

SDAC 15-min MTU Information Package



April 2025

Introduction

The European energy market is undergoing a significant transformation with the planned implementation of a 15-minute Market Time Unit (MTU) in the Single Day-Ahead Coupling (SDAC) by June 2025. This initiative aims to enhance market efficiency, better integrate renewable energy sources and improve grid stability across Europe. This paper provides an overview of the 15-minute MTU implementation in SDAC, its regulatory framework, anticipated benefits and the challenges associated with this transition.

Regulatory Framework

The move towards a 15-minute MTU is rooted in the European Union's legal framework, which mandates all Transmission System Operators (TSOs) in EU Member States to adopt a 15-minute time resolution for imbalance settlement. The Agency for the Cooperation of Energy Regulators (ACER) ACER's [Algorithm Methodology](#) dictates all Nominated Electricity Market Operators (NEMOs) to offer 15-minute products for trading on both Single Intraday Coupling (SIDC) and Single Day-ahead Coupling (SDAC) markets. The goal is to harmonize market operations across Europe, ensuring consistency and enhancing the efficiency of electricity balancing processes. ACER has also amended the relevant methodologies to facilitate this transition, emphasizing the need for improved algorithm performance to handle the increased data volume associated with 15-minute MTUs.

Implementation Timeline

The transition to a 15-minute MTU is scheduled for 11 June 2025, with the first delivery date on 12 June 2025. This change will affect all bidding zones and borders within the SDAC. The implementation involves significant updates to the Euphemia algorithm, central to market coupling, to accommodate the new time resolution and ensure efficient cross-product matching.

Anticipated Benefits

The adoption of a 15-minute MTU is expected to yield several benefits:

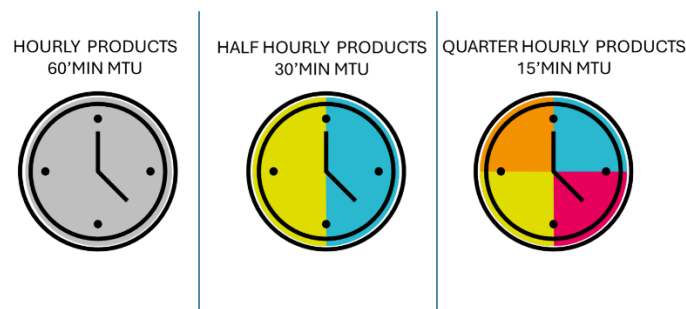
- ✚ **Enhanced Integration of Renewable Energy Sources:** Shorter MTUs allow for more precise scheduling and dispatching of variable renewable energy, such as wind and solar, whose outputs fluctuate within shorter time frames.
- ✚ **Improved Grid Stability:** A finer time resolution aids in better forecasting and balancing of supply and demand, reducing imbalances and enhancing overall grid reliability.
- ✚ **Increased Market Efficiency:** Market participants can engage in more granular trading, optimizing their positions and responding more effectively to market signals.

What is SDAC 15-Minute MTU?

SDAC is the mechanism that integrates national day-ahead electricity markets across Europe into a single, efficient market. It enables electricity trading between different countries using a common algorithm, Euphemia, which determines optimal electricity flows and prices, based on supply and demand.

Currently, the standard Market Time Unit (MTU) in the SDAC is one hour. The shift to a 15-minute MTU means trading and scheduling of electricity will occur in 15-minute intervals, instead of hourly. This shorter trading period allows for greater precision in balancing electricity supply and demand, especially as renewable energy sources, such as wind and solar, introduce more variability into the grid.

With the 15-minute MTU, market participants will be able to place bids for buying or selling electricity **in four separate 15-minute units within each hour**. This will increase flexibility in the market and allow for better integration of intermittent renewable generation. **Block orders can be defined from any quarter.**



How will the 15-Minute MTU Work?

The transition to a 15-minute MTU involves several key elements:

Market Participation and Trading:

- All NEMOs will be required to offer 15-minute products for trading in the SDAC.
- Market participants can submit bids to buy or sell electricity for 15-minute periods.
- The Euphemia algorithm is upgraded to handle the increased number of bids and optimize price formation.


Clearing and Price Calculation:

- The market coupling algorithm will match supply and demand at 15-minute intervals, ensuring the most efficient allocation of electricity across Europe.
- Prices will be calculated separately for each 15-minute period, reflecting real-time conditions more accurately.



 **Cross-Border Trading:**

- The new MTU will apply across all bidding zones and borders within the SDAC.
- All shadow auctions currently organized by JAO as a back-up solution will remain in 60-minute resolution. The list of available shadow auctions can be found on the [[JAO](#)] website. Note that some TSOs can allow also nominations in 4 equal 15-minute MTU resolution.
- TSOs will coordinate the cross-border electricity flows based on the updated market clearing results.

