












# Integration of Ukrainian and European electricity markets


role of Ukrenergo

# CURRENT SITUATION

INTEGRATION STAGES	STATUS
Physical synchronization	
ENTSO-E member status	
Basic harmonization of codes (existence of internal markets)	
Signing of the EE CCR agreement	
Beginning of full EBGL transposition	
Observer status on platforms	
Beginning of full-fledged CACM transposition	
DAM and IDM market coupling	 2027-2028
Full integration with platforms	 2029-2030

 done

 in process

 plan

## OBLIGATIONS FULFILLED:

- Synchronization with the Continental European network ENTSO-E (2022)
- Amendments have been developed to the primary legislation, namely to the Law "On the Electricity Market", regarding the integration of the electricity market
- Technical interaction with European TSOs has been ensured

## IMPORTANT OBLIGATION UNFULFILLED:



Transposition and implementation of Regulations 2017/2195 (EBGL) and 2015/1222 (CACM)

- **EBGL** is a key legal act for participation in European balancing platforms (MARI, PICASSO, etc.), its full implementation is a condition for joining balancing energy exchange platforms and the possibility of exchanging reserves with adjacent TSOs.
- **CACM** is the basis for the integration of day-ahead and intraday markets, its implementation is necessary for participation in the single European market coupling (SDAC, SIDC)

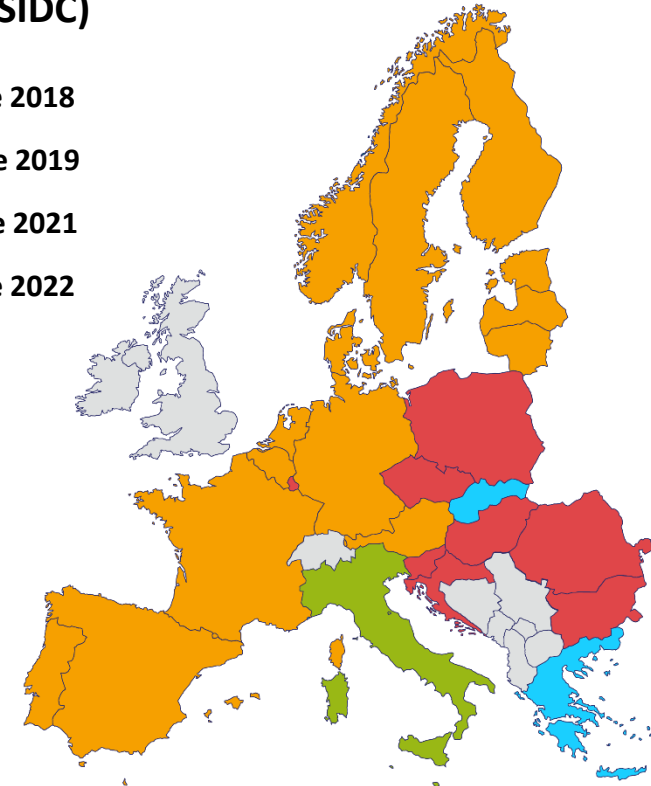
# DAM AND IDM MARKET COUPLING

## Single Day-Ahead Market Coupling (SDAC)



## Single Intraday Market Coupling (SIDC)

- 1<sup>st</sup> wave 2018
- 2<sup>nd</sup> wave 2019
- 3<sup>rd</sup> wave 2021
- 4<sup>th</sup> wave 2022



**Market coupling is a key tool for integrating national electricity markets** into a single European space.

A single calculation of prices and volumes is carried out simultaneously, taking into account the cross-border transmission capacity. As a result, a common market price is formed and an optimal distribution of electricity flows is carried out, ensuring market integration and more efficient use of the network

# THE ROLE OF UKRENERGO IN THE PROCESS OF MARKET COUPLING

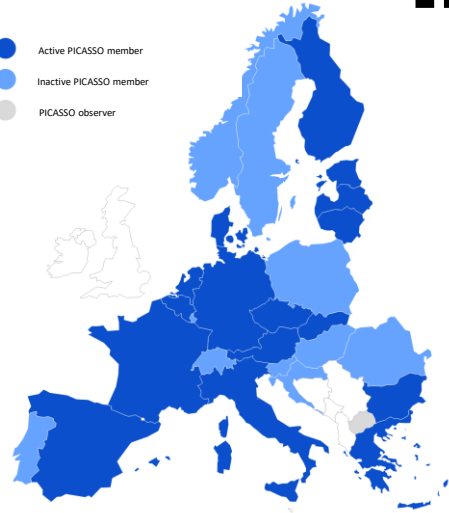
- Calculation of available transmission capacity and coordination with neighboring TSOs
- Transfer of data to shared market coupling algorithms (SDAC, SIDC)
- Receiving and processing auction results, integrating them into the TSO's own systems for further calculations
- Ensuring the physical execution of electricity flows in accordance with auction/trading results
- Ensuring the reliability and security of the network when carrying out cross-border exchanges
- Coordination with NEMO(s) and neighboring TSOs within the framework of joint market coupling procedures
- Management of congestion income in accordance with European legislation requirements
- Implementation of fallback procedures in conjunction with NEMO(s) and neighboring TSOs



