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**Response to: Long duration electricity storage consultation: designing a policy framework to enable investment**

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Düsseldorf-based Uniper is an international energy company with activities in more than 40 countries. The company and its roughly 7,000 employees make an important contribution to supply security in Europe, particularly in its core markets of Germany, the United Kingdom, Sweden, and the Netherlands.

Uniper's operations encompass power generation in Europe, global energy trading, and a broad gas portfolio. Uniper procures gas—including liquefied natural gas (LNG)—and other energy sources on global markets. The company owns and operates gas storage facilities with a total capacity of more than 7 billion cubic meters.

Uniper intends to be completely carbon-neutral by 2040. Uniper aims for its installed power generating capacity to be more than 80% zero-carbon by 2030. To achieve this, the company is transforming its power plants and facilities and investing in flexible, dispatchable power generating units. Uniper is already one of Europe's largest operators of hydropower plants and is helping further expand solar and wind power, which are essential for a more sustainable and secure future. The company is progressively expanding its gas portfolio to include green gases like hydrogen and biomethane and aims to convert to these gases over the long term.

Uniper is a reliable partner for communities, municipal utilities, and industrial enterprises for planning and implementing innovative, lower-carbon solutions on their decarbonization journey. Uniper is a hydrogen pioneer, is active worldwide along the entire hydrogen value chain, and is conducting projects to make hydrogen a mainstay of the energy supply.

In the UK, Uniper owns and operates a flexible generation portfolio of seven power stations and a fast-cycle gas storage facility.



## Consultation Response

We have set out below our answers to the consultation questions. Our views in summary:

- A strike price and gainshare mechanism is a better option for supporting first of a kind projects and is more similar to a market mechanism, supporting future transition into the Capacity Market.
- Investors need long term certainty and visibility of project returns above project debt level.
- Government needs to set out the timescales for the competition so we can assess whether we can meet the proposed eligibility criteria.

### *Our views in full:*

**1. Do you agree with the policy objectives that have been identified? Please explain your reasoning.**

Yes.

**2. Are there other factors we should consider in our policy objectives?**

No.

**3. Will these policy objectives help to bring forward LDES projects to help the electricity system reach net zero in the most effective way? If so, why?**

Yes, but they are not, in themselves enough. Structuring the support framework to ensure that a range of technologies can compete and that risks are adequately covered to enable investment will help bring projects forward.

**4. Do you agree with our assessment that a cap and floor is the most appropriate policy option to enable investment and bring forward the required LDES? Please explain your reasoning.**

No. A cap and floor is the most appropriate of the policy options you considered, but we think there are alternatives to a cap and floor that would work as well or better and could smooth the transition for technologies from the bespoke support scheme to the Capacity Market in the longer term. For instance, a strike price and gainshare mechanism would be closer to a merchant market business model and would still provide value for money for consumers by ensuring that all market upside is shared by the operator and government.

**5. Do you agree with our approach to not set an overall scheme capacity?**

No. We agree that you should not set an upper limit to scheme capacity, as there is a risk of setting it too low, but a minimum limit, as proposed by AFRY and LCP Delta/Regen, would give investors confidence by demonstrating government ambition. If government is clear that the capacity limit is the minimum that government is looking for, it will not limit scheme scope or discourage developers bringing forward projects.



**6. Have we sufficiently identified wider risks and do you agree with the proposed mitigations? Please provide your reasoning.**

Yes. We agree that supporting LDES may impact storage technologies not covered by this scheme, but it is hard to judge the severity of those impacts whilst the relevant markets are so nascent. Keeping LDES support under review as markets develop is the best way to manage this risk.

**7. Do you agree that only those technologies that meet the electricity storage definition should be eligible for an LDES scheme?**

Yes.

**8. Do you agree that it is appropriate to exclude technologies that can already be funded under existing market arrangements and/or those that would be eligible for multiple business model support?**

Yes.

**9. Do you agree with our proposal for a minimum duration of 6 hours? If not please provide a rationale.**

Yes.

