



European Union Agency for the Cooperation
of Energy Regulators

Amending the electricity price coupling algorithm methodology to include co-optimisation

ACER webinar

1 February 2024

Public

Indicative time	Webinar items	Speakers
10:45 - 11:00	Webinar open for log-in	
11:00 - 11:05	Introductory remarks	Mathieu FRANSEN, ACER
11:05 - 11:10	Background and process leading to the ACER decision	Marco PAVESI, ACER
11:10 - 11:15	Benefits of co-optimisation compared to the status quo	Marco PAVESI, ACER
11:15 - 11:25	Q&A	
11:25 - 11:30	Bid design and market products for co-optimisation	Marco PAVESI, ACER
11:30 - 11:40	Q&A	
11:40 - 11:45	R&D activities to enable the implementation of co-optimisation	Marco PAVESI, ACER
11:45 - 11:55	Q&A	
11:55 - 12:00	Closing remarks	Mathieu FRANSEN, ACER

Housekeeping rules



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This meeting is being recorded

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Slides and recording of this webinar will be uploaded to ACER website



Keep your microphone muted unless the chair gives you the floor

Substance-related questions will be addressed during the relevant Q&A session; although they can be posed at any point

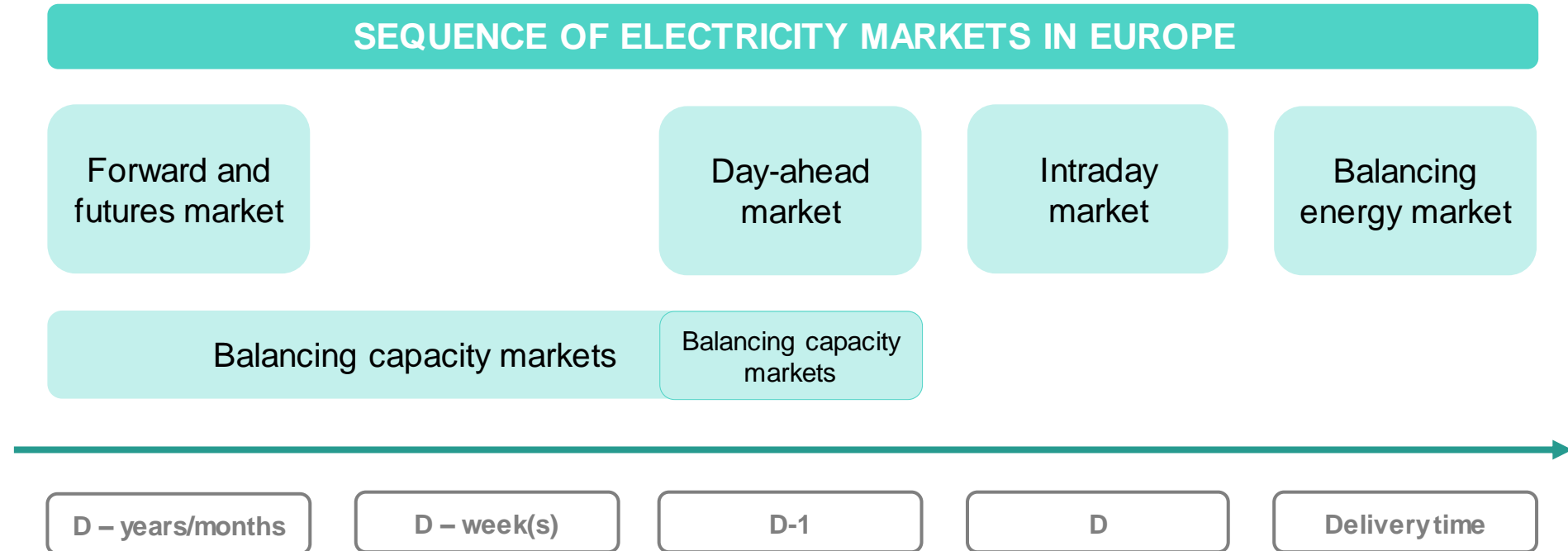


Introductory remarks

11:00 - 11:05

Mathieu FRANSEN, Team Leader Market Codes – Electricity Department, ACER

Overview of the electricity market timeframes



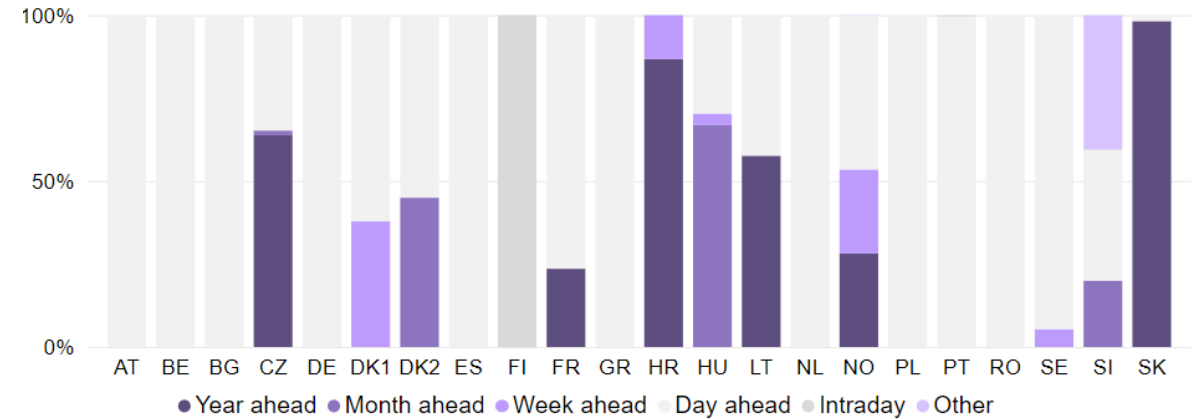
Electricity is a good that is traded already years ahead the point in time when it is delivered.
To enable such trading, **cross-zonal capacity** is required.

