



# Considerations for implementing support mechanisms for storage

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## A case study from the UK

January 2024



# Storage deployment is facing a number of barriers, which may be addressed by different support mechanisms

## Key barriers to deployment of storage

- Technology risk
- Revenue uncertainty
- Revenue volatility
- Competition
- Lack of market signals
- High upfront capital cost
- Long build times

## Interventions for addressing these barriers

- Contract-for-Difference
- Cap & floor regime
- Regulated Asset Based model
- Capacity market
- Grant funding

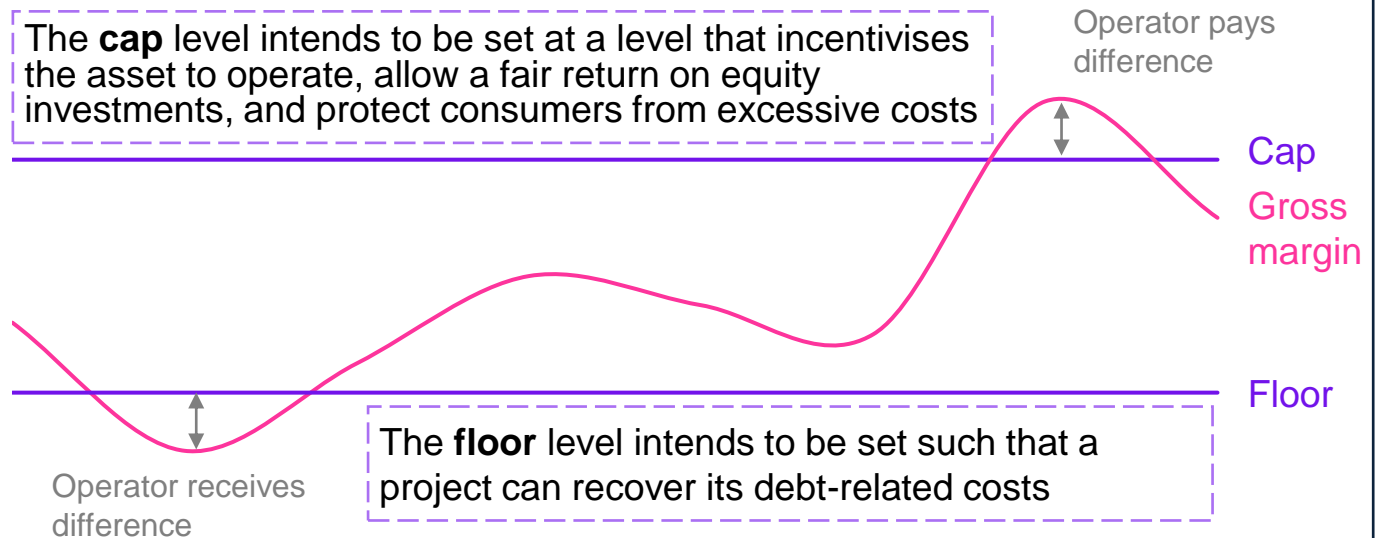
**Some interventions are better suited to tackle certain barriers than others; In practice, policymakers often utilise a combination of support mechanisms to ensure effective coverage of barriers**

# A case study from the UK: LDES cap and floor proposal (1/2)

The UK Gov concluded that LDES technologies have a key role to play in reaching net zero, but are currently facing significant barriers to deployment

- The GB power system could require ~15-21GW<sup>(a)</sup> of capacity by 2050, but it only has 3GW of LDES within its pipeline
- In 2022, the Government acknowledged that intervention is required to enable investment in LDES projects, and has set out a proposal to support further deployment

A revenue cap and floor regime has been recommended to support non-lithium ion LDES technologies and bridge the ~12-18GW gap in LDES capacity needed by 2050



The proposed cap and floor scheme intends to unlock private sector investment through a revenue guarantee, in turn lowering WACC, whilst being a potential low cost option if the floor is met

Note: (a) Sum of medium duration storage (4-12 hours) and long duration storage (>12 hours) power storage capacity needed by 2050, based on scenario 1 & 3 within BEIS research paper Benefits of Long Duration Electricity Storage, July 2022; MDES

# A case study from the UK: LDES cap and floor proposal (2/2)

## The UK government plans on addressing technology type-specific barriers by splitting the support scheme into two 'streams'

- FOAK technologies' lack of track record heightens investment risk compared to PHS, which has a more material risk related to long build time
- Splitting the support scheme into two streams allows the Government to tailor eligibility requirements and the support scheme to technology type specific barriers

	1: Established tech	2: Novel tech
<b>TRL</b>	9 e.g. PHS, LAES	4 – 7 e.g. CAES, RFB
<b>Min. power capacity</b>	100MW	50MW
<b>Min. duration</b>	6 hour	6 hour

## A number of other key proposed design elements are also worth noting:

- 1 Excludes **lithium ion batteries**, which has been supported through other mechanisms and is now able to deploy on a merchant basis
- 2 The intention is to run an **administrative process**, rather than competitive process, to ensure projects bring the most system benefits rather than those that are cheapest
- 3 Gaming risk is proposed to be managed through introducing transparency requirements, banning vertically integrated offtake and supply agreements, and developing a deemed index to use as basis for C&P payments
- 4 Proposed **gross margin** to set both C&F levels, which simplifies the regime but will need modelling to assess impact on cashflows

# Aspects to consider for successful intervention

1.

The success of interventions rests first and foremost on their ability to improve **bankability** of projects

2.

**Risks** should be allocated to the party best placed to manage the risk

3.

Driving **transparency** through the process is key to minimising market distortions

4.

Thought should be given to ensure **fair balance** of support across **technology** types

5.

Ensure that the eligibility criteria and selection process are **open** and **fair**

6.

Intervention should be **CO-developed** between the public and private sector



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