

Long Duration Electricity Storage Project Assessment

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Electricity Storage Network

The Electricity Storage Network (ESN) is the industry group and voice for grid-scale electricity storage in GB. The ESN has 100 members who have a mission to promote the use of energy storage and flexibility to support the net-zero transition. The ESN membership includes clean energy developers, owners, investors, optimisers, and academic institutions. This includes representation from publicly listed specialist funds focusing on storage and independent developers that have raised several billion pounds to invest in this new technology.

About Regen

Regen manages the ESN. Regen provides independent, evidence-led insight and advice supporting our mission to transform the UK's energy system for a net zero future. We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

Regen is also a membership organisation that manages the Regen members' network and the Electricity Storage Network (ESN). We have over 200 members who share our mission, including clean energy developers, businesses, local authorities, community energy groups, academic institutions, and research organisations.

Continuing engagement

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Background

The Electricity Storage Network has been engaging extensively around the development of Long Duration Electricity Storage (LDES) policy support, including via our Innovation and Technology working group. The points made in those meetings, member surveys and workshops – as well as feedback from bilateral conversations with members – have fed into our consultation response.

DESNZ commissioned Regen and LCP Delta to assess the optimal level of LDES deployment and the role LDES could play in delivering flexibility requirements in a range of electricity market and system scenarios. A crucial part of this work was to seek stakeholder feedback on costs and technical variables for LDES technologies, to inform a modelling study looking at the role of LDES in the future energy system. Using our ESN contacts, Regen conducted an engagement process with leading UK storage technology and project developers, with 25 storage technology developers covering 11 storage technologies, including several ESN members. The full report is available at: [Scenario Deployment Analysis for Long-Duration Electricity Storage](#). ESN also responded to the government's consultation on a cap and floor scheme in March 2024¹, and to Ofgem's call for input in January 2025². Regen's Associate Director, Ray Arrell, also attended an industry roundtable, hosted by Michael Shanks MP, on the priorities for the cap and floor scheme and its implementation.

LDES project eligibility process concerns

Before we outline our response to the project assessment consultation, we want to highlight some issues that members have raised regarding the eligibility process for Window 1.

- **Clarification on connection offers/dates:** There remains significant uncertainty regarding the process for evidencing accelerated connection dates and the impact on eligibility for the LDES cap and floor scheme – particularly in the context of grid connection reform and Clean Power 2030 (CP30) capacity allocations for battery storage and LDES, as well as potentially inconsistent guidance around eligibility criteria for projects that rely on new substations. More guidance on this process would be very helpful for the sector.
- **Financial commitments:** There is no information on the anticipated financial commitments required for projects under the LDES cap and floor regime and when they are likely to be payable, e.g. after successfully passing eligibility and project

¹ [Response to the government's consultation on a Long Duration Energy Storage cap and floor scheme](#), March 2024

² [Response to consultation on Ofgem's role, cap and floor plan, and response to the DESNZ publication](#), January 2025

assessment. We understand that this has now been outlined in the Financial Framework, but lack of clarity up to Window 1 potentially discouraged some applicants.

- **Level playing field:** Lithium-ion battery storage projects had less time to prepare bids compared to other technology types due to adjusting the policy to allow them to bid into the cap and floor scheme. To be clear, we are very much in agreement with the technology-neutral approach and commend the change in approach, which was in response to feedback provided by ESN and others in consultations and at the LDES roundtable. However, members have asked that Ofgem and DESNZ consider allowing aggregation of smaller projects to meet the 100 MW minimum threshold and ensure a level playing field for all technologies in future windows.
- **Additional windows:** Members would like to understand the likelihood of further windows and would like DESNZ and Ofgem to confirm the timeframes for the next allocation window for the LDES cap and floor scheme. While we appreciate this will depend on the window 1 process, we believe there is a need for more long-term certainty.

In addition, we believe that there needs to be more clarity provided on the LDES target capacity for window 1. Ofgem has previously stated a 2.7-7.7 GW range in capacity. However, recent documents have stated that a target will be “published in advance of C&F awards in Q2 2026” and “in consultation with NESO and DESNZ”. There is also uncertainty regarding the technology mix and the role of the NESO’s Future Energy Scenarios (FES) 2025, which will include technology-based breakdowns, due to be published on 14 July and to be used in the counterfactual assessment, and later in the Strategic Spatial Energy Plan (SSEP).

Recommendation: Ofgem and DESNZ to set a clear, overall LDES capacity target for window 1 that is communicated to the sector as soon as practically possible and accounts for project attrition. This should include how this relates to other NESO analyses (e.g. FES 2025 and SSEP).