**10. Do you believe we should be setting a minimum efficiency criterion? Please provide your reasoning.**

No. It is not clear that a minimum efficiency criterion would drive the best outcome for consumers: efficiency may not be directly related to lowest OPEX, and where the input fuel would otherwise go to waste it may not be relevant to the value that technology would have to the system as a whole. There are many performance variables that will influence the value of a technology in the market – e.g. efficiency, max instantaneous generation, max duration of generation, recharge timescales, location, ancillary grid stability services, total CAPEX/MW – so there are likely to be many instances where a less 'efficient' solution is nonetheless the best one for those particular circumstances and grid needs.

**11. Do you agree with the proposed approach to splitting the streams by TRL level? Please provide your reasoning. If not, please suggest an alternative approach.**

Yes. This offers an opportunity for less developed technologies, which are likely to have higher CAPEX costs, to come to market. Otherwise they will be outcompeted on cost by more established technologies that have been able to bring their costs down.

**12. Do you agree with the different capacity minima set out for the streams? Please provide your reasoning.**

Yes, it seems reasonable to reflect the differing TRL levels in the capacity minima.



**13. Do you agree that the identified wider system benefits should be considered when assessing a project?**

Yes.

**14. Would an approach similar to that of the interconnector scheme be appropriate? if not what alternative would you suggest?**

Yes, but there may need to be more of a role for the developer/operator, as consultants and NESO may not be ideally placed to assess all of the benefits that novel technologies can offer.

**15. Are there any wider economic and societal benefits that have not been identified that LDES projects could provide that we should include in the criteria?**

No.

**16. Do you agree with allowing recovery of debt via the floor and recovery of equity via the cap? Please provide your reasoning.**

Only allowing the recovery of debt via the floor will not be enough to secure investment in FOAK projects, as there is a risk that they never make returns above the floor. Allowing the recovery of some equity via the floor and then sharing all market returns above the floor will be a more attractive proposition for investors whilst still minimising the costs to consumers.

**17. What costs should be eligible for inclusion in the cap and floor reconciliation calculations?**

At a minimum, the project's CAPEX and OPEX costs should be eligible for inclusion, as well as the cost of debt and some level of equity return.

**18. How do we design the thresholds to be at the appropriate level to balance investment certainty with potential consumer exposure to additional support costs?**

This is very difficult. Whilst you are only supporting FOAK projects, it would be easier to negotiate a strike price with each project and share gains above this level, as is being done for hydrogen production plant. This is more flexible to different technologies and easier to set where technology is new to the market place, as it can differ from project to project.

**19. Should we require projects to outline how they intend to operationalise the asset to exceed the floor?**

Yes; this would help deter more speculative bids, or bids by developers that do not plan to operate assets.



**20. Do you agree using annual gross margin is a suitable approach to setting the cap and floor thresholds? If not, what alternative would you suggest?**

No. The annual gross margin wouldn't include costs such as staffing or maintenance. We would recommend a project-specific approach to setting a strike price, based on costs and some element of return, with a gainshare mechanism operating on all revenues above this level.

**21. What performance incentive could be used to encourage full operation of assets to prevent dispatch distortions around the cap?**

As set out in the consultation, a soft cap, which would essentially be a form of gainshare, would prevent operators ceasing operation at or near the cap. Equally, a strike price and gainshare mechanism would eliminate the possibility of dispatch distortions around any cap.

**22. What performance incentive could be used to encourage full operation of assets to prevent dispatch distortions relating around the floor?**

In any model where the operator will see gains from operating above the floor, it is not realistic to believe there will be dispatch distortions around the floor.

**23. Do you agree with our proposed mitigations, or would you recommend others?**

We would recommend a different approach to project reward, with a strike price and gainshare mechanism to incentivise market behaviour and remove reasons to game around caps.

**24. Have we identified relevant operational risks associated with creating an LDES investment scheme?**

Yes.

**25. Are our proposed mitigations sufficient for mitigating against the operational risks, like gaming? Please provide your reasoning.**

Yes, although it is not clear that government could develop an appropriate index, particularly for novel technologies, until a range of LDES have been operating in the market for several years. Banning vertically integrated offtake and supply agreements within an umbrella company is likely to be administratively simpler, even if it does increase costs for some technologies / operators.

**26. Do you agree that the cap and floor scheme should be allocated administratively?**

Yes.