Status quo: Integrated day-ahead market, national balancing capacity markets

EU day-ahead market areas coupled



Procurement lead-time for all balancing reserves (%) - 2022

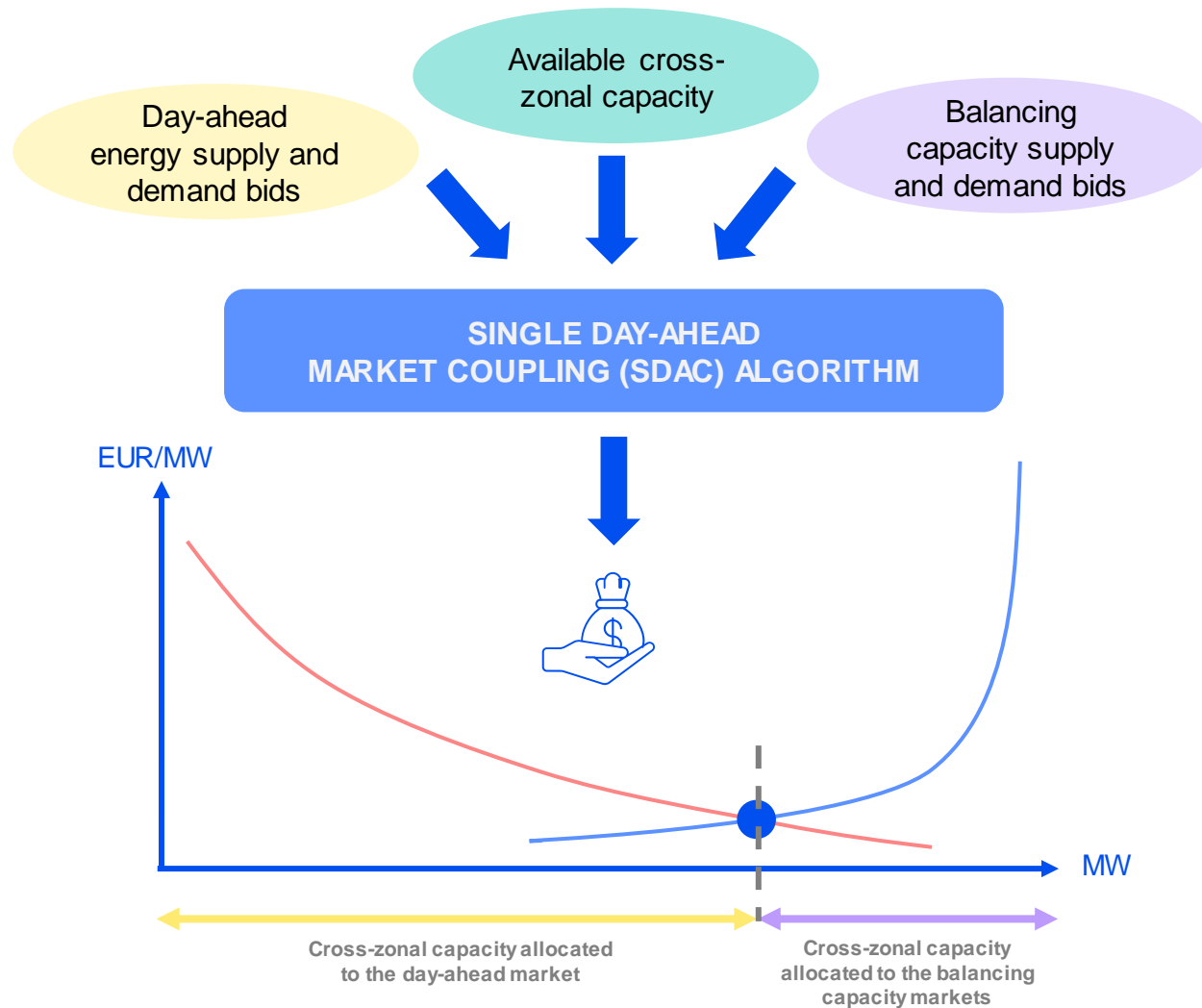


Source: 2023 ACER Market Monitoring Report

The **day-ahead market** consists of one pan-European auction for the 24 hours of the next day.

Balancing capacity markets are mostly **national**. Procurement **lead-time** is **not harmonised across the EU**.

An **uncoordinated clearing** between day-ahead and balancing capacity markets results in an **inefficient allocation of cross-zonal capacity** across the two markets.




- Objective: Maximisation of the sum of the **welfare gains** of the day-ahead energy market and the balancing capacity markets.
- Each unit of **cross-zonal capacity** is allocated to either market, depending on **where its market value is the highest**.

Background and process leading to the ACER decision

11:05 - 11:10

Marco PAVESI, Policy Officer Market Codes – Electricity Department, ACER

- **Article 40(1) of the EB Regulation** contains the requirement for all TSOs to develop and implement a methodology for the co-optimised allocation process for the exchange of balancing capacity or sharing of reserves.
- As co-optimisation needs to be based on actual bids for day-ahead energy and for balancing capacity markets, it can only be implemented in the **SDAC algorithm**.
- SDAC algorithm is subject to NEMOs' **algorithm methodology** pursuant to Article 37 of the Capacity Allocation and Congestion Management (CACM) Regulation.
- The implementation of co-optimisation requires the following workflow:
 - TSOs submit the set of requirements for co-optimisation to NEMOs;
 - NEMOs consider these new requirements and amend the algorithm methodology accordingly.

European Network of
Transmission System Operators
for Electricity 

IMPLEMENTATION IMPACT ASSESSMENT

For the Methodology for a Co-Optimised
Allocation Process of Cross-Zonal Capacity
for the Exchange of Balancing Capacity or
Sharing of Reserves