Our members have highlighted that the current proposals for project assessment lack transparency and risk being challenged by the sector. The lack of guidance/templates/examples provided to the industry will fuel a wide variation of evidence provided in applications, which will create challenges in objectively scoring projects. We also believe that the approach to consulting separately on the financial framework, which is very closely linked to the project assessment, brings further risk of challenge on procedural grounds.

Recommendation: Ofgem to provide further detailed guidance, templates and examples of the evidence required for the project assessment process to help reduce the risk of being challenged by the sector.

Summary and recommendations

Overall, our members agree with many aspects of Ofgem's proposed approach to assessing LDES projects, but they are concerned about the lack of clarity, transparency and consistency in the proposed framework. A clear capacity target for window 1 is essential to guide investment, and Ofgem should align this with NESO's forthcoming FES 2025 and wider analyses (e.g. SSEP).

Members also highlight that the current assessment lacks published scoring methodologies and risks being challenged by the sector. Key revenue streams and system benefits, such as Balancing Mechanism (BM) value, degradation and avoided reinforcement costs, are not adequately captured. Ofgem should prioritise transparency, issue clear guidance and templates, and ensure strategic and deliverability factors are central to the assessment. Our recommendations are listed below:

- **Recommendation:** Ofgem and DESNZ to set a clear, overall LDES capacity target for window 1 that is communicated to the sector as soon as practically possible and accounts for project attrition. This should include how this relates to other NESO analyses (e.g. FES 2025 and SSEP).
- **Recommendation:** Ofgem to provide further detailed guidance, templates and examples of the evidence required for the project assessment process to help reduce the risk of being challenged by the sector.
- **Recommendation:** Ofgem should outline a formal and more detailed breakdown of the MCA structure with published scoring/weightings for each assessment strand. This should include clear rules on how non-monetised impacts are evaluated and integrated into the overall score.
- **Recommendation:** Ofgem and DESNZ to review competitive bid-based assessments for the first window. Use administrative benchmarks by technology group to create fairness and comparability.
- **Recommendation:** Ofgem to publish a clear overall LDES capacity target, accounting for project attrition, to be communicated to the sector as early as possible to support effective investment and delivery planning. Ofgem to confirm that they will be engaging with NESO around this LDES target in the context of FES 2025 (and beyond), SSEP, CSNP and RESPs.
- **Recommendation:** Ofgem to use independent third-party support for modelling and validating revenues.
- **Recommendation:** NESO to include degradation and curtailment impacts in its modelling.
- **Recommendation:** Ofgem to include avoided network reinforcement and curtailment costs explicitly in the economic assessment.

- **Recommendation:** Ofgem should reconsider the proposed exclusion of the impact on network reinforcement costs – including deferral of transmission reinforcement as a key component in the Economic Assessment.
- **Recommendation:** Ofgem to review and/or remove “option” value and “need for support” aspects of the strategic assessment to avoid discounting viable projects.
- **Recommendation:** Ofgem to include project maturity and delivery risk scoring in the strategic assessment.
- **Recommendation:** Ofgem to clarify treatment of hybrid and co-located projects.
- **Recommendation:** Ofgem to include location-based BM value in project assessments using available NESO data, third-party providers and project-provided data.
- **Recommendation:** Ofgem and NESO to prioritise: zonal pricing, prolonged low wind/cold weather, low consumer flexibility in modelling sensitivities.
- **Recommendation:** Ofgem and NESO to include high curtailment scenarios to reflect current constraint patterns.
- **Recommendation:** Ofgem and NESO to publish assumptions on hybrid/co-located assets and their contribution under system stress conditions.
- **Recommendation:** Ofgem to consider publishing an early view of how FES 2025 Holistic Transition scenario will be used in any project assessment process.

Responses to questions

Question 1

Do you have any views on our overall approach to the MCA, including specifically the proposal to assess the three main areas set out in 2.2?

Yes. Members support the MCA approach comprising economic, strategic and financial assessments. However, strong concerns were raised about transparency and consistency, particularly around the treatment of non-monetised impacts. There is a clear call from members for a defined scoring approach for each component within a transparent MCA framework. Economic and strategic factors should dominate, reflecting long-term system benefits, consumer value and deliverability. The absence of a clearly defined scoring methodology risks undermining stakeholder trust and visibility of the MCA process, especially if project outcomes and awards appear to lack objectivity and transparency. Stakeholders noted that without this clarity, the process may face challenges from the sector, delaying deployment of vital energy storage infrastructure to help deliver Clean Power 2030.

Recommendation: Ofgem should outline a formal and more detailed breakdown of the MCA structure with published scoring/weightings for each assessment strand. This should include clear rules on how non-monetised impacts are evaluated and integrated into the overall score.