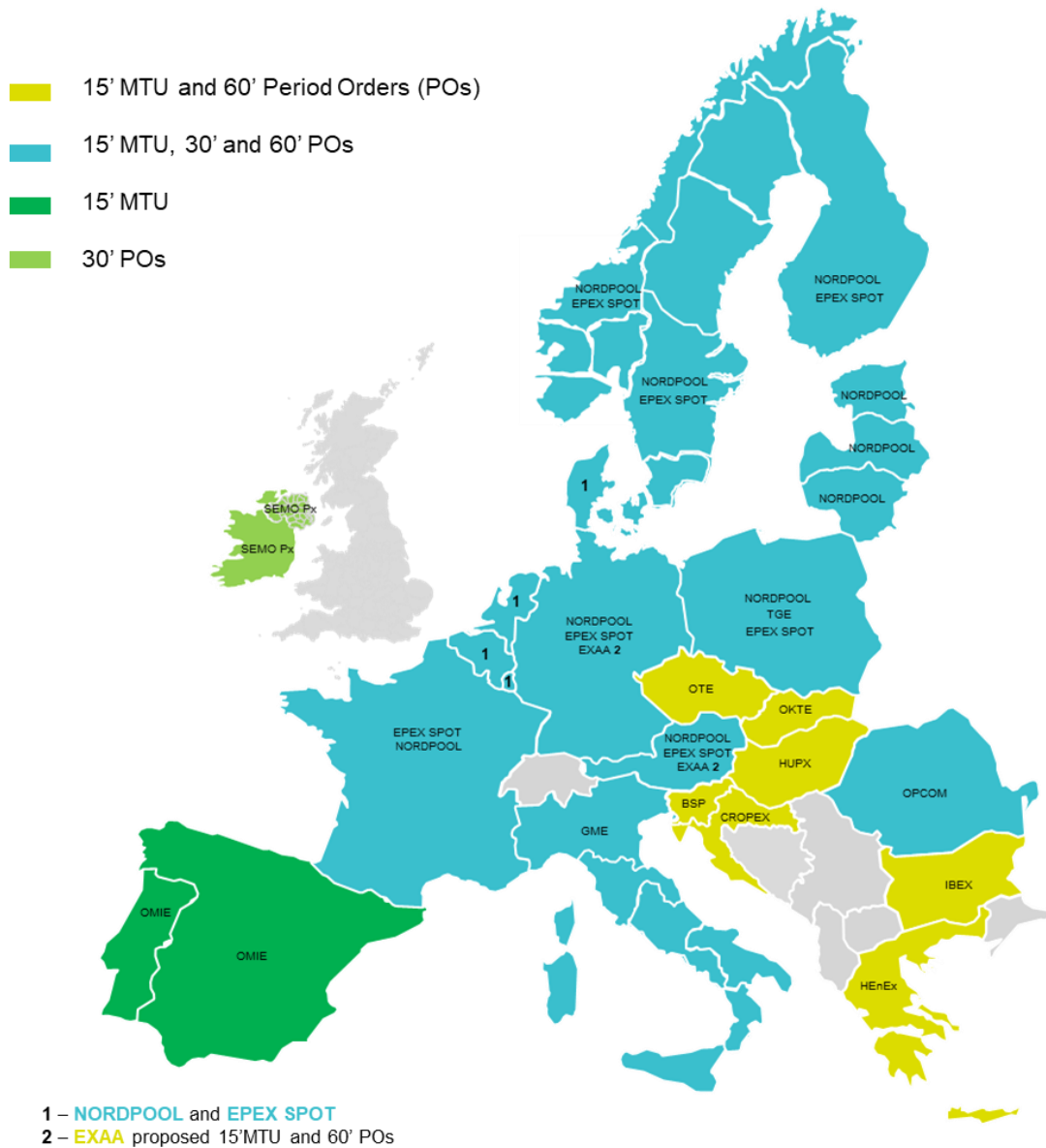
 **Integration with Balancing Markets:**

- The 15-minute MTU aligns with European balancing market reforms, where imbalance settlements will also move to a 15-minute resolution.
- This synchronization ensures that deviations from forecasts are corrected more quickly, enhancing system reliability.

Time Resolution of Products Offered by NEMOs When 15-min MTU Is Implemented in SDAC

The following **highlights** can be observed on the map below:

- 15-min MTU is confirmed (**except in SEM: Ireland/ Northern Ireland**);
- Most NEMOs will keep hourly products alive **except**:
 - SEMOpx (Ireland/Northern Ireland)
 - OMIE (ES, PT)
- 30-min Period Orders (POs) will be offered by some NEMOs on top of 15-min and 60-min granularities.



The table below shows the BZs covered with their respective granularities.

NEMOs	Covered BZs	15' MTU	30' POs	60' POs
BSP	SI	✓		✓
CROPEX	HR	✓		✓
EPEX SPOT	NO, SE, FI, DK, PL, DE-LU,NL, BE, FR, AT	✓	✓	✓
EXAA	AT, DE	✓		✓
GME	IT	✓	✓	✓
HEnEx	GR	✓		✓
HUPX	HU	✓		✓
IBEX	BG	✓		✓
NORDPOOL	NO, SE, FI, DK, EE, LT, LV, PL, DE-LU, NL, BE, FR, AT	✓	✓	✓
OKTE	SK	✓		✓
OMIE	ES, PT	✓		
OPCOM	RO	✓	✓	✓
OTE	CZ	✓		✓
SEMOPx	IE, NI		✓	
TGE	PL	✓	✓	✓

The main relevant documents can be found here:

- Updated Euphemia public description [\[LINK\]](#)
- Products that can be taken into account in the Single Day-Ahead Coupling [\[LINK\]](#)
- Report on the outcome of the public consultation on SDAC Products methodology in view of SDAC 15min MTU [\[LINK\]](#)
- Alternatives to SDAC second auction [\[LINK\]](#)
- Q&As on SDAC second calculation [\[LINK\]](#)
- MCCG material on [\[ENTSO-E\]](#) and [\[NEMO Committee\]](#) websites

Conclusion

The implementation of 15-minute MTU in SDAC represents a pivotal step towards a more efficient and resilient European energy market. TSOs and NEMOs have worked hard in order to provide reliable infrastructure and robust processes to couple the European Energy Market. While the transition poses challenges and technical complexity, the collaborative efforts of regulatory bodies, TSOs, NEMOs and market participants are crucial to ensuring a smooth and successful adoption. This initiative not only aligns with the EU's objectives for renewable energy integration and market harmonization, but also sets the stage for a more dynamic and responsive energy system in the future.