17 December 2021

From: All TSOs

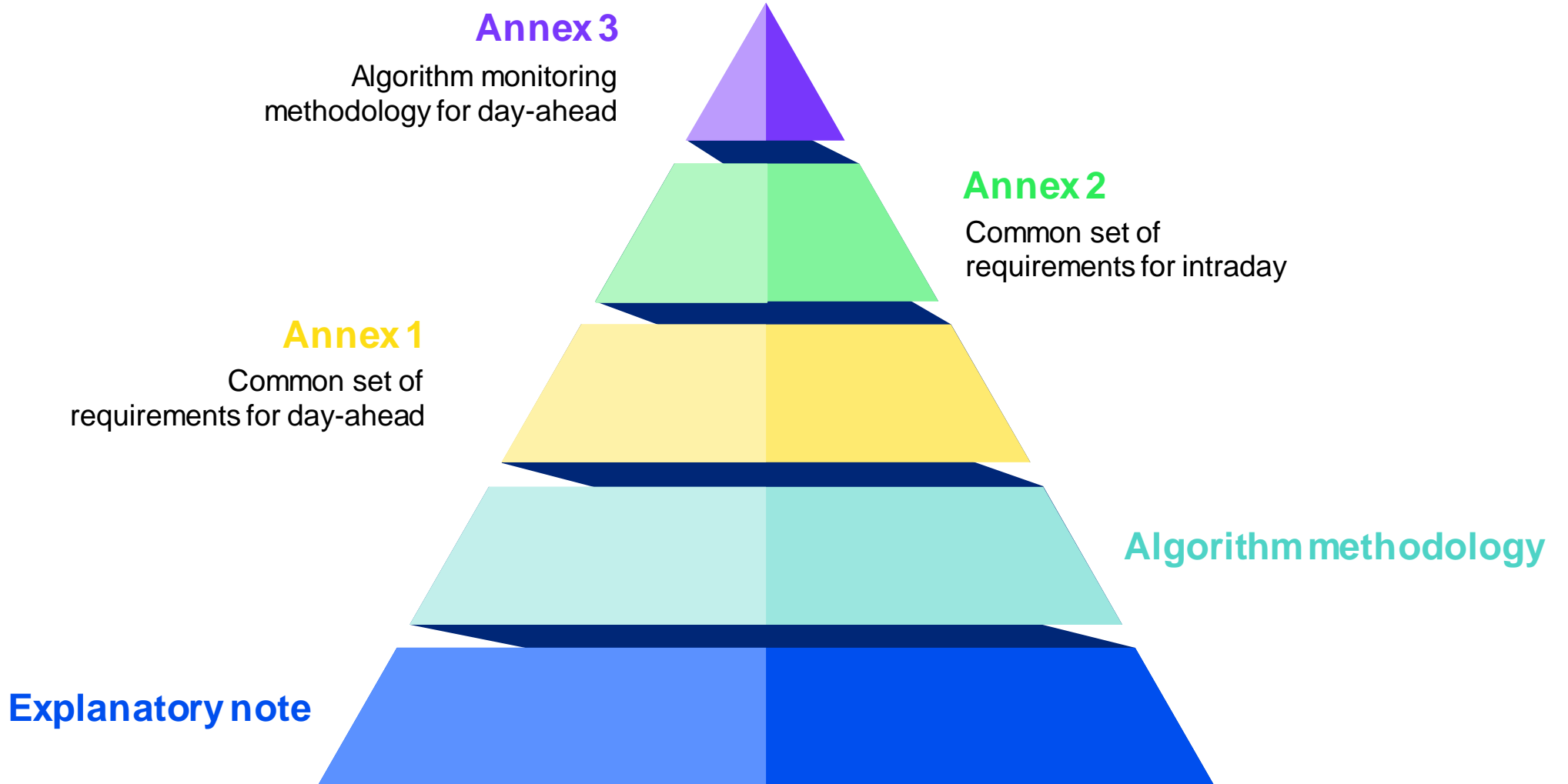
N-SIDE 

 **MCSC**  **SDAC**

Co-Optimization of Energy and Balancing Capacity in the European Single Day-Ahead Coupling

Roadmap study

Wednesday May 18, 2022



Topic 1: R&D activities

- Link with the next steps of the roadmap study
- Any other elements requiring R&D

