39] https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0139-enhanced-planning-data-exchange

increase the scope and detail of planning-data exchange between DNOs and the ESO; and the ESO pathfinder projects.

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?

A3.44. The separation of duties was the most suggested measure with 11 stakeholders raising it in their responses in some form. 6 stakeholders proposed ringfencing CLASS activities. This was suggested by 3 DNOs, 2 distributed generation firms, one flexibility provider and one aggregator. Many DNOs further stated that they had either already separated out DSO functions or would be doing so going forwards. 3 respondents suggested that auditing flexibility tendering and procurement would help build market confidence. In contrast, 3 respondents argued that much stronger intervention would be necessary, suggesting that the full legal separation of DSO activities should be considered, similar to the process undertaken for the ESO. One respondent argued that the full legal separation of the CLASS business, IT systems and control room would be necessary. 5 respondents stated there were no adequate measures to prevent privileged information being used by DNOs to benefit their operation of CLASS and for this reason they argued that CLASS should not be permitted.

A3.45. Recognising that a decision on CLASS will not include all considerations or analysis for alternative DSO governance arrangements, we highlight to stakeholders that Ofgem has also set out a baseline expectation that DNOs, at a minimum, include demonstrable executive-level accountability and board-level visibility of key DSO decisions across the planning, operation and market facilitation functions.[40] We agree with stakeholders that there are broader policy considerations that are still to be explored as part of the DSO transition that go beyond CLASS's regulatory treatment in RIIO-ED2. That is why we are undertaking a DSO Governance Review to develop and assess institutional reform options for DSO. We aim to set a clear vision for the local institutional framework for system operation, backed by decisions on any relevant changes to DSO governance arrangements to be implemented in the DNO licences. Through this programme of work, we believe we can ensure that we have in place the right incentives and clear governance to integrate new low carbon sources of

[40] https://www.ofgem.gov.uk/sites/default/files/2021-09/ED2%20Business%20Plan%20Guidance%20-%20September%202021_1.pdf

generation and flexible resources and support strategic investments that enable the decarbonisation of heat and transport.

A3.46. 4 stakeholders suggested that the ESO should make the data that it shares with DNOs available to all market participants. 2 stakeholders, a flexibility provider and a distributed generation association, proposed that DNOs standardising and sharing historical, planned and real-time data on interruptions in the same timescale that they have access to would also be necessary.

A3.47. We recognise the need for greater transparency in the balancing services market and see this as a topic beyond the regulatory treatment of CLASS in RIIO-ED2. We first would note to stakeholders that information transparency is something the ESO has made great commitments towards as outlined in their Markets Roadmap to 2025.[41] Furthermore, in RIIO-ED2 we expect DNO's to share more information about their network and activities as part of their business plans and on-going work to enable the DSO transition.

A3.48. Finally, 2 respondents stated that existing measures were sufficient, arguing that DNOs did not have access to any privileged information that would 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?

A3.49. 14 respondents stated that there is a risk of DNOs taking advantage of their positions in the provision of CLASS services. 6 stakeholders disagreed, stating in their responses that DNOs would not be able to take advantage of their roles. Overall, flexibility providers, suppliers, distributed generators and aggregators tended to hold concerns that DNOs could take advantage of their role, while DNOs argued that they could not.

A3.50. The ability for DNOs to discriminate when connecting new customers was the most frequently cited concern, flagged by 7 respondents, made up of distribution generation firms, suppliers and distribution generation associations. We have reviewed this concern as part of our IA under Chapter 6 where we highlight that, while in theory DNOs could foreclose rivals, in practice they have very little incentive to do so. DNOs must provide connection offers whenever requested by a potential customer (other

[41] Market Roadmap 2025 | National Grid ESO

than in exceptional circumstances) and have limited ability to alter their offers to be more or less favourable to a customer due to regulatory and technical reasons. This section of the IA also highlights that the RIIO-ED2 price control will include a package of measures that would further undermine a DNO's incentive to foreclose rivals.

A3.51. The cost of capital and access to finance was flagged by 4 stakeholders as offering DNOs an advantage in the provision of CLASS over other market participants. Other advantages raised by respondents include: DNOs not having to acquire customers, pay for connection agreements or build assets; the market risk being shared with customers; and, DNOs benefitting from not having to pay various hidden costs.

