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Sent by email to: Flexibility@ofgem.gov.uk
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Dear Edwin

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

Thank you for the opportunity to comment on Ofgem's minded-to position for the regulatory treatment in RIIO-ED2 of DNOs providing network voltage control and network management services, via the remote management of deployed network assets to the ESO for its balancing services activity. This response is not confidential.

Centrica does not support Ofgem's minded-to position. As explained in the legal annex, implementing Ofgem's minded-to position would be unlawful, including because: (a) insofar as Ofgem intends to simply extend the current direction, it would be ultra vires, because CLASS services are neither 'Value Added Services' nor fall within the scope of 'Directly Remunerated Services', and (b) it is inconsistent with Ofgem's principal statutory objective of protecting the interests of current and future consumers, where appropriate by promoting competition.

We also oppose Ofgem's minded-to position because it would set a very concerning precedent regarding DNO participation in competitive markets. Such a precedent would damage investor confidence in flexibility assets and products in Great Britain. Centrica is a significant investor in the energy system in Britain and other jurisdictions, both directly and through our customer relationships. Ofgem's minded-to position would damage our confidence in the British regulatory regime.

From a legal and economic perspective, Ofgem's default position should be that DNOs are prohibited from operating CLASS as an ESO balancing service (i.e. Option 3 in the consultation). Ofgem could only depart from this default position, if (i) it first demonstrated that a departure was consistent with its principal objective through use of a robust statutory Impact

Assessment; and (ii) it identified a lawful way to do so. Ofgem has not approached meeting these requirements, which in any event appear insurmountable.

In assessing whether a departure from the default position is consistent with its principal objective, Ofgem would need to consider the measures which could mitigate the risk of CLASS damaging competition and innovation in the balancing services market to the detriment of consumers. We describe a range of possible mitigation measures in Appendix 2. In the rest of this cover letter we elaborate on our high-level position and rationale. We answer Ofgem's specific questions in Appendix 1.

Ofgem's minded-to position would be unlawful

Centrica asked our external legal advisers, Towerhouse LLP, to assess whether Ofgem's consultation document provides a lawful basis for DNOs to offer CLASS services in RIIO-ED2. Towerhouse has concluded that it would not be lawful for Ofgem to proceed on the basis outlined in the consultation paper. Some of the key reasons why Towerhouse found Ofgem's proposal to be flawed are:

- It would be *ultra vires* (assuming Ofgem proposes merely to extend the current Direction), being outside Ofgem's legal powers to direct that CLASS services can be treated as 'Value Added Services' or indeed, as any form of Directly Remunerated Services (DRS).
- Ofgem appears fixated on protecting CLASS as an end in itself, instead of properly analysing the market; it has not applied basic principles of competition law, has set an unlawful standard to depart from its minded-to approach, and has ignored its own previous decisions and positions stating that monopoly network operators must not be active in competitive markets.
- Ofgem has not given enough weight to the risks of its proposal to consumers, ignoring evidence that the wider rollout of CLASS services could have serious negative impacts on consumers.
- Ofgem has not followed proper procedure by failing to properly impact assess its proposal and has not provided an evidence base to support the benefits claimed, which focus on short-term price impacts, or to systematically identify and quantify the potential negative consequences for consumers.

We have attached Towerhouse's opinion as Annex 1 to this response.

Ofgem's proposal is not in the long-term interests of consumers

There are good reasons to believe that allowing CLASS to continue to provide balancing services to the ESO runs against the interests of current and future consumers.

Energy UK commissioned NERA Economic Consulting (NERA) to review and assess Ofgem's economic arguments in support of its minded-to position.

NERA found that Ofgem has not sufficiently considered "hidden costs" of the DNOs' provision of CLASS or that balancing service procurement may not be efficient. NERA found a number of hidden costs associated with the provision of CLASS, which may have led and could lead to the ESO procuring CLASS when it is not economically efficient to do so. We agree with this assessment.

NERA recommends that Ofgem carefully assess the impact of these factors before reaching a final decision on the treatment of CLASS for RIIO-ED2. Without further assessment Ofgem has no grounds to claim that CLASS is in the interests of consumers.

Mitigation measures

In assessing whether a departure from the default position is consistent with its principal objective, Ofgem would need to consider the measures which could mitigate the risk of CLASS damaging competition and innovation in the balancing services market to the detriment of consumers.

Mitigations would need to achieve two specific outcomes:

- Ensuring a level-playing field - to avoid anti-competitive behaviours and encourage market entry, and
- Providing support for learning and innovation – enabling nascent markets to develop and deliver long-term dynamic competition.

We consider potential mitigations in Appendix 2 – drawing on examples previously used in energy markets and other sectors. Any departure from the default position could only be in the interests of consumers if it incorporated proportionate measures to overcome the complexities caused by CLASS being embedded in and drawing on the DNO's regulated assets.

Our position is that CLASS should be prohibited. Without prejudice to our position that permitting CLASS would be unlawful, if Ofgem did permit it then at the very least Ofgem would have to adopt the mitigation option put forward by the Association of Decentralised Energy (ADE) of capping the volume of DNO tenders that can be accepted by the ESO to 10% of the total MW of accepted bids.

Ofgem must revisit the legal and economic grounds for its minded-to position before proceeding further

Ofgem could only depart from the default position of not allowing CLASS if, following a robust and comprehensive assessment, it identified that CLASS is in the interests of consumers, which Ofgem has failed to do so far. Ofgem would need to carry out a comprehensive statutory Impact Assessment (IA) and publish this for review by stakeholders. The IA would need to consider the longer-term impacts of CLASS, the additional risks raised by consultation respondents and costs and benefits of potential mitigations.

In the absence of comprehensive evidence that CLASS is in the interests of consumers, the default position must be to prohibit DNOs from operating CLASS as an ESO balancing service (i.e. Option 3 in the consultation).

Ofgem must not create a precedent that broadens DNO entry into competitive markets

Were Ofgem to allow CLASS in RIIO-ED2 it would create uncertainty for non-DNO investors in flexibility. When deciding if flexibility projects are viable, investors would have to consider the risks that:

- DNOs other than ENWL will start using CLASS to sell balancing services to the ESO,
- DNOs could use CLASS to expand into other ESO markets, and

- Ofgem has created a precedent which will allow DNOs to use other technologies to provide commercial flexibility services to system operators.

In consequence, non-DNO investment in low-carbon flexibility would reduce and it would be harder for the UK to reach its decarbonisation objectives and maintain security of supply at least cost to consumers.

In conclusion, Ofgem's minded-to position is beset with difficulties and Ofgem is not in any position to proceed with it. The default position from a legal and economic perspective is that DNOs should be prohibited operating CLASS as an ESO balancing service (i.e. Option 3 in the consultation).

Ofgem could only depart from this default position, if (i) it first demonstrated that a departure was consistent with its principal objective via a robust statutory Impact Assessment; and (ii) it identified a lawful way to do so. Following (i) and (ii) – which appear to be insurmountable - Ofgem would need to reconsult. In order to facilitate any such open consultation, Ofgem should provide third parties with the data on CLASS costs, revenues and performance that is not currently available to them. In any such Impact Assessment and further consultation, Ofgem would need to consider the additional issues and potential mitigations respondents have raised to this consultation.

The natural consequence of Ofgem carrying out any such further analysis and consultation is that it would need to postpone a decision on whether, and if so how, its decision on CLASS interacts with RII0-ED2. Such a postponement would be relatively straightforward to manage and therefore entirely acceptable.