# BALANCING MARKET INTEGRATION

The participation of the Transmission System Operator (TSO) in European balancing platforms allows for a reduction in the need for national reserves through cross-border coordination, decreases balancing costs thanks to competition among balancing service providers from different countries, and increases system reliability by providing access to a common European resource. This also promotes Ukraine's integration into the unified EU energy market

- Active PICASSO member
- Inactive PICASSO member
- PICASSO observer

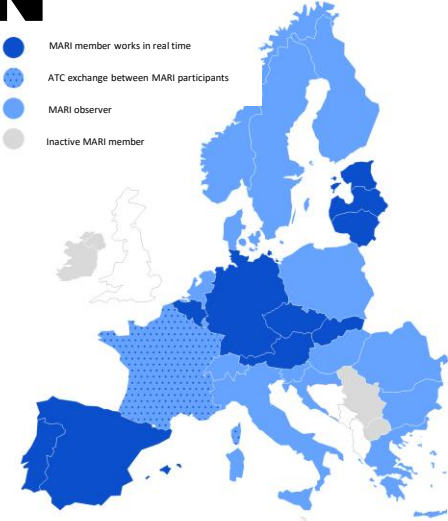


**PICASSO**



Automatic Frequency Restoration Reserves (aFRR) exchange platform

- MARI member works in real time
- ATC exchange between MARI participants
- MARI observer
- Inactive MARI member

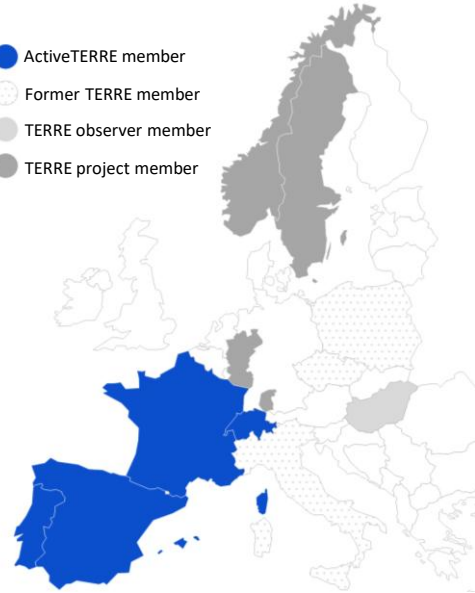


**MARI**

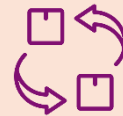


Manual Frequency Restoration Reserves (mFRR) exchange platform, activated by the operator's command

- ActiveTERRE member
- Former TERRE member
- TERRE observer member
- TERRE project member

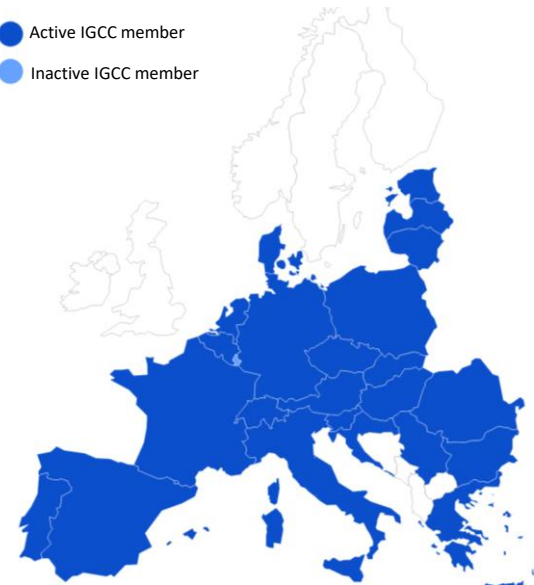


**TERRE**



Replacement Reserves (RR) platform with long activation time (planned for decommissioning in 2026)

- Active IGCC member
- Inactive IGCC member

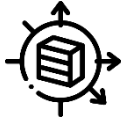


**IGCC**



imbalance netting platform to optimize the use of aFRR

# SCOPE OF WORK



## Regulatory transposition of the provisions of the EBGL and CACM Regulations

(in the part concerning the functions of the TSO), including the relevant Terms, Conditions and Methodologies (TCMs), taking into account related provisions of other EU legal acts necessary for the harmonization of the balancing market, the ancillary services market, and integration into the EU markets



## Development and updating of market mechanisms, procedures and processes,

related to the performance of TSO functions regarding balancing, exchange of reserves with TSOs of EU Member States, market coupling of DAM and IDM



Modernization and/or acquisition of **IT infrastructure and operational technologies (OT)** elements necessary to ensure data exchange, interaction with ENTSO-E platforms and performance of TSO functions within the framework of CACM and EBGL



**Ensuring technical and informational interaction with ENTSO-E**, market participants, adjacent TSOs, NEMO(s), in accordance with the requirements of ENTSO-E, ACER, and European Commission guidance documents



