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EU4ENERGY PHASE II

Renewables Integration and Flexibility Solutions in the Republic of Moldova

Nicolae MAGDIL
Paris 2025

Status Quo

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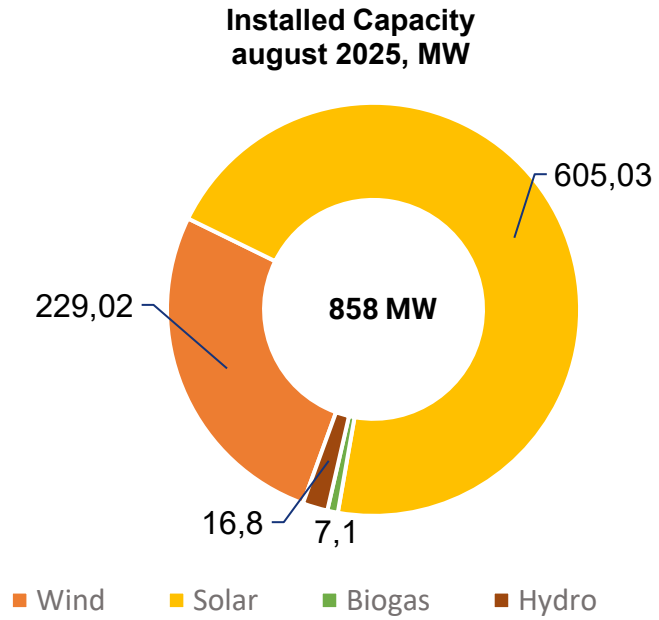