We have responded to the consultation questions in Appendix 1 below.

I hope you find this response useful. If you would like to discuss anything in further detail, please contact me at helen.stack@centrica.com.

Yours sincerely

Helen Stack
Centrica Regulatory Affairs, UK & Ireland

Cc Tim Dewhurst, Cathryn Scott

Appendix 1 – Consultation Questions

Regulatory options for CLASS as a balancing service in RIIO-ED1

Question 1: Are there other options we should have considered? Please provide reasons for your suggestion.

There are a range of other regulatory options and mitigating measures not mentioned by Ofgem in the consultation. Without prejudice to our position that permitting CLASS would be unlawful, Ofgem should consider these whilst undertaking a full re-assessment of the costs and benefits of each of the options open to it, including carrying out the full impact assessment that is missing from this consultation.

Centrica believes that Option 3 – to prohibit DNOs from being able to offer this service – is in the best long-term interest of consumers. We prefer Option 3 over any of possible solutions listed below.

Question 12 asks respondents to propose additional measures that could mitigate the consequences of DNOs taking advantage of their DNO role when using CLASS in balancing markets. Mitigations for Option 1 could also be considered as ‘other options’ under this question. For clarity we have listed potential mitigations separately under question 12.

To support our responses to questions 1 and 12 we have prepared Appendix 2, which explores the range of regulatory options and mitigations we mention in more detail. For completeness, we recommend that our responses to questions 1 and 12, and Appendix 2 are read together.

The following options should also be considered:

- DNOs being required to provide CLASS only as an emergency service to the ESO e.g. during low frequency events (such as 9 August 2019) and remunerated through the price control. This would have the benefit of contributing to system security whilst avoiding detriment to competition and innovation in ESO balancing services markets, to the detriment of consumers. We have seen increased frequency deviations outside of operational limits recently. CLASS was originally considered as a peak-demand reduction mechanism. CLASS could become the last line of defence between using commercially procured ESO services and enforced customer disconnections via the Low Frequency Demand Disconnection requirement.
- Prohibiting CLASS as an ESO balancing service and instead directing DNOs to use CLASS technology to support more efficient operation of their own networks. The original CLASS project looked at a range of uses for CLASS including demand response for peak load reduction in order to prevent or defer network reinforcement. In this use-case, DNOs would be required to compare network reinforcement vs market procurement of DSR vs CLASS, using a transparent and auditable process. Ofgem would still need to carry out a full impact assessment and consider how this could impact long-term availability of commercial local flexibility and the Capacity Market.
- A model which prohibits DNOs from directly supplying balancing services to the ESO. Instead CLASS capacity is released to market participants through a competitive process and the successful market participants can then bid their CLASS capacity into the ancillary service market. Under this model the DNOs would be aggregating CLASS

capacity to create a sort of virtual power plant (VPP) that third parties can use to provide services to the ESO.

- Creating a new regulatory category of service in the licence, outside of existing directly remunerated services, where consumers bear no downside risk and also benefit from a higher share of net revenues.

Please also refer to our response to Question 12 which asks about additional regulatory mitigations that could be taken to address actual or perceived risks of DNOs taking unfair advantage of their DNO role to distort the market.

Options assessment

Question 2: Do you agree that market-based mechanisms can provide the most efficient incentive for CLASS participation in balancing services?

We disagree with the premise of this question, which is that CLASS should be allowed to participate in balancing services, and that therefore the only question is the right mechanism for allowing participation. This question is phrased in such a way which implies that Ofgem has closed its mind to the possibility that *any* CLASS participation in balancing services would run counter to the interests of current and future consumers. For Ofgem to close its mind in such a way suggests that it is failing to conduct this consultation with an open mind.

Centrica is an avid proponent of the use of market-based mechanisms in contestable markets. However, for the reasons stated in other parts of this response we do not believe that DNOs should be participating in balancing service markets.

Any proper and lawful assessment of how CLASS services should be treated requires a much clearer quantification of costs. This quantification of costs should be clear to Ofgem and made public for stakeholder comment. We suspect that the calculation is flawed and is failing to account for several direct and indirect costs. However, we are unable to verify this because, despite ENWL operating CLASS as business-as-usual since March 2018, actual historic cost, revenue and loss data has not been shared as part of this consultation, nor does this information appear in ENWL's public regulatory information. We comment further on DRS8 and DRS9 in our responses to questions 3 and 4.

The current market-based mechanism for balancing services is not providing efficient outcomes for customers because CLASS is being procured when it should not be, owing to several hidden or unaccounted-for costs due to the regulated monopoly nature of DNOs. NERA concluded that network costs and CLASS-specific costs are difficult to separate. These hidden costs, plus externalities, mean that the ESO may procure more CLASS than would be economically efficient.

The use of market mechanisms and Directly Remunerated Services (DRS) do not account for the following costs or externalities.

First order costs

CLASS would not be able to provide balancing services without the primary sub-station (including its transformer and circuit breakers), the wider distribution network and associated customer demand. These capital and operational costs do not appear to be considered in Ofgem's preferred approach. The market mechanisms discussed do not account for the fact that the DNO is using these regulated assets.

It is not clear how staff costs are allocated to CLASS or even if these can be identified and separated. We believe there is a bid team (submitting bids to the ESO's tenders), but it is not clear if and how management and support staff costs are accounted for.

Second order impacts on the DNO's network

CLASS causes additional wear-and-tear on sub-station equipment. CLASS therefore risks causing DNOs to replace network equipment earlier, may reduce network reliability or reduce the DNOs' scope to handle emergency situations. In the absence of evidence from Ofgem on how these costs are treated, we assume consumers are funding these costs.

Allowing DNOs to participate directly in the ESO balancing service market incentivises the DNO to prioritise CLASS use over maintaining an efficient and secure system, to the disbenefit of the DNO's connected customers through higher DUoS charges.

Second order effects elsewhere

These can include increased costs for voltage support from the ESO, additional BM actions by the ESO increasing BSUoS for all consumers, and higher Capacity Market costs than if CLASS was providing peak-shaving. If the DNO is using CLASS to provide services to the ESO then CLASS is not being used to support the distribution network – which was an original use case for the CLASS project.

Ofgem should also consider the cost to consumers from getting a lower quality of service than expected (lower voltage). CLASS may shorten the useful lives of certain machines and household appliances. NERA states that such costs will be borne by consumers and not reflected in DNOs' bids. NERA challenges Ofgem's assumption that household consumers do not value voltage stability. Voltage is certainly important for some industrial and commercial (I&C) customers. There may be unintended consequences from I&C customers with advanced energy equipment automatically adjusting their voltage back up to compensate for voltage reductions from CLASS. Baringa acknowledged these issues in its report:

It may be that as CLASS is deployed more widely that there are specific customer types that are more affected, but the potential scale of this effect, if it exists, cannot be estimated.¹

Electricity suppliers will be out of balance due to the voltage being different to expected. CLASS risks suppliers over-procuring (or under-procuring) power. Suppliers cannot forecast CLASS usage, so this over or under procurement is beyond their control, increasing the riskiness of the supply business.

Third parties providing balancing services to the ESO face costs that DNOs do not when using CLASS, due to the DNOs' unique position as a regulated monopoly network operator. DNOs' unique advantages include:

- **No exposure to network costs** – CLASS does not appear to pay anything for connection to or use of the network, unlike commercial providers who are liable for DuOS, TNUoS and BSUoS.

