Enabling energy storage for a carbonneutral future









The Electricity Market Design Revision







### Agenda



15:00 Welcome and Introduction by David Post, President at EASE

15:05 Presentation of EASE position paper on Electricity Market Design

Panel discussion and Q&A

Marta Navarrete Moreno, *European Policy and Regulatory Manager at Iberdrola* 15:20

Alexander Schoenfeldt, CEO at CellCube

• Lars Stephan, *Policy & Market Development Manager at Fluence* 

15:55 Closing remarks

### **Welcome and Introduction**



### David Post, President at EASE

### Presentation of EASE position paper on Electricity Market Design





Thomas Lewis, Policy Officer at EASE



**Lidia Tamellini,** Junior Policy Officer at EASE

## Why we need to ramp up energy storage deployment





## The questions to tackle in electricity market reform



1. How can the market design reform support carbon-neutral security of supply?

2. What can be done to maximise renewables' penetration?

3. What can be done to **replace gas peakers** with greener and cheaper solutions?

4. How to attract **long-term investment** in energy storage?

5. How to ensure deployment of longer duration energy storage while maintaining a level playing field?

6. How to achieve **forward-looking system planning** for a cost-effective energy transition?

### 1. Align Capacity Mechanisms to climate targets to bolster energy security





Terna Capacity Auction results for 2024.

Capacity auctions are still dominated by highemitting technologies all across the EU

- 2022 has shown the weakness of relying on natural gas for energy security
- Capacity mechanisms need to be aligned with climate goals – we need to reach decarbonisation by 2050!



# 1. Align Capacity Mechanisms to climate targets to bolster energy security

#### Gradually lower carbon cap with set milestones:

- 550 to 250 g/kWh of  $CO_2$ 

#### Carbon neutral facilities should be rewarded:

- Longer contracts
- Higher capacity payments
- Premium for saving investments in RES

**Resource adequacy reports** should take into account how much **renewable electricity is curtailed** yearly.



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### Renewables, congestion, and gas peakers

**Grid Congestion**: transmission lines cannot transport electricity due to thermal constraints → resulting in curtailment

Supply-demand mismatch: Renewables overproduction, when more wind or solar is produced than is needed to meet demand  $\rightarrow$  excess energy is curtailed

Ramping up of fossil fuels: rather than shifting energy to a later time



Source: Adapted from https://www.cleanenergywire.org/factsheets/re-dispatch-costs-german-power-grid

# 2. Support integration of renewable energy through new mechanisms and market products



Solve congestion: DSO congestion management platforms such as Piclo Flex and GOPACs should be launched across the EU

 Flexibility providers bid to win flexibility contracts from system operators, who can procure services at scale.

Introduce Faster Response products: Providing system stability in high RES environments and unlocking new revenue streams for energy storage





# 3. Reduce curtailment and replace gas peaking plants





Include premium in capacity mechanism for curtailment reduction







Member States may extend the current TSO curtailment cap





Member State Gas Peaking Replacement Strategies





# 4. Attract long-term investment and revenue streams for new capacity and technologies





- 24/7 RES energy definition
- Time-match generation and consumption in Guarantees of Origin

Contracts for Difference, Cap & Floor Mechanisms

- Establish support schemes when the market is underdeveloped
- Ensure **co-located facilities** don't face discrimination



# 5. Ensure deployment of longer duration energy storage



As renewables energy production varies significantly within the day, week, month, and year, **longer duration energy storage** will be key to guarantee energy supply:



Annual electricity from wind and solar on a regional grid (%)

# 5. Ensure deployment of longer duration energy storage



Establish (nonbinding) seasonal Support 24/7 Renewable energy shifting **PPAs** to enable clean targets and strategy power supply capacity seasonal Ensure support (e.g CfDs Set up auctions to store renewable or Cap and Floor pricing) electricity from summer to for long-duration energy winter storage



### 6. Achieve forward-looking system planning

Extend ENTSO-E vision towards a 2050 energy system, covering energy storage and flexibility needs in parallel to renewable energy integration.

**Publish figures for RES curtailment** by each TSO area in real-time, with a final annual figure and a focus on specific nodes experiencing high levels of congestion-based renewable energy curtailment.

DSO Entity should develop best practices for integrating renewable energy, DERs (including energy storage), managing local congestion, and maximising RES usage (i.e. avoiding curtailment)





### Find full details and more of EASE's position



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#### The Electricity Market Design Revision

Decarbonised Energy Security Through Energy Storage

Brussels, November 2022



### **Panel discussion**





Marta Navarrete Moreno,Lars Stephan,European Policy and RegulatoryPolicy & Market DevelopmentManager atManager at Fluence

**IBERDROLA** 

Alexander Schoenfeldt, CEO at CellCube

Aanager at Iberdrola



Moderating: **Thomas Lewis**, EASE

## Conclusion: energy storage as new pillar of the energy system



Next to generation, transportation, and consumption, energy storage needs to **be considered a separate asset class** with own rules of functioning and definitions, due to its unique energy shifting ability.





### Thank you for joining the webinar!



#### Email

t.lewis@ease-storage.eu l.tamellini@ease-storage.eu

Website www.ease-storage.eu

Phone number +32 2 743 29 82

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