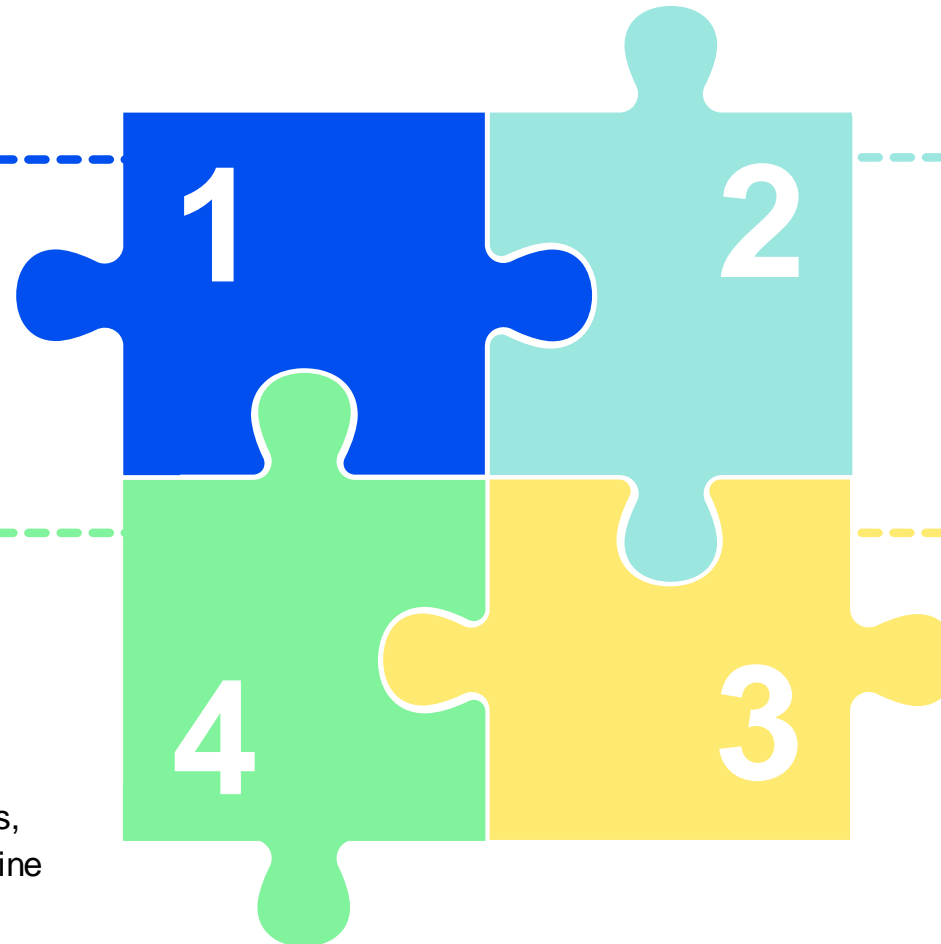
Topic 2: Bid design and products

- Separate bids for day-ahead and balancing capacity vs single bid
- Expected input from market participants, how to provide it and under which timeline
- Additional SDAC products related to balancing capacity and linking of bids

Topic 3: Benefits of co-optimisation

- Open question about expected benefits linked to the introduction of co-optimisation

Topic 4: Other remarks



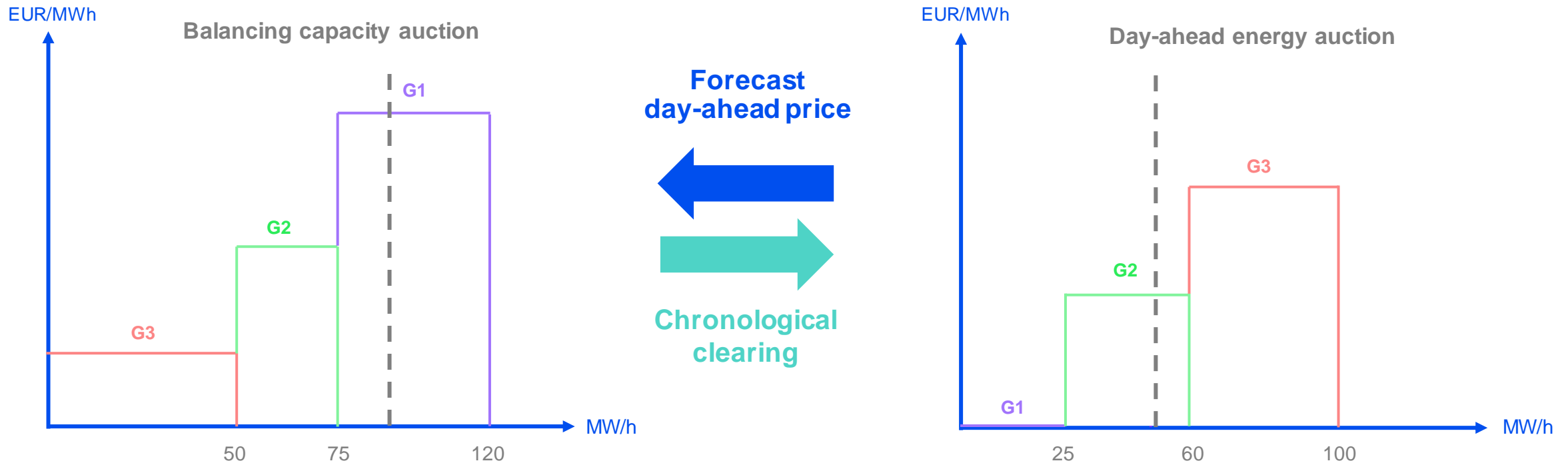
Benefits of co-optimisation compared to the status quo