¹ Baringa, Assessing the impact of CLASS on the GB Electricity Market (31 May 2016) p 58.

- **Automatically limited losses** – under DRS8 DNOs are not fully exposed to losses as these are shared with consumers (without the consumers' permission).

These factors may allow CLASS services to have an unfair advantage over competitive solutions, which arises not from any efficiencies or innovation, but simply because DNOs would not apply the same network connection costs/barriers that third party balancing services would face, and because CLASS services would have a favourable regulatory treatment not available to unregulated providers.

Question 3: 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)?

DRS8 is not an appropriate option for CLASS. It is not appropriate for consumers to be exposed to the DNOs' losses (and conversely for DNOs' to not face the full risks of their investment). The other market participants in the ESO balancing markets do not have this downside protection. The losses protection in DRS8 could distort the DNOs' decisions, compared with competitive market participants who are fully exposed to downside risks.

Centrica believes DRS8 is not in the best interest of consumers for the following reasons:

- The returns to DNOs are potentially excessive. CLASS makes use of assets that customers are already funding, including a return for the DNO. If CLASS services could lawfully be allowed and were in the interests of customers, those customers should therefore get most of any upside not just the share in line with the totex incentive mechanism.
- This contributes to costs to customers being higher than necessary and potentially increasing through CLASS (under DRS8). If CLASS is genuinely low cost compared to other options, it is to be expected that the DNO would bid, in order to profit-maximise, based on its view of the market price. This could be substantially higher than the costs plus margin level allowed under DSR9. As customers will be paying for all of the higher bid costs for the ESO (compared to DRS9) but only receiving a share back through distribution charges, this will result in increased costs to customers. Indeed, if the DNO was successful with a bid that was close to the next best bid, but considerably higher than the marginal cost, it is likely customers would be paying more under CLASS – because the reduction in ESO costs would be smaller than the DNO share of CLASS profits.
- DRS8 is not appropriate for *any* standalone profit-making activities involving significant investments and potential risk - not just CLASS. As suggested by the name it was only designed for 'Value Added Services' which enabled 'no regrets' opportunities to use existing assets, like allowing advertising hoardings on DNO infrastructure which would be required anyway. Customers should never be in a position of funding losses for activities under DRS8. It is not appropriate for Ofgem to retain the potential for customers to underwrite potentially 50% of losses under any DRS8 scheme the DNO comes up with. This is inappropriate for a regulated entity and was unlikely to be the intent behind the current DRS8. This is more relevant to CLASS if the DNO can't identify the costs of providing the service – since that makes it more likely that it will incur losses by offering its service at a competitive market price, but above its unknown costs.
- We would also note that we believe that the compliance for DRS8 to be same as for DRS9. We expect the same level of rigour to be applied in identifying and justifying the

costs associated with CLASS under any approach. Transparency around these costs is also important to allow the value of each approach to be properly assessed.

Question 4: How might limits on charges to the ESO in DRS9 affect investment and utilisation signals for CLASS?

Without prejudice to our position that allowing CLASS services is not in consumers' interests, if it were to be treated as a DRS, we believe that DRS9 would provide a better outcome for consumers, in theory, than DRS8 because it would ensure customers would not fund excessive returns for the DNO. Consumers would also not be exposed to losses.

However, even leaving aside our position that CLASS services do not fall within the scope of DRSs, DRS9 could only work if the correct level of costs can be identified and demonstrated. The definition suggested by Ofgem for DRS8 is inadequate for either DRS8 or DRS9, because it only includes CLASS specific costs incurred or allocated that year, for example the CLASS bidding team costs and any assets paid for. This does not capture the additional costs we outline in our response to Q2 and mentioned by NERA in its report for Energy UK.

If the correct level of costs can't be established, then DRS9 would not be appropriate.

Question 5: Do you agree that requiring CLASS in the price control would not promote efficient investment signals in CLASS and could distort competitive outcomes?

We are opposed to requiring CLASS in the price control. We agree that this would not promote efficient investment signals and would distort competitive outcomes.

Towerhouse, in its paper, also agrees with Ofgem that including CLASS services within the DNO price control is inappropriate (paragraphs 71-79). To summarise Towerhouse's findings:

- The price control approach would lead to significant market distortions, reducing commercial opportunities for providers of competitive balancing services, and could increase costs to consumers.
- Ofgem has clearly signalled to the market that competition is appropriate in balancing services; placing CLASS in the price control would be an extraordinary change in approach and Ofgem appears to accept that changing its approach in this way could not be rational.
- Ofgem has not provided any analysis of the actual costs associated with CLASS services – which would be essential for Ofgem to proceed with this option.
- Ofgem would additionally have to conclude that there is insufficient prospect for development and technological innovation in the market for balancing services, such that Ofgem can disregard the damage to long-term investment and innovation of pursuing this option.

Towerhouse concludes:

there would likely be serious damaging consequences for consumers and competition in the long run, through undermining regulatory certainty and discouraging long-term investment.

Question 6: Do you have evidence CLASS could affect the likelihood of system reliability issues?

CLASS could impact system reliability through a) increased wear and tear on the tap changer and b) unintended consequences on the ESO and DNO because CLASS assets are being used in Fast Reserve (FR) and Firm Frequency Response (FFR) and not available to provide wider system support.

Impacts the health condition of the sub-station

CLASS increases use of the tap changers in the primary sub-station. The tap changer connects or disconnects turns in the tap winding to change the ratio between windings to maintain a constant voltage out of the transformer. Over the life of the transformer the tap changer will suffer from wear and may fail altogether. According to Transformers magazine “about 30% of all European substation transformer failures are attributable to tap changer failure.”².

As part of the original CLASS Project, the University of Liverpool looked at the possible impacts of CLASS techniques on the health of the tap changers.³ Its report said that the increased number of additional taps from CLASS operation would impact maintenance schedules, shortening the time interval between maintenances and shortening the life time of the tap changer mechanism.

To quote the CLASS WP3 Final Report:

there is an issue around contact wear in the tap changer which could be of concern if there were significant increases in load current. A doubling of current will increase the erosion of the contact by a factor of 4 and would therefore impact on maintenance schedules⁴

Whilst the overall report said there were no issues of grave concern, CLASS does place additional stress on the system. It is not clear how costs arising from increased maintenance and faster degradation are covered in Ofgem’s current methodology and minded-to position.

We understand DNOs, other than ENWL, were surprised that ENWL was using CLASS as business-as-usual due to the impacts on component health.

Unintended consequences for the DNO and ESO

Via Energy UK and the ADE other DSR aggregators have reported that their Industrial and Commercial (I&C) customers may act to counteract the tap changes by adjusting their site voltage back up. The costs and impact of this should be considered.

If the ESO is using DNO infrastructure for FR and FFR, then the ESO may need to procure additional services elsewhere to compensate for the loss of inherent voltage in the network e.g. via specific voltage services and additional system flagged Balancing Market (BM) actions.

² <https://transformers-magazine.com/magazine/6169-column-transformer-lifecycle/> Transformers magazine, January 2019, *Column: Transformer Lifecycle*.

³ ZD Wang and J Spence, WP3, Final Report (28 September 2015).

⁴ Ibid p 1.

If the DNO is using CLASS to provide services to the ESO then CLASS is not being used to support distribution network security.

Question 7: 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?