**27. Do you agree that length of a cap and floor contract should be based on the project length?**

No. The consultation talks about a further regulatory regime for LDES assets whose life span is longer than their contract length. We would propose that LDES contracts should be 10-15 years, depending on the technology. Assets that outlive their contract should then be eligible to bid for a new contract, if they are still not market ready, or compete in the CM. The CM should be the preferred long term mechanism for supporting LDES in a decarbonised electricity system.

**28. Do you agree that cap and floor recipients should also be able to participate in other electricity markets, such as the CM? Please provide reasoning.**

No. An LDES contract would essentially be a substitute for a CM contract so we do not support recipients also participating in the CM, as this could distort that market. We support the participation of LDES contract holders in markets such as the Balancing Mechanism and ancillary services, as CM market participants often do.

**29. To what extent could finance be needed from UK Infrastructure Bank or elsewhere, alongside the cap and floor scheme, to help address barriers to investment in LDES?**

It is likely that at least some LDES proposals will be seeking project finance in order to develop and operate their project, and finance from the UK Infrastructure Bank could help leverage private investment.

**30. Do you agree that the proposed pre-qualification criteria are reasonable for both streams? Please provide your reasoning.**

The proposed pre-qualification criteria that "Projects should have the relevant planning consents in place." is not realistic if the first LDES contract award process is in the next 12-18 months. This is particularly true for geological storage projects. The current backlog means that even a standard Environmental Permit takes ~9 months to secure; this will be longer for novel technologies, where there are a greater number of unknowns.

**31. Are there additional pre-qualification criteria that should be considered to establish the eligibility of a project?**

No.

**32. If you have a LDES project in the pipeline, how would these eligibility parameters affect your project's application?**

It is difficult to say without knowing the timescales within which we would have to meet the eligibility criteria and then achieve commercial operation. Securing planning consents, environmental permits and grid connections takes time; if insufficient time is allowed in the application and contract negotiation process then we may not be able to meet the eligibility criteria as set out.



**33. What time length would you recommend for conducting reviews of cap/floor threshold (e, g, annual or multi-year)?**

Multi-year. Projects whose regulated returns can be adjusted on an annual basis are less investible – frequent adjustment of the terms of the contract do not provide the long term certainty needed to unlock the initial £multi-millions of investment.

**34. Do you agree that exceptional event should be considered as part of the review of cap/floor? Please provide your reasoning.**

Yes. This is already done under existing price controlled contracts, where either of the contracted parties can make the case that an incident or pattern of market behaviour qualifies as an “income adjusting event”.

**35. What criteria could a proving period for LDES be based on?**

We are not persuaded that LDES need a proving period. There should be a series of project milestones to ensure timely construction and entry into operation, and then a process of regularly testing asset performance, similar to the Satisfactory Performance Days for assets in the CM.

**36. Do you agree that target start dates should be set? If not, please explain why.**

Yes.

**37. Are there any other parameters that we should be considering in the design of the scheme?**

No.

**38. What are the important factors for deciding who is the appropriate body to bring forward this scheme?**

Certainty for investors and capacity and relevant expertise in the delivery body. It would make more sense, administratively, for Ofgem to bring it forward, as Ofgem already administers a number of similar schemes and would therefore have dedicated expert resource that could work across all of them.

**39. Would either of the delivery routes set out affect the investment case for LDES projects?**

No. As long as there is long term certainty and the scheme is well designed, either route would be investible.

**40. Are there any additional benefits or risks to a delivery route that have not been identified?**

No.



**41. Do you believe TNUoS charges should be used if the scheme is administered by Ofgem (option 1)? If not, please provide your reasoning and/or an alternate method.**

No. TNUoS charges are used in relation to interconnector cap and floor payments because interconnectors are classified as transmission assets by European and UK legislation. Therefore, it makes sense to recover the cap and floor payments in network charges.

Storage assets are presently categorised as generation. The use of the supplier obligation levy would be more appropriate as it already recovers subsidies paid to generation assets which these would also be. Alternatively, a separate levy could be developed to keep it fully separate.

**42. Do you believe a supplier obligation levy should be used if the scheme is administered using a CfD style approach (option 2)? If not, please provide your reasoning and/or an alternate method.**

It would be the more appropriate option regardless of the route for administration.