11:10 - 11:15

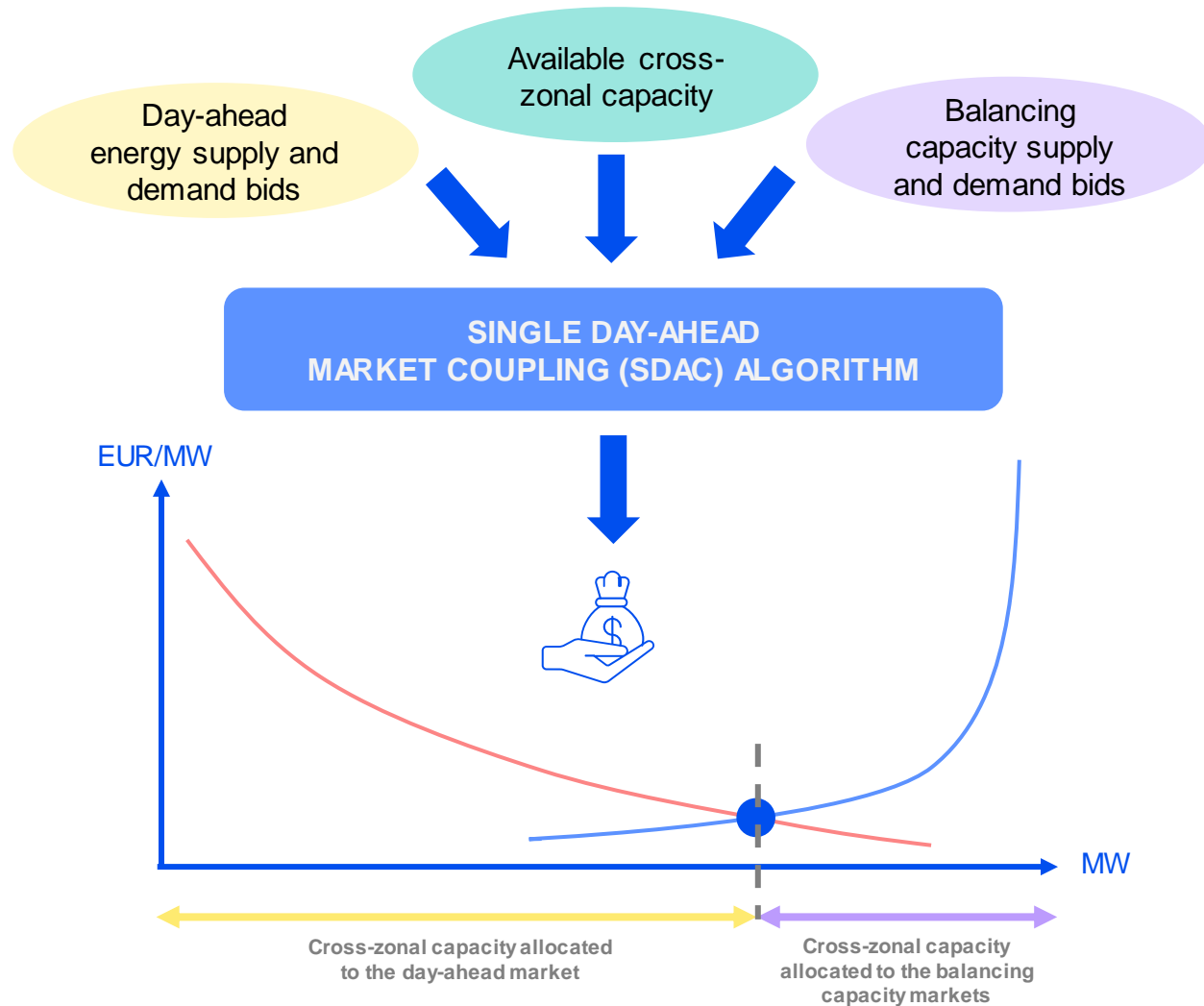
Marco PAVESI, Policy Officer Market Codes – Electricity Department, ACER

Balancing capacity is a market of opportunity costs

Balancing capacity prices are mainly defined by **opportunity costs from foregone day-ahead market profits** when bidding into the balancing capacity market.



Forecast errors may alter the merit order curve, leading to suboptimal results. Even if all market participants use the same forecast (**market-based** allocation), **coordination inefficiencies** (e.g. due to fixed costs) remain.




- Integrated balancing capacity markets
- No need for price forecasts
- Lower cost for procuring balancing capacity:
 - Cheaper bids from other areas
 - Sharing of reserves
 - Accurate assessment of opportunity costs
- ... ?

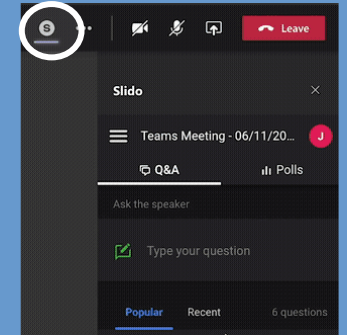
Q&A session

11:15 - 11:25

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Bid design and market products for co-optimisation

11:25 - 11:30

Marco PAVESI, Policy Officer Market Codes – Electricity Department, ACER

- In the co-optimised allocation process, the day-ahead market and the balancing markets have **the same gate closure time** (12:00 CET).
- Market participants can therefore **not consider the outcome of one market when offering their assets to the other one** (as it is currently the case with sequential markets).
- This issue can be addressed by allowing market participants to link their bids for the different markets.
- No effective linking possibilities results in inefficient markets:
 - Risk and uncertainty related **mark-ups** on bids can be expected;
 - Market bidding algorithms would be useful but **not available to providers with small resources**.
- Impact on SDAC algorithm performance.