As documented throughout this response, and in the NERA paper, there are several hidden costs of CLASS that may not be factored into the DNO's bids to the ESO. To the extent that hidden costs are unaccounted for, CLASS is being procured when it should not be, and competition is being distorted and impeded, and consumers' interests are not being protected.

As set out in the Towerhouse and NERA papers, Ofgem has failed to demonstrate that allowing CLASS at all is beneficial to current and future consumers. To quote from the NERA paper⁵

Ofgem has not provided detailed analysis showing that CLASS is clearly low cost as part of its Consultation process. Ofgem's assertion that its minded-to position will lead to the development of CLASS if and only if it is an efficient, low-cost service places an extraordinary burden on the regulatory framework supposedly equalising incentives between commercial and regulated market participants.

Ofgem has not conducted any quantitative analysis, still less provided an Impact Assessment, to assess the expected costs and benefits to consumers from its proposals.

CLASS was first used for firm frequency response (FFR) and then moved to fast reserve (FR). Ofgem's assessment concentrates on the 1.3% market share for FFR. The focus should be on the FR market where the 21% market share is substantial (generally offering up to 70MW for daytime periods and 30MW for overnights).

Fast Reserve

ENWL has a significant share of the pool of assets participating in this service – the ENWL bids to date equate to 23.3% of the 300MW ESO requirement. This can materially affect pricing given ENWL has historically bid very low on its availability rate, effectively dragging down the price whilst more conventional assets compete for remaining volume.

Competing generation assets need to reflect their costs into their FR price requirements. These include embedded costs like DUoS (variable and capacity related) and BSuoS. ENWL appears to gain an advantage from avoiding these costs due to its privileged position as a regulated DNO.

To assess properly the extent to which CLASS is distorting competition, market participants need access to data which has not been shared as part of this consultation. Data needed includes:

- a) The actual costs CLASS has incurred to date (including what costs are and are not being accounted for) and

⁵ NERA - Analysis of Ofgem CLASS Proposals - Prepared for Energy UK, pages ii and iv.

- b) ESO performance data demonstrating that ENWL's CLASS volumes have met the ESO's instructions and that the asset does not suffer from poor reliability. This information will show whether CLASS delivers well, relative to competing providers, or is causing system risks from poor delivery. Our commercial team has observed ENWL normally bids so low that they should always be accepted. This pricing strategy appears to be a poor commercial decision in isolation and could indicate that CLASS has an adverse 'perceived value' weighting with the ESO due to historic poor performance.

CLASS revenues should also be published – but for the separate purpose of assessing the net benefit (or losses) to ENWL's consumers.

FFR (Static)

ENWL bid 50MW into tender round (TR) 117 but has not bid since, appearing to prefer the FR market. 50MW is a material volume. The ESO reported that they only required a maximum of 70MW of static FFR for EFA 5 as of March 2020 (equivalent to TR 112). 50 MW would have taken over 71% of the market had CLASS been bid into TR 122

Future DNO market power

To date only one DNO, ENWL, has used CLASS technology to provide balancing services to the ESO. Other DNOs may have been dissuaded from using CLASS due to the uncertainty of its future. If other DNOs now decide to use CLASS in RIIO-ED1 and RIIO-ED2 then the CLASS technology has the potential to almost completely displace commercial providers. In its CBA prepared for ENWL, Baringa projected that by 2027 DNOs could add up to 3 GW of capacity which would almost completely displace competing technologies from the dynamic and primary FFR markets (chosen for modelling at the time) or equally saturate the FR market.

If Ofgem adopts its minded-to position on CLASS, then this risks setting a precedent for DNOs to divert other flexibility derived from network assets away from the secure and efficient operation of their network towards the ESO's balancing markets, further eroding the market for commercial providers. This outcome would be counter to Ofgem's declared policy intent on the development of a market for flexibility and may prevent all further participation from non-DNO flexibility providers.

Ofgem's consultation notes that only one DNO has used CLASS and says that there is no evidence to suggest other DNOs will use it in the future. As set out in the Towerhouse paper, Ofgem has set an unlawful standard by requiring evidence that there 'will' be anti-competitive conduct, rather than merely a risk of such conduct (paragraph 4b). The Towerhouse paper (paragraphs 41 to 42) demonstrates how in other contexts Ofgem correctly identified that the *ability and incentive* to distort the market, was sufficient to take action to block DNOs from operating storage and aggregating consumer demand. Those factors are both present here and Ofgem has, in particular, failed to properly identify the various ways in which DNOs will be capable of providing CLASS services with unfair advantages over competing balancing services.

We disagree that there is no evidence to suggest other DNOs are interested in using CLASS – for example SPEN explored the possibility of using the CLASS regulatory treatment to offer ancillary services in its 2016 DSO Vision paper.⁶ Ofgem needs to explain how it has reached

⁶ <https://www.spenergynetworks.co.uk/userfiles/file/SPEN%20DSO%20Vision%20210116.pdf> SPEN DSO Vision, 21 October 2016,

its conclusion on this point. If it is true that only ENWL can technically or economically use CLASS, then Ofgem needs to understand and share the reasons with stakeholders. This information is essential to inform Ofgem's decision on the regulatory treatment of CLASS.

Ofgem should investigate whether there have been any consequential increases in other balancing services costs. CLASS may not result in lower overall costs for the ESO if other actions in the Balancing Market and to control voltage are required.

Ofgem's minded-to position will add significant uncertainty to the investment climate for flexible assets. Investors will be reluctant to invest in the knowledge that, if more DNOs started using CLASS to bid into ESO markets, this could close those income streams to competitive providers. As a marketer, seller, owner and operator of flexible assets, Centrica's business model depends on being able to stack revenue from multiple sources. If these sources are under threat, because DNOs are allowed to use CLASS to compete with artificial advantages, then we are less likely to invest in the development of flexible technology propositions, because our customers will be less likely to buy them.

CLASS risks increasing the amount of money consumers pay towards the Capacity Mechanism (CM). As mentioned in the previous paragraph, investors in flexible assets depend on stacking revenues from multiple sources. If CLASS closes off key balancing service revenues, then to compensate, investors will need to obtain greater revenues from the CM to make projects viable.

Question 8: 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 the future if the DNO and ESO increasingly coordinate?

The DNO has privileged access to information on the status of its wider network. The same level of information is not available to investors in flexible assets seeking to offer balancing services to the ESO. The DNO has far better information on any network issues that would frustrate the ability of distributed assets to provide services to the ESO.

The DNO's informational advantages are as follows:

- Getting connected (or upgrading a connection) is often challenging for DER assets in terms of time to connect and cost. CLASS assets are already connected to the network, but competing providers have imperfect information from DNOs on where best to locate new assets (or upgrade assets).
- The DNO has perfect information on probability of interruptions and on actual interruptions. The DNO therefore has an advantage in quantifying and managing the risk of non-delivery to the ESO due to network constraints. This is important because, according to the official ESO's C16 Procurement Guidelines, the quality of the service (i.e. reliability) is taken into account by the ESO when making its procurement decisions. The ESO looks at the historical performance of providers to assess quality and this will be adversely impacted if the provider has not been able to deliver due to distribution network constraints.
- As the DNO and ESO increasingly coordinate, the DNO is likely to have privileged information about the ESO's system. This "insider information" could give the DNO an advantage when bidding into balancing service markets.

ENWL does engage in REMIT reporting for CLASS [here](#), but we assume that this only refers to the CLASS control and monitoring equipment. REMIT reports are deleted after 14 days. There is no REMIT reporting for the wider network.

Question 9: 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?