Question 2

Do you have any views on our proposed in-the-round assessment that will rank projects based on NPV and then adjust with non-monetary impact will provide a robust result?

Members have mixed views on this aspect of the assessment. Some members do not believe this approach amounts to a true in-the-round assessment. Overreliance on NPV risks sidelining broader system and socioeconomic value, particularly given the diverse technical, spatial and operational characteristics of LDES projects. Several members stressed that using GVA or similar measures to weight strategic benefits such as skills and supply chain is essential to achieving government objectives, including the pursuit of regional levelling-up and industrial strategy goals. If non-monetised elements are used as an afterthought to adjust rankings derived from financial performance, the process fails to recognise the complexity and interdependency of these benefits.

However, others were supportive of an NPV-focused approach with other non-monetary adjustments. As mentioned in the answer to question 1, the industry would like more clarity on

how projects will be scored and ranked. This could include additional guidance and examples of what evidence Ofgem is looking for in each area.

Question 3

Do you have any views on using competitive bids - based on project-specific parameters - to inform the financial assumptions and C&F levels in each project's assessment? How might this approach work on a technology-neutral basis?

Members expressed strong reservations about using competitive bids for the first application window. While there was support for the principle of competition to help improve consumer value, they cited the early stage of the scheme (e.g. this being the first window and contract award process), uncertainty around regime design, and the inherent differences between technologies as major challenges. Developers cannot accurately bid the cost of capital or regime parameters when critical design questions remain unresolved, such as the treatment of debt benchmarking, post-regime clawback, or risk allocation.

Participants also warned that inviting bids without standardising project maturity, financial backing or delivery timelines creates a risk of selection based on overly optimistic assumptions, rather than deliverability. The diversity of technologies further complicates this: comparing a BESS project to a first-of-a-kind long-duration system is not feasible without distorting outcomes.

Recommendation: Ofgem and DESNZ to review competitive bid-based assessments for the first window. Use administrative benchmarks by technology group to create fairness and comparability.

In addition, we believe greater clarity is needed on the LDES target capacity for window 1. While a range of 2.7-7.7 GW has been referenced previously, the current position, as we understand it, is that a specific target will be “published in advance of the cap and floor awards in Q2 2026” following consultation with NESO and DESNZ. Any capacity range should not be used as an upper limit, and the role of project attrition should be taken into account. We also believe that other forms of flexibility (e.g. consumer flexibility) and low-carbon dispatchable generation (e.g. CCUS) are likely to be slower to deploy and more expensive than anticipated in the Clean Power 2030 Action Plan. This would mean a wider role and ambition for LDES technologies.

Further uncertainty arises regarding the intended technology mix and the role of NESO's 2025 Future Energy Scenarios – due to be published on 14 July – which will include a technology-specific breakdown and inform the counterfactual assessment. We are also unclear how NESO's pending SSEP and Centralised Strategic Network Plan (CSNP) publications may consider LDES, and there is a risk that the FES 2025 Holistic Transition pathway may not be the absolute capacity figure that the SSEP and associated Regional Energy Strategic Plans (RESPs) will be based on.

Recommendation: Ofgem to publish a clear overall LDES capacity target, accounting for project attrition, to be communicated to the sector as early as possible to support effective investment and delivery planning. Ofgem to confirm that they will be engaging with NESO around this LDES target in the context of FES 2025 (and beyond), SSEP, CSNP and RESPs.

Question 4

Do you agree that some revenue streams - such as from re-optimisation or ancillary services - cannot be fully captured in the Economic Assessment? How could NESO or Ofgem better account for or validate these in the assessment process?

Yes. Members generally agree that re-optimisation, BM and ancillary services revenues are important to the business case for many LDES projects. However, NESO's PLEXOS-based modelling currently does not accurately reflect these revenue streams, especially for site-specific and constraint-driven operations. There is a locational aspect to revenues, particularly in the BM.

Participants proposed several options, including: inviting standardised forecasts from developers; commissioning third-party benchmarking using historical data and NESO insights; and assessing these revenues qualitatively with location and capability-specific validation.

Members also highlighted that battery storage degradation and curtailment are often excluded from generation and revenue projections. These omissions distort the comparison between technologies with different profiles.

Recommendation: Ofgem to use independent third-party support for modelling and validating revenues.

Recommendation: NESO to include degradation and curtailment impacts in its modelling.

Question 5

Are we considering the right impacts for the Economic Assessment, and have we correctly characterised both monetised and non-monetised impacts?

Generally, yes – but members noted several important gaps. While consumer and producer welfare are included, other system-level impacts, such as reinforcement cost avoidance, long-term resilience, and value beyond the cap and floor, are not properly accounted for.