What is missing and how to provide it?

3. All TSOs request to the market participants: Bidding guide specifications

The following information is coming from the **Bidding Guide explanatory note** (see separate document for further details):

Bidding guide would need to include at least:

- Elaboration of the characteristic and discussion of the main issues of bidding in sequential markets;
- Introduction of required cross-product linking under a co-optimised allocation process and bidding with one single gate closure;
- Elaboration of the characteristic and working principle of required cross-product linking.

entsoe 5

ACER decision on the Products That Can be Taken into Account
in the Single Day-Ahead Coupling: Annex I

Products That Can be Taken into Account in the Single Day-Ahead Coupling

in accordance with Article 40 of Commission Regulation (EU)
2015/1222 of 24 July 2015 establishing a guideline on capacity
allocation and congestion management

**COMING
SOON**

January 2024


December 2024



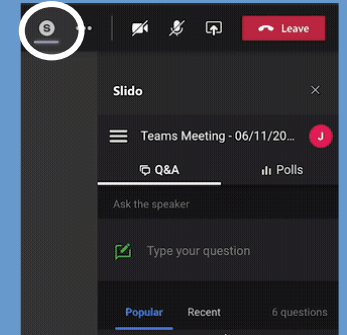
Q&A session

11:30 - 11:40

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R&D activities to enable the implementation of co-optimisation

11:40 - 11:45

Marco PAVESI, Policy Officer Market Codes – Electricity Department, ACER

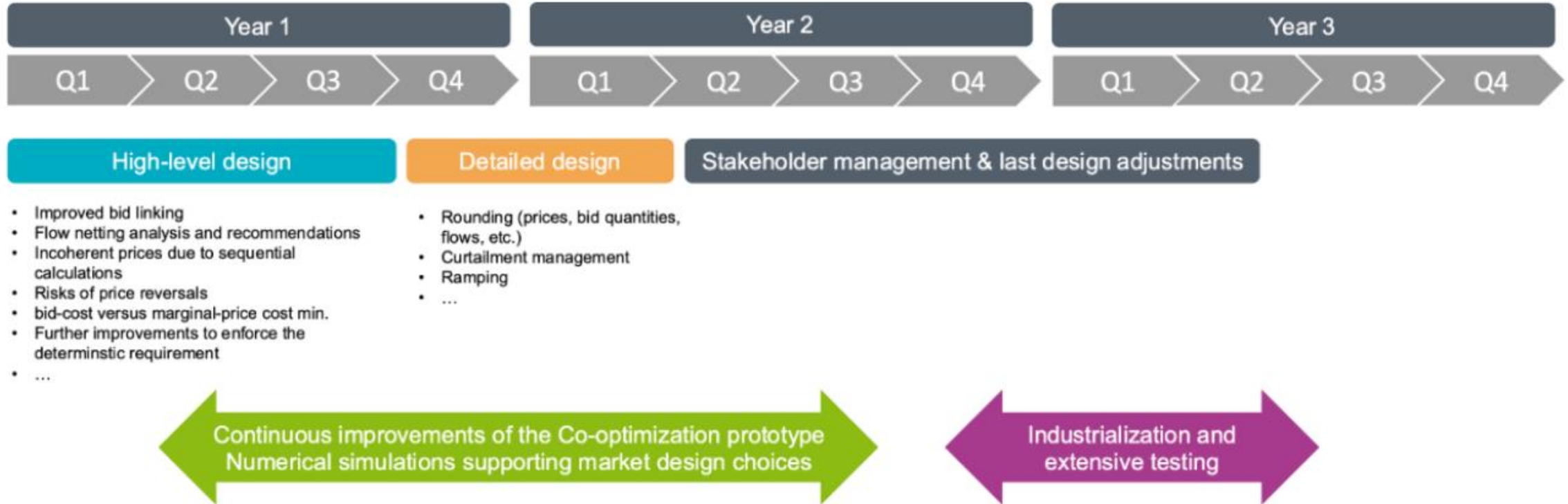


Table 14: Timeline for the implementation of the co-optimization of energy and balancing capacity in SDAC