CLASS, indeed DNOs generally, should not be participating in competitive balancing service markets. Addressing information imbalances is not sufficient to mitigate the damaging impact of the CLASS 2016 Decision and this minded-to position on the interests of current and future consumers. CLASS services have not just informational but also substantive unfair advantages over competitive balancing solutions.

Without prejudice to our position that permitting CLASS would be unlawful and responding to Q9 in isolation, full legal separation of the CLASS business, IT systems and CLASS control room from ENWL's DNO business would be necessary. What we suggest here is comparable to the separation of Centrica Storage Ltd from the main Centrica business in 2003, the separation of EDF Energy Networks from EDF Energy (before being sold as UKPN), and the recent separation of National Grid ESO from National Grid Electricity Transmission. Such a separation would also be consistent with the types of separation measures adopted in other regulated industries, for example the legal separation of Openreach and BT.

Some mitigations could also come from:

- DNOs publishing digital maps of their network showing real-time information on network status down to primary-substation level.
- DNOs standardising and sharing historic, planned and real-time data on interruptions in the same timescale as they acquire it.
- The ESO making the same information it shares with DNOs available to third parties in the same timescale.

However, there can be no guarantee that these types of piecemeal interventions would necessarily cover all the DNOs information advantages; nor could specific interventions avoid the incentive on DNOs to find other ways to unfairly advantage their CLASS services.

The level of separation needed to ensure privileged information is not used – and most importantly, to provide assurance and transparency to potential and existing investors in competitive balancing services – would be material. Because of this, and because specific measures around data alone will not be sufficient mitigation, along with all of the other legal and competitive considerations set out in the remainder of this response, we believe CLASS must not be used by DNOs to participate in ESO balancing markets.

Question 10: In what other ways do you think DNOs could take advantage of their DNO role in the context of providing balancing services with CLASS?

DNOs benefit from not having to cover the “hidden costs” highlighted in our response to question 2 and by NERA in its report. As we mention in our response to question 2, these costs appear difficult to separate out. It is not clear exactly which costs are being accounted for in DRS8 because Ofgem has not published this information.

The NERA report also considers additional costs and inefficiency resulting from the conflict of interest arising from the DNOs competing as providers of CLASS with customers that they are meant to serve as the monopoly DNO. We believe potential does exist for DNOs to discriminate as set out by NERA – including by increasing the time or cost of connection for flexibility providers.

ESO balancing service contracts have very strict rules on what is known as Provision of Other Services. For example see Clause 3.11 of the currently applicable FFR [Standard Contract Terms](#). This means that a flexibility source providing FFR can't be in two markets at the same time. This could mean that any third-party asset that could provide DSR is locked out of the ESO's balancing markets if that asset is below a primary sub-station providing CLASS services. Therefore, DNOs could benefit from commercial aggregators becoming locked-out of any part of the network using CLASS.

It is not certain that any third party will be able to definitively identify all of the ways in which DNOs might be able to take advantage of their role to unfair advantage their CLASS services. The context of other regulated sectors demonstrates that allowing monopoly providers to participate in competitive markets creates an ongoing challenge for regulators, who progressively need to become engaged in increasingly prescriptive regulation, as the monopoly provider finds new ways of unfairly advantaging their own competitive services. The length and complexity of Ofcom's regulation of BT is a case in point – with Ofcom needing to adopt increasingly detailed and prescriptive quality of service standards and ongoing complaints that even with legal separation, Openreach and BT are able to make strategic decisions about future network innovation which benefit its retail services. Ofgem has rightly avoided this situation to date, acknowledging that it is important to remove *incentives* to discriminate rather than play the ‘cat-and-mouse’ game of progressively shutting down different ways monopoly providers have the *ability* to discriminate.

Question 11: How far do you think existing safeguards (including licence obligations and competition law) [protect] against DNOs taking advantage of their DNO role in the context of participating in the balancing markets with CLASS are sufficient?

We reject the premise of this question. As set out above in response to Question 10, allowing monopoly providers to leverage their assets in competitive markets inevitably gives rise to a ‘cat-and-mouse’ game, where the monopoly provider will have the incentive to continue to find new ways to improve their position in the competitive market. This is exactly why regulators such as Ofcom have had to revert to increasingly prescriptive and detailed regulation over time, as new practices from BT have come to light which have needed addressing, and also why no regulated sector relies solely on competition law to address these problems.⁷ No

⁷ It is widely acknowledged that competition law is insufficient to address the potential competition issues in regulated sectors – for example, because the evidentiary burden can be extraordinarily high, and because competition litigation often takes many years to resolve, by which time the damage to the market has already been done. A recent example is the *Royal Mail plc v Ofcom* [2019] CAT 27

regulator, nor any market participant, can be expected to predict in advance all the ways that a monopoly provider may unfairly leverage their monopoly position. The correct approach – as Ofgem has until now consistently and correctly recognised – is to avoid conflicts of interest in the first place, not to ask whether existing safeguards are sufficient.

As Towerhouse explain:

It is ... insufficient that DNOs are required not to discriminate or cross-subsidise their activities or that the ESO has 'soft' obligations to take market development into account in its procurement decisions. Regulators in other sectors have repeatedly struggled with the problems inherent with regulated providers also providing non-regulated activities, despite having generalised non-discrimination obligations – for example, BT and Openreach were subject to broad non-discrimination obligations for more than ten years under functional separation, and yet Ofcom still acknowledged that the situation was untenable and unsatisfactory for competitors. It is well acknowledged that such obligations leave significant opportunity for 'regulatory gaming', including for example through self-serving cost allocation methodologies and through investment choices that are informed by the desire to earn commercial returns in the contestable market.

...

It is widely accepted that generalised non-discrimination obligations are not sufficient to prevent market distortion, in contexts where a market player has a systemic advantage. Indeed, this is precisely why the EU regime, and the UK legislative framework, require DNO activities to be ring-fenced. It is also precisely why ring-fencing obligations have been imposed in many other regulated sectors.

Furthermore, requiring strict separation of monopoly activities and competitive activities is also important to ensure there is *transparency* and *industry-wide assurance* that unfair discrimination is not occurring. This is far superior to simply relying on licence conditions, compliance with which other market participants are unable to verify for themselves.

Even if Ofgem decided to abandon its long-held view that separation is appropriate in these contexts, it is nevertheless clear that the licence conditions do not preclude all possible forms of discrimination. For example, the licence conditions have not precluded ENWL's CLASS services from not needing to pay imbalance costs; not needing to wait to connect to the DNO network; not needing to pay connection or other network charges; not needing to account for wear and tear; and so forth.

Question 12: What additional measures would be effective and proportionate to address actual of perceived risks of DNOs taking advantage of their DNO role?

The simplest, most effective and most proportionate measure would be for Ofgem to prohibit DNOs from being able to offer CLASS as a balancing service and make it clear to DNOs that they should not be participating in contestable energy markets – other than for the market-based procurement of energy services to support network operation.