Ofgem's exclusion of asset degradation, lack of clarity on capacity market interactions, and the absence of an explicit valuation for avoided transmission investment were identified as key concerns.

Recommendation: Ofgem to include avoided network reinforcement and curtailment costs explicitly in the economic assessment.

Question 6

Are there important system-level benefits from LDES that are not well captured in the Economic Assessment but could significantly impact outcomes? If so, what are they, and can they be consistently assessed across projects?

Yes. Members highlighted a range of system benefits not currently valued in the Economic Assessment. These include:

- ability to defer expensive transmission reinforcement (e.g. Scottish transmission 'bootstraps')
- provision of real-time system services (inertia, voltage support etc.)
- enhanced system resilience under stress conditions
- long-term asset value.

They also emphasised that degradation, curtailment impacts and network interactions should be modelled with greater accuracy and granularity.

Recommendation: Ofgem should reconsider the proposed exclusion of the impact on network reinforcement costs – including deferral of transmission reinforcement as a key component in the Economic Assessment.

Question 7

Do you have any views on the relevance, appropriateness and completeness of the impacts proposed in the Strategic Assessment?

Yes. Members supported the inclusion of technological diversity, system security and socio-economic benefits. However, "option value" and "need for support" were viewed as vague and counterproductive, as they could clash with other parts of the assessment. Members urged Ofgem not to penalise efficient or bankable projects simply because they seem commercially viable, especially since the cap and floor framework allows their lower cost of capital. There is a risk that applicants provide project details that look very good from a consumer value point of view, only to be challenged on the "need for support".

Deliverability and project maturity must also be considered. Strategic assessment should prioritise enabling infrastructure that is shovel-ready, well-financed and aligned with long-term system needs.

Recommendation: Ofgem to review and/or remove “option” value and “need for support” aspects of the strategic assessment to avoid discounting viable projects.

Question 8

Are there other impacts that we should be considering in the Strategic Assessment?

Yes. Members called for greater emphasis on project maturity, planning status and track record. They warned that depending only on the eligibility assessment to determine deliverability would be inadequate.

Furthermore, co-location and hybrid configuration benefits are not clearly defined and may be underestimated. The strategic assessment should consider the value of project flexibility, grid integration, and long-term contributions beyond the regime period.

Recommendation: Ofgem to include project maturity and delivery risk scoring in the strategic assessment.

Recommendation: Ofgem to clarify treatment of hybrid and co-located projects.

Question 9

Do you have specific suggestions for how the Financial Assessment output should be considered alongside the Economic Assessment?

See answer to question 1.

Question 10

Do you agree with our proposal to assume that LDES projects will remain revenue neutral following balancing market actions?

No. Members strongly disagreed. Projects in constrained zones derive significant and locationally specific BM value. Removing this from the modelling artificially flattens differences between projects, undermining efforts to reward system value.

Members called for the use of NESO operational data and standardised templates to estimate BM value by location and technology. As outlined in the answer to question 4, third-party

assessments that the industry uses could also be used. Projects will provide this as part of the revenue assessment.

Recommendation: Ofgem to include location-based BM value in project assessments using available NESO data, third-party providers and project-provided data.

Question 11

Do you have any views on the proposed Marginal Additional method and whether it provides a robust basis for assessment?

No answer provided.

Question 12

Do you have any views on the counterfactual to use for this assessment and sensitivities that we could use?

We generally support the approach outlined, but with refinements. Zonal pricing, extreme weather years, and low consumer flexibility should be prioritised. Members expressed concern that a "normal weather year" counterfactual understates LDES value during system stress. Consumer flexibility projections may also be too optimistic.

Several members also raised the need for further clarity on how hybrid and co-located projects will be modelled in sensitivities.

Recommendation: Ofgem and NESO to prioritise: zonal pricing, prolonged low wind/cold weather, low consumer flexibility in modelling sensitivities.

Recommendation: Ofgem to include location-based BM value in project assessments using available NESO data, third-party providers and project-provided data.

Recommendation: Ofgem and NESO to include high curtailment scenarios to reflect current constraint patterns.

Recommendation: Ofgem and NESO to publish assumptions on hybrid/co-located assets and their contribution under system stress conditions.

The use of the FES 2025 Holistic Transition scenario has been stated as the main counterfactual for the NESO modelling approach in the MCA. However, the Holistic Transition scenario projection is not visible, as FES 2025 will not be launched until 14 July. Ofgem should consider providing an 'early view' or clear translation of the Holistic Transition FES 2025 and its ramifications in the context of counterfactual modelling and sensitivity analyses for the project assessment process.

Recommendation: Ofgem to consider publishing an early view of how the FES 2025 Holistic Transition scenario will be used in any project assessment process.