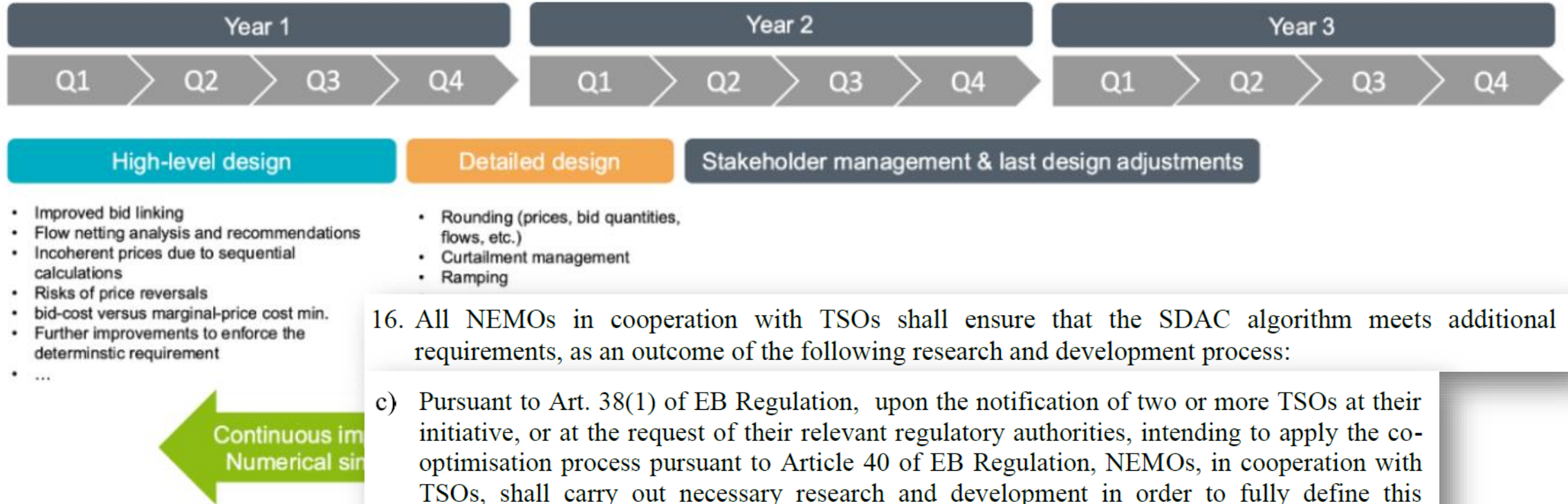


Table 14: Timeline for

16. All NEMOs in cooperation with TSOs shall ensure that the SDAC algorithm meets additional requirements, as an outcome of the following research and development process:

- c) Pursuant to Art. 38(1) of EB Regulation, upon the notification of two or more TSOs at their initiative, or at the request of their relevant regulatory authorities, intending to apply the co-optimisation process pursuant to Article 40 of EB Regulation, NEMOs, in cooperation with TSOs, shall carry out necessary research and development in order to fully define this methodology fit for implementation of the co-optimisation process. Research shall include at least – but not limited to – the Bidding Guide and Bidding Structure outcomes, options on unilateral and multilateral linking of SBCPs and DA products and Order types, MTU resolution and TSOs requirements for deterministic compatibility of Flow-based approach.

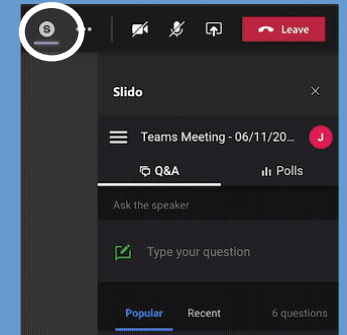
Q&A session

11:45 - 11:55

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Closing remarks

11:55 - 12:00

Mathieu FRANSEN, Team Leader Market Codes – Electricity Department, ACER

PC_2024_E_01 - Public consultation on amending the electricity price coupling algorithm methodology

Status	Open:	Close:
Open	18.01.2024	15.02.2024

Policy area	Contact information
Electricity, capacity allocation and congestion management, electricity balancing	ACER-ELE-2023-014@acer.europa.eu

Audience
Market participants, nominated electricity market operators, transmission system operators, regulatory authorities, academics in the EU and EEA





[Submit your views](#) by 15 February 2024.



In case of any questions, contact ACER-ELE-2023-014@acer.europa.eu.

Thank you for your attention!



European Union Agency for the Cooperation
of Energy Regulators

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