Without prejudice to our position that permitting CLASS would be unlawful, in **Appendix 2 – Mitigation Actions** to this response Centrica has assessed several measures that could be taken to address the risks from DNOs using CLASS to sell balancing services to the ESO. These measures would need to be taken into account when Ofgem conducts a detailed impact

decision, where Ofcom took several years to reach an initial decision that there was a competition law infringement, by which time the complainant firm had already been driven out of the market.

assessment to decide between the options lawfully open to it. Some measures could be combined with others. We still believe the optimum, and only lawful, solution is to prohibit the use of CLASS in competitive ESO markets. The measures we considered are:

- **Business separation** – These are various measures that can be put in place to ensure an appropriate level of separation is in place between the parts of the business that are involved in the monopoly activity and those engaged in the competitive activities.
- **Market share restrictions** – a limit could be placed the percentage of the market that either DNOs could supply using CLASS or that the ESO could procure from CLASS. This would need to apply to each balancing service. The reason for this is that a lack of market opportunities will discourage new asset development, which in turn will lead to a ‘crunch’ when older assets close and capability has not been replaced.
- **Pricing restrictions** – Ofgem could specify the costs and/or margin that DNOs must include when pricing the service. Where there is a high level of common or shared costs in providing the competitive and network services, this could help address the risk of the DNO pricing the CLASS service below its actual cost of provision.
- **Auditing of processes** – For competitors to be satisfied that they are competing on a level playing field with the network provider, some form of auditing of the processes in place will need to be undertaken. This could range from self-certification – with the DNO publishing monthly costs, revenues and performance – to external auditing with the external report published.
- **Regular Ofgem reviews of the decision** – If Ofgem allows CLASS to continue, the decision must allow for regular reviews considering a) the impact of CLASS on the wider flexibility market and b) the actual costs and benefits flowing to GB consumers. Ofgem would need to ensure that the CLASS decision could be quickly reversed if detriment was identified. The review arrangements must oblige Ofgem to consider reversing its decision if CLASS.

To be clear, we believe most of these would not be sufficient to address the risks of DNOs using CLASS as a competitive service.

For completeness, we recommend that our responses to questions 1 and 12, and Appendix 2 are read together.

Irrespective of CLASS, DNOs need to implement the recommendations of the Energy Data Taskforce and Energy Data Guidance emerging from Ofgem’s Modernising Energy Data (MED) work, so that network users’ level of information about the network moves closer to that of the DNOs’. This should build on Ofgem’s work on DSO key enablers (including reform of the LTDS) and the ENA’s work to improve data provision through the Open Networks Project and the new ENA Data Working Group.

Question 13: Are there other specific effects to competition that are relevant to our decision? What effects would these have on consumers?

The previous questions have asked about:

- Distortion of competition from the participation of CLASS.
- DNO market power.
- Information advantages that the DNO has, or may have in the future.
- Other ways that DNOs could take advantage of their DNO role.

We have largely covered the specific effects to competition linked to the CLASS decision in isolation.

However, we have a major concern that permitting CLASS to continue into RIIO-ED2 – even with mitigating actions – sets a dangerous precedent. The successful development of competition in the British gas and electricity markets was partly due to the network separation and robust licensing arrangements which directed networks to focus almost exclusively on secure and efficient network operation.

There is a risk that CLASS will be seen by DNOs as setting a precedent that allows them to commercialise other technology to offer balancing services to the ESO or flexibility services to other DNOs, further reducing the market for competitive providers. An example of a similar technology is ENWL’s Smart Street Project which is moving into business-as-usual. When EON raised concerns about the potential for Smart Street to displace third party local flexibility services in the future, Ofgem referenced this consultation on CLASS for RIIO-ED2.

There is also a risk that Ofgem’s approach to CLASS is seen by DNOs as justification to default to using flexibility in their own network over procuring flexibility from the competitive market. We still see significant issues with the procurement of flexibility with all DNOs carrying out tenders behind closed doors with no transparency, this is not neutral market facilitation. We fear that by allowing DNO’s the use CLASS, new technologies and solutions will come to market that render commercial flexibility redundant, because the DNO’s will just use their own internal solutions to “balance” the network, including using the free flexibility within Active Network Management (ANM) schemes.

This is further demonstrated by the DNO’s slow approach to rolling out monitoring to fully understand the network performance. Having more monitoring would have by now given far more insight into the locational needs of flexibility to providers and the pace of change has not been fast enough.

Appendix 2 - Mitigation actions

- 1) Standard requirements on DNOs not to discriminate or cross-subsidise their activities are seen by Ofgem as reducing the detrimental impact of DNOs operating in this market. However, there are inherent problems with the provision of such non-regulated activities which in other sectors have not been effectively addressed despite generalised non-discrimination obligations. Ofgem has invited stakeholders to suggest “if they have proposals for further measures DNOs should take to effectively and proportionately address actual or perceived conflicts of interest associated with CLASS.”⁸ This annex sets out some suggested proposals.
- 2) As we have already discussed in our main response, we believe that the most effective and proportionate mitigating action that Ofgem should take is to prohibit DNOs from being able to offer this service. We have provided many examples of this mitigation method being used effectively in analogous cases.
- 3) If prohibition can be clearly demonstrated to be disproportionate in the case of ENWL, given the investment it has made in CLASS services to date, then Ofgem could issue a specific derogation to ENWL. This derogation from the prohibition of offering CLASS services could be time limited to the life of the assets that ENWL has already invested in.⁹ However the hurdle for demonstration that a derogation is required is a high one.
- 4) If neither option to prohibit the service is taken, it will instead be necessary to put in place a comprehensive package of measures to minimise the detrimental impact associated with DNOs offering this service into a competitive market. As Ofgem itself describes, these should “deliver holistic, consistent, and principled approaches to managing conflicts of interest and embedding transparency across DNOs’ operations.”¹⁰
- 5) When considering options, it is helpful to group them in terms of their intended impact on outcomes. This enables a comprehensive package to be put together. There are two specific outcomes that need to be achieved in the case of the CLASS service:
 - a) Ensure a level-playing field.
 - b) Provide support for learning and innovation.
- 6) We discuss options for mitigation measures in each of these in turn.

Ensure a level playing field

- 7) Establishing a level playing field is necessary to bring about and encourage market entry by new participants. It also minimises the risk of companies engaging in anti-competitive behaviours that may otherwise result in customers paying higher prices or receiving lower-quality services.
- 8) Specific measures will be needed to ensure that DNOs are not able to leverage their monopoly position, or any information they hold as a result of that, to give them an unfair

⁸ “Regulatory treatment of CLASS as a balancing service in RIIO-ED2 network price control” Ofgem (2020) p6.

⁹ We note that the EU unbundling regulations represent a history of this where infrastructure companies that started off vertically integrated are treated differently from companies that try to newly integrate. In particular, while all need to legally unbundle, as a legacy firm you can still hold ownership in a regulated pipeline/wires or storage company whereas, as a new merchant market player you cannot acquire ownership of a regulated business.

¹⁰ Ofgem (2020) para 3.27.

advantage. We divide these into three categories, each of which needs to be covered by a mitigation action, although there are alternative options within each category.