A3.52. We note that varying costs of capital and access to finance are a feature of competitive markets, and it is not clear why Ofgem would look to prevent the deployment of any given technology in a market on these grounds. Whilst we recognise that DNOs that offer CLASS may have some inherent advantages over potential rivals, we note that other providers or technologies may also have a competitive edge for analogous reasons (eg if a capacity market contract helps to reduce revenue risk and bring down the cost of capital). Finally, our detailed analysis in Chapter 5 of the IA has found that the impact of any indirect costs or negative externalities associated with CLASS activations are low in magnitude and do not indicate that DNOs benefit from hidden costs in the way some stakeholders suggested.

A3.53. Finally, concerns were raised by distributed generation firms about the ability for DNOs to bid into their own flexibility markets in the future, and the impact that would have on competition and market confidence.

A3.54. We would reiterate to stakeholders that this consultation on CLASS is in relation to its participation in the balancing services market. We do not consider this consultation to be evaluating or determining decisions on other purposes for CLASS, including its participation in other competitive markets.

A3.55. 6 respondents stated that DNOs did not have an advantage, or that existing safeguards were sufficient. It was suggested that DNOs were not incentivised to take advantage of their role as this would expose them to a risk of significant financial penalty. An additional respondent, a distribution generation firm, specified that existing measure were sufficient to prevent DNOs from excluding or limiting a customer's connection.

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?

A3.56. 5 DNOs and 3 distributed generator firms proposed the 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.

A3.57. 15 stakeholders disagreed that the existing safeguards sufficiently prevent DNOs from taking advantage of their DNO role in the competitive delivery of CLASS. 1 distributed generation firm proposed we were departing from our previous policy position on conflicts of interest where we have previously explained conflicts of interests should be avoided rather than mitigated. 1 distributed generation company and 1 distributed generator association proposed this is because the existing safeguards do not put any onus on the DNO to demonstrate that they are not leveraging their monopoly position. 1 supplier explained the existing safeguards cannot be effective because they do not relate to the provision of balancing services, while another supplier explained that even if the existing safeguards are effective there is still a perception across industry that the DNO would take advantage of its monopoly role in the competitive delivery of CLASS.

A3.58. We recognise the concerns of stakeholders and have analysed specific areas identified as being subject to conflicts or interest and creating an unfair playing field, including connections discrimination and information imbalances. Our analysis of these two issues can be found in Chapter 6 of our IA. You can also refer to our views provided to responses to the previous questions (8, 9 and 10) that address these topics. In short, we find the materiality of these theories of harm to competition to be limited and that there is a low risk of them occurring. In proportion to the benefit a DNO could realise through taking advantage of its role, we find the costs of penalties, such as license revocation and fines, to be far greater and act as relevant safeguards.

A3.59. However, we also recognise that there are perceptions that a DNO may take advantage of its role. We are open to considering monitoring and reporting measures that DNOs would be required to provide as part of their CLASS activities. We discuss this further in our conclusion in Chapter 3 of this consultation document. The aim of these measures would be to provide transparency on DNO's CLASS activities and further confidence to stakeholders. Such measures may also assist Ofgem in

monitoring its decision and forming consideration for CLASS's regulatory treatment in RIIO-ED3.

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

A3.60. A majority of stakeholders proposed there are several additional measures, which would be effective and proportionate to address actual or perceived risks of DNOs taking advantage of their DNO role, that we should consider imposing.

A3.61. Several DNOs highlighted the importance of transparency; ENWL proposed DNOs should provide regular statements to demonstrate how they manage and mitigate actual or perceived risks. We welcome DNOs suggestions to provider greater transparency of their CLASS activities. We have provider further discussion of these measured in the conclusion in Chapter 3 of this consultation document.

A3.62. Citizens Advice, and several distributed generator firms and suppliers proposed ensuring that those determining the strategies for bidding into the ESO markets are not involved in the assessment of flex tenders to the DNO, outage planning in the control room and the provision of new connections. We have considered what such measures would be attempting to prevent and their practicality. Considering our view that there is minimal to no incentive for DNOs to utilise outage planning data or foreclose rivals in the connections process, we do not consider at this stage that a specific intervention is required in the case of CLASS. However, we are exploring a greater separation of DSO and DNO roles which would allay some of these concerns.