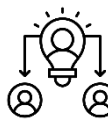
Interaction with the NEURC, the Ministry of Energy, ENTSO-E, ACER, TSOs of EU Member States, NEMO(s) and other stakeholders **to develop and agree on the necessary decisions, procedures, regulatory documents and ensure coordination in the process of implementing TSO functions** in accordance with EU Regulations



**Preparing to join European balancing platforms** (including PICASSO, MARI, etc.), with testing conducted and subsequent participation in full-scale operation



**Ensuring the performance of TSO functions in market coupling processes**, including participation in preparatory activities and integration tests of the coupling of DAM and IDM according to CACM



**Ensuring readiness to participate** in the exchange of reserves with the TSOs of EU countries

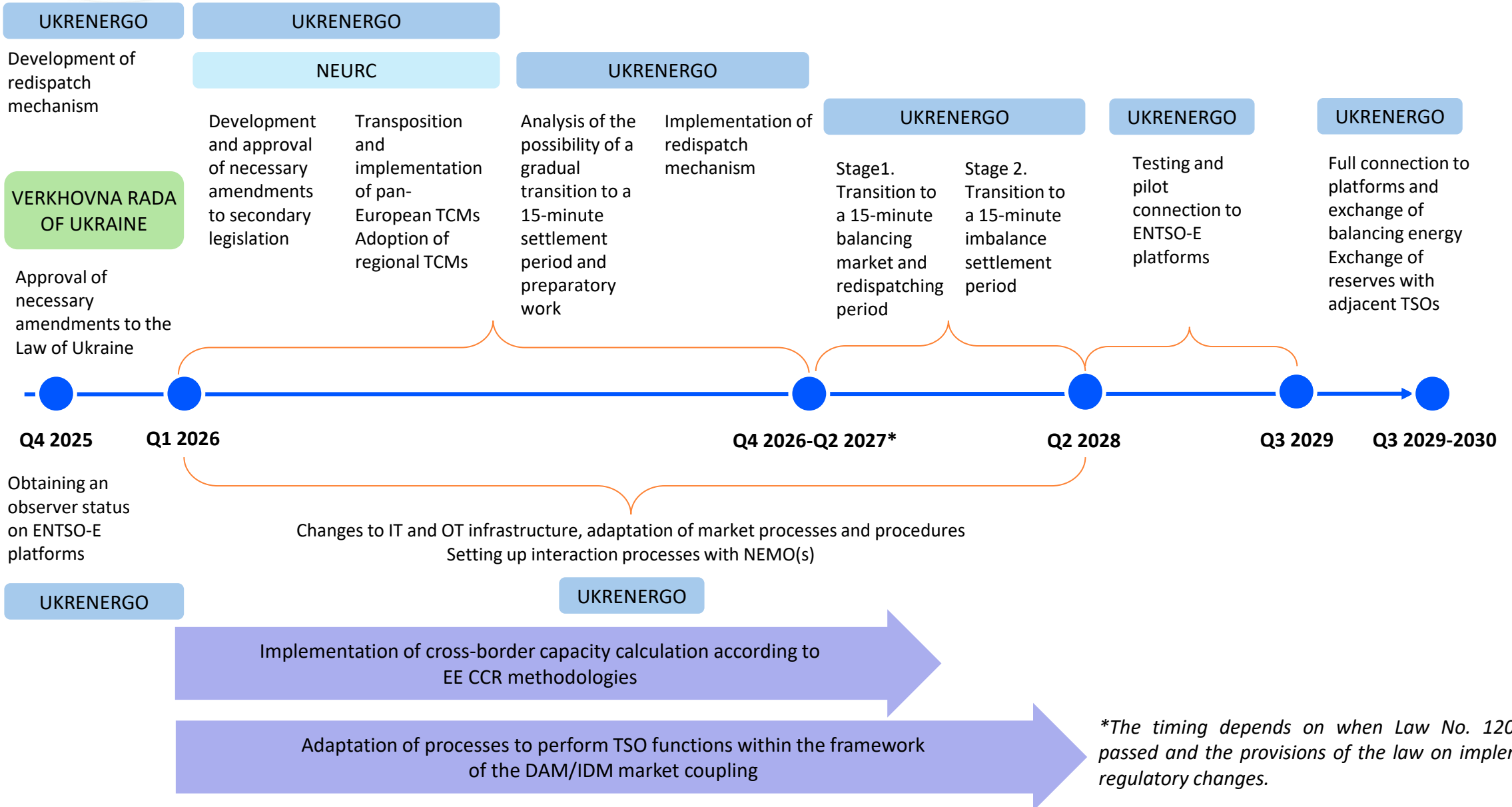


Development and implementation of a **redispatch mechanism**



**Training of NPC Ukrenergo personnel and market participants** on performing new functions in accordance with European requirements and Regulations

# IMPLEMENTATION TIMELINE



*\*The timing depends on when Law No. 12087-d is passed and the provisions of the law on implementing regulatory changes.*