Business separation

- 9) **Business separation.** There are various measures that can be put in place to ensure an appropriate level of separation is in place between the parts of the business that are involved in the monopoly activity and those engaged in the competitive activities. There is generally a trade-off between the cost of the actions and their effectiveness. The higher the risk to competition, the greater the justification for the level of separation being sought. Options cover the following range:
- a) **Information separation** can be put in place to ensure that the competitive part of the business engaged in operating the CLASS service has no opportunity to benefit from access to information associated with access to network information. Therefore, the key outcome is to make sure that market participants have the same 'market' information as the ENWL CLASS team in the same timescale. One way of doing this is to put in place a restriction, where an information screen (or "Chinese wall") would be placed to prevent those involved in CLASS services from having access to beneficial information associated with the DNO's main regulated business. Another way to deliver the same outcome is to publish the relevant information so that market participants have the same info at the same time. This will need to cover information that the DNO has about its own network as well as any privileged information that DNO may have about the transmission network including ESO network planning and operations. We provide further detail on the information that we consider should be released in our main response. We also note that for this remedy to be effective, participants will need to have the ability to deal with this detailed network data.
 - b) **Operational restrictions** could be used to prevent DNOs from directly selling CLASS to the ESO. Instead CLASS could be offered as an aggregated product to market participants. This keeps the network part of the business one step removed from the final market.
 - c) **Full ringfencing** could be used to hive CLASS off into a commercial company and a **requirement for ownership unbundling** would add an additional level of separation from the network owner. While ownership unbundling is the most onerous of these measures, without it there remains a risk that the DNO would seek to obstruct competitors to CLASS. However, we recognise the challenges associated with ownership unbundling for the CLASS service, and therefore assume that it will not be possible to implement in this case. Additional measures will therefore be required to ensure that the DNO would not seek to obstruct competitors to CLASS.

Pricing restrictions

- 10) **Pricing restrictions.** It may be necessary to be prescriptive and specify the costs and / or margin that must be included when pricing the service. This is particularly the case when there is a high level of common or shared costs in providing the competitive and network services. Without this level of prescription, there is a real risk that the DNOs will price the CLASS service below its actual cost of provision. There are a number of approaches that could be taken to the type of costs to be included and the methodologies used to apportion shared costs.

- 11) **Auditing of processes.** For competitors to be satisfied that they are competing on a level playing field with the network provider, some form of auditing of the processes in place need to be undertaken. There are two main options for this:
- a) **Self-certification:** Under this model DNOs would have to provide evidence that they are complying with the requirements that have been set and are not abusing their position as network owner and operator. For example, they may publish monthly costs, revenues and other performance figures as well as providing evidence that CLASS is not adversely impacting flexibility projects in their network area.
 - b) **External auditing:** Rather than self-certifying, they may instead need to have a third-party provide the sign off that they are complying with the regulations. This will be important when self-certification cannot be undertaken with sufficient transparency to provide comfort to market participants.

Provide support for learning and innovation

- 12) There is a realistic concern that – absent intervention – the CLASS service could soon dominate the markets that it is being offered in. While this may in part be addressed by the measures described above to ensure that a level playing field is created (in particular relating to appropriate pricing of the service to appropriately reflect its costs), additional mitigating actions may be required to ensure that these nascent markets can develop and deliver long term dynamic competition.
- 13) Protecting entrants that offer different technological solutions is common at the early stages of market development. This is because the lowest cost technology available now may not be the lowest cost option in future, should alternatives be allowed to develop. Indeed, this type of intervention has been extremely common in renewable (electricity) support and goes far beyond the ‘soft’ obligations that the ESO has to take market development into account in its procurement decisions.
- a) **Cap on participation:** This type of intervention is most simply done using an explicit cap on the proportion of the market that can be taken up by a service, in this case CLASS. The level of the cap should be sufficiently tight (for example at 10% of the total MW of accepted bids) to ensure that the market for these services can develop appropriately. It should also cover any future services DNOs may choose to offer in these markets that would raise similar concerns to CLASS.
 - b) **Re-opener of decision:** An alternative would be to have an automatic reopener of Ofgem’s decision if CLASS services hit a certain percentage of ESO spend on ancillary services. This would ensure that Ofgem could review whether additional restraints would be required to ensure the market developed appropriately, given the market share that CLASS services would have achieved.

Examples from other sectors

- 14) We provide some examples of where these mitigation measures have been used in other sectors in similar circumstances to CLASS. We also highlight cases where there are specific aspects of the case that make it less problematic than the CLASS service, thus warranting a lighter touch approach.

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
Prohibition			
DNOs in the UK <i>Core service of electricity distribution</i>	Owning, managing or operating storage facilities	In order to create a level playing field to compete for storage Ofgem considered whether network operators could be involved in storage and other flexibility services ¹¹	Prohibition of operating storage as networks need the right regulatory framework to make efficient and effective use of flexibility provided by the market, while acting in an entirely neutral way. This is to manage potential DNO conflicts of interest as work is carried out to develop markets for flexibility
Business separation			
BT in the UK <i>Core service is as a multinational telecommunications company</i>	Openreach runs BT’s digital network	BT provides services to communication providers that also compete with BT, though there is concern that aspects of the service will be influenced by BT’s market power and therefore, for example, information could be shared with BT on preferential terms	In order to provide services to all of its customers on an equivalent basis (at the same price, through the same processes and following the same timescales) Openreach has committed to Undertakings of “equivalence of inputs” ¹² . This includes information sharing where , if there was information shared as part of the service internally then this would also be shared using exactly the same processes with wholesale customers competing in the downstream market. There is a governance structure around this monitored by the Equality of Access Board and Office to ensure compliance with the

¹¹ https://www.ofgem.gov.uk/system/files/docs/2017/10/storage_ownership_publications_policy_consultation_final.pdf

¹² <https://www.openreach.co.uk/org/home/aboutus/equivalence/equivalence.do>

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
			regulatory obligations that there is no discrimination.
DNOs in the UK <i>Core service of electricity distribution</i>	Investment in non-regulated / non-distribution assets	Ensuring competition in markets that are vertically integrated with DNOs ¹³	Operational restrictions were introduced whereby there's a 2.5% cap on DNOs' non-distribution activities (as a proportion of distribution business revenue) and a 2.5% cap on investments in non-distribution activities (as a proportion of the share capital in issue) ¹⁴
Centrica <i>Energy services and solutions company</i>	Centrica's value added services include Centrica Storage Limited (CSL) which is used to store gas in a rough gas field alongside offshore and onshore operations	Centrica's storage business was the result of a merger with Dynergy and raised competition concerns about whether the joint operations of the businesses would operate against the public interest – in particular raising foreclosure concerns ¹⁵	The business agreed undertakings where CSL would be maintained legally, financially and physically separate from all other businesses . There were also particular terms under which the business should operate in terms of the non-discriminatory sale of rough capacity. ¹⁶
DNOs in Australia <i>Core service of electricity distribution</i>	DNOs are involved in contestable metering services	The AER has implemented regulation that allows DNOs to participate in markets for contestable services without leveraging any advantage they might have in the market. This allows for the promotion of fairness in a competitive market. ¹⁷	The Australian Energy Regulator (AER) ¹⁸ has implemented ring-fencing for regulated electricity and gas network businesses with related parties that operate other activities in competitive markets. This ring-fencing places certain obligations on businesses in terms of legal and functional

¹³ <https://www.ofgem.gov.uk/ofgem-publications/86247/ws6storageslides111113.pdf>

¹⁴ <http://www.poyry.co.uk/sites/www.poyry.co.uk/files/smarter-network-storage-lcnf-interim-report-regulatory-legal-framework.pdf>

¹⁵ https://webarchive.nationalarchives.gov.uk/20120119204347/http://www.competition-commission.org.uk/press_rel/archive/2003/apr/pdf/10-03.pdf

¹⁶ <https://assets.publishing.service.gov.uk/media/5746d003e5274a0375000008/Centrica-amended-final-undertakings.pdf>

¹⁷ <https://www.aer.gov.au/system/files/AER%20Ring-fencing%20Guideline%20-%20Fact%20Sheet%20-%2030%20November%202016.pdf>