A3.63. Multiple distributed generator firms proposed DNOs should seek consent from customers they intend to use capacity from for CLASS provision, and seek this consent retroactively. We have considered whether it would be appropriate to require DNOs to receive consent from consumers before activating CLASS, both in terms of outcome for consumers and the technical practicality of such a requirement.

A3.64. We note that DNOs are not required to receive consent from consumers for CLASS activations that operate within statutory voltage limits. We note that introducing such a requirement may set an unintended consequence that could have implications for other temporary voltage management situations, such as in DNOs reducing voltage in response to an OC 6.5 instruction.

A3.65. The technical implementation of this would also be highly complex and potentially curtail the overall benefits to consumers. As multiple customers are connected back to a single 33/11 (6.6) kV primary substation, it is unclear how a single customer could be made exempt from CLASS activations without preventing other consumers from benefiting from CLASS. We note that a benefit of CLASS is that it represents a whole-system solution that does not require an active behavioural change from customers nor discriminate by their level of participation.

A3.66. 2 suppliers proposed placing several limits on the way in which DNOs can competitively deliver CLASS. For example, by limiting the amount of markets DNOs can participate in, limiting the total amount of CLASS that can be procured by the ESO and preventing the participation of the same CLASS volume in more than one market for delivery in the same period

A3.67. We have considered a range of deployment scenarios as part of our IA, and we have also considered the relevant markets for CLASS. As our view is that CLASS will have a positive outcome for consumers, as outlined in the conclusion of Chapter 3 of this consultation, we do not believe establishing ex-ante limits on CLASS to be the best outcome for consumers. We also would note to stakeholders that, under DRS8, we do not expect all DNOs to immediately reach full deployment stages for CLASS within RIIO-ED2. The regulatory treatment of CLASS through DRS8 aims to incentivise DNOs to only invest into CLASS capacity where there is a strong investment case to do so.

4.16. Finally, 2 DNOs and the ESO highlighted the importance of robust governance arrangements particularly as it relates to cost reporting to prevent any actual or perceived risk of cross-subsidisation. Within the IA, in Chapter 4, we consider both whether DNOs have a clear incentive to include CLASS-related costs within the price control and to the extent this is possible. The magnitude of cross subsidisation in either option is likely to be very low. For DRS8, we do not consider there to be a within period risk of cross-subsidisation as the single till approach means costs of CLASS and normal actual totex are treated equally. The likelihood of cross subsidisation differs and is more likely with DRS9.

4.17. However, price control determinations could be affected by misreported costs. It will be hard to separate costs that may not be reported as DRS8, even if they are a consequence of CLASS. However, recognising the investment and operational costs of CLASS are low, we also expect the scale of misreported costs to be low, and effects on

price control settlement to be further limited by a cost assessment approach which benchmarks efficiency across DNOs.

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

A3.68. 16 stakeholders noted there were other specific effects to competition that are relevant to our decision. 5 distributed generator firms, 2 distributed generation associations, 1 supplier and Elexon proposed CLASS could cause settlement distortions and generator imbalances which DNOs should account for in their bidding strategies to appropriately reflect all costs associated with CLASS.

A3.69. As part of our assessment, we have engaged with Elexon to further understand the risk of settlement distortions and analyse historic data of CLASS activations. This analysis can be found Chapter 4 of the IA. In short, our conclusion is that the aggregate impact of CLASS on settlement cashflows is limited. As such it would not seem proportionate for Elexon to work with industry to develop a solution to adjusting Supplier imbalance positions via the Modification process at this stage.

A3.70. 1 supplier and 1 distributed generator association stated our minded-to position may be set a precedent as it relates to DNOs being able to participate in competitive markets more generally, which will negatively affect the competitive delivery of services. To be clear, this consultation relates to DNOs providing CLASS in the balancing services market for a subset of procured services by the ESO. We do not consider this consultation to be indicative of or determining a decision on any other policy matter.

A3.71. DNOs, the ESO and Citizen's Advice noted there were no other specific effects to competition we should consider in our decision. Instead, DNOs reiterated the value of CLASS to consumers and noted the role of the ESO in maintaining competition in balancing service.