¹⁸ <https://www.aer.gov.au/networks-pipelines/ring-fencing>

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
			separation, with the frameworks differing between parties.
<p>Ervia in Ireland</p> <p><i>Core services were the delivery of Ireland's national gas and water infrastructure, before this was leveraged to offer a third service</i></p>	<p>Using the ducts infrastructure laid adjacent to the gas network Ervia has a separate division called Aurora Telecom which provides open access dark fibre.</p>	<p>State bodies are viewed as critical to ensuring a positive contribution to competition in the way they are governed, amid other economic and social objectives.</p> <p>This is in line with the legislation that Ervia and its subsidiaries complies with.¹⁹</p>	<p>As a semi-state company Ervia was established to follow its prescribed role under the Gas Act and constitutional documents established its main subsidiary companies of Gas Networks Ireland and Irish Water.</p> <p>In pursuing a separate duty, the commercial company of Aurora sits under a separate governance framework from Ervia's own regulated bodies²⁰</p>
<p>BT in the UK</p> <p><i>Core service is as a multinational telecommunications company</i></p>	<p>Openreach runs BT's digital network</p>	<p>Given the increasing demand of customers on BT's services, a conflict of interest developed with Openreach's objective to deliver coverage in the UK and treat all customers equally. When it was part of BT Openreach it had to make decisions in the interests of BT rather than BT's competitors who were all meant to be able to access the network.</p> <p>Ofcom felt that reform was needed in order to deliver value for money and better service to customers.²¹</p>	<p>Ofcom determined that Openreach should be incorporated as a legally separate company within the BT Group with its own Articles of Association.²²</p> <p>This model is supported by the Openreach Monitoring Unit to ensure its effectiveness. This regulatory approach is enabled by increased transparency from the separation.</p>
<p>Pricing restrictions</p>			

¹⁹ <https://www.ervia.ie/who-we-are/corporate-governance/>

²⁰ [https://www.ervia.ie/site-files/docs/who-we-are/Code-of-Practice-for-the-Governance-of-State-Bodies-\(1\).pdf](https://www.ervia.ie/site-files/docs/who-we-are/Code-of-Practice-for-the-Governance-of-State-Bodies-(1).pdf)

²¹ <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2016/digital-comms-review-feb16>

²² <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2017/bt-agrees-to-legal-separation-of-openreach>

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
<p>BBC in the UK</p> <p><i>Core service is as the provider of public broadcasting services (the licence fee funded part of the BBC)</i></p>	<p>The BBC undertakes various additional commercial activities which leverage its existing infrastructure / broadcast transmission facilities / existing knowledge and expertise. These include:</p> <ul style="list-style-type: none"> • Production, including studio and post-production services • Distribution, covering international sales of programmes and formats 	<p>The BBC's Public Services without appropriate safeguards could subsidise its commercial subsidiary through providing access to certain services, information and infrastructure which were paid for through the licence fee. This could lead to commercial services being offered on more favourable terms than would otherwise be possible.</p> <p>Ofcom believes its requirements on the BBC to ensure the relationship between the Public Service and commercial activities are distinct and transparent protects fair and effective competition. Absent this, the market could be distorted, or an unfair advantage created.</p>	<p>Ofcom²³ regulates the BBC's commercial and trading activities, which are operationally distinct from the Public Service. Part of this regulation covers how the Public Service and commercial subsidiaries sell goods and services to each other.</p> <p>The BBC sets its prices based on relevant market price or market benchmark. Where the Public Service provides services to its commercial subsidiaries it does so based on their long run costs of provision.</p> <p>There is also an obligation for the BBC to publish an Annual Statement on operational separation in order to support transparency.</p>
<p>Heathrow in the UK</p> <p><i>Core service is airport services for air travel</i></p>	<p>Non-aeronautical activities at the airport, such as concessions, car parks and advertising</p>	<p>Airports' non-aeronautical activities are only as a result of its aeronautical activities (otherwise there would be no customers). Therefore, the Civil Aviation Authority (CAA) believes the benefits should be shared by airlines and users.</p> <p>Adopting a separated approach for the allowed revenues is seen by the CAA as</p>	<p>Single till regulation of Heathrow means that non-aeronautical revenues are deducted from forecast costs to set allowed revenues.²⁵ However, this type of solution is appropriate because there is no option for competition in that location.</p>

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https://www.ofcom.org.uk/_data/assets/pdf_file/0016/134350/statement-bbc-commercial-trading-activities.pdf

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<https://publicapps.caa.co.uk/docs/33/CAP%201103.pdf>

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
		unfairly benefiting commercial activities at the expense of non-capacity-enhancing aeronautical activities. ²⁴	
Water companies in the UK <i>Core services are water and sewerage</i>	Water companies may incur additional costs in delivering their core service, above those that are recorded and approved through ex-ante price controls	Under its price control Ofwat allows companies pre-determined spend in order to balance the risk to customers with the expectations of the regulated companies. However, this can create an element of uncertainty for companies under certain circumstances.	Ofwat has introduced uncertainty mechanisms into its price control, which allows costs to be reopened if a materiality threshold has been exceeded. ²⁶ This threshold is agreed as an amount over the approved base cost allowance.
Auditing of processes			
DNOs in the UK <i>Core service of electricity distribution</i>	DNOs carry out contestable work which is also open to independent distribution network operators (IDNOs). Affiliates of DNOs also operate as IDNOs themselves.	Without regulation Ofgem believed that there was a risk that competition could be distorted if DNOs were to provide their affiliates with commercially sensitive information that could not be shared with other market participants or give them undue preference. ²⁷	As part of a number of requirements for DNOs with affiliates that have distribution licences, a Compliance Officer needs to be appointed to report on licence condition compliance. The officer must be sufficiently independent and competent, conducting investigations into the licensee's compliance for reports to Ofgem.
Support for market developments			
Generators in the UK <i>Core business is providing energy to the</i>	Provide RES support	Incentivise generators to meet renewables targets, without distorting incentives such that there is a balance between investor and	Example of a cap on the renewables GB market include:

²⁴ https://publicapps.caa.co.uk/docs/33/CAP1541_HALRegConsultation_300617.pdf

²⁶ <https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Final-methodology-1.pdf>

²⁷ <https://www.ofgem.gov.uk/ofgem-publications/155196>

Organisation	Operations or costs outside core services	Motivation for regulation	Intervention for regulating services
<p><i>grid, part of which is incentivised to be from renewable energy sources (RES)</i></p>		<p>consumer interests. The purpose of the cap was to ensure that particular technologies would be able to compete and develop, rather than only award contracts to the technology that is currently the lowest cost.</p>	<ul style="list-style-type: none"> o cancelling auctions for onshore wind / solar altogether (ie prohibition); o distinguishing further within the pot available for “less established technologies” – with a cap applied on biomass / AD / ACT technologies to ensure there was enough budget available for offshore wind; and o banding of support levels for different technologies.
<p>5G infrastructure <i>Telecommunications equipment companies</i></p>	<p>Huawei has entered the market for 5G infrastructure which has attracted controversy as some countries have banned the use of the technology from their mobile networks’ 5G rollout plans</p>	<p>In light of potential cyber security risks it was felt that the market should have multiple vendors in order to balance security and resilience of the network</p>	<p>The National Cyber Security Centre has issued guidance for the risk management of high-risk vendors (HRVs) in telecommunications networks.</p> <p>It has advised a market share cap of 35% per HRV in order to allow other telco providers to ramp up their 5G equipment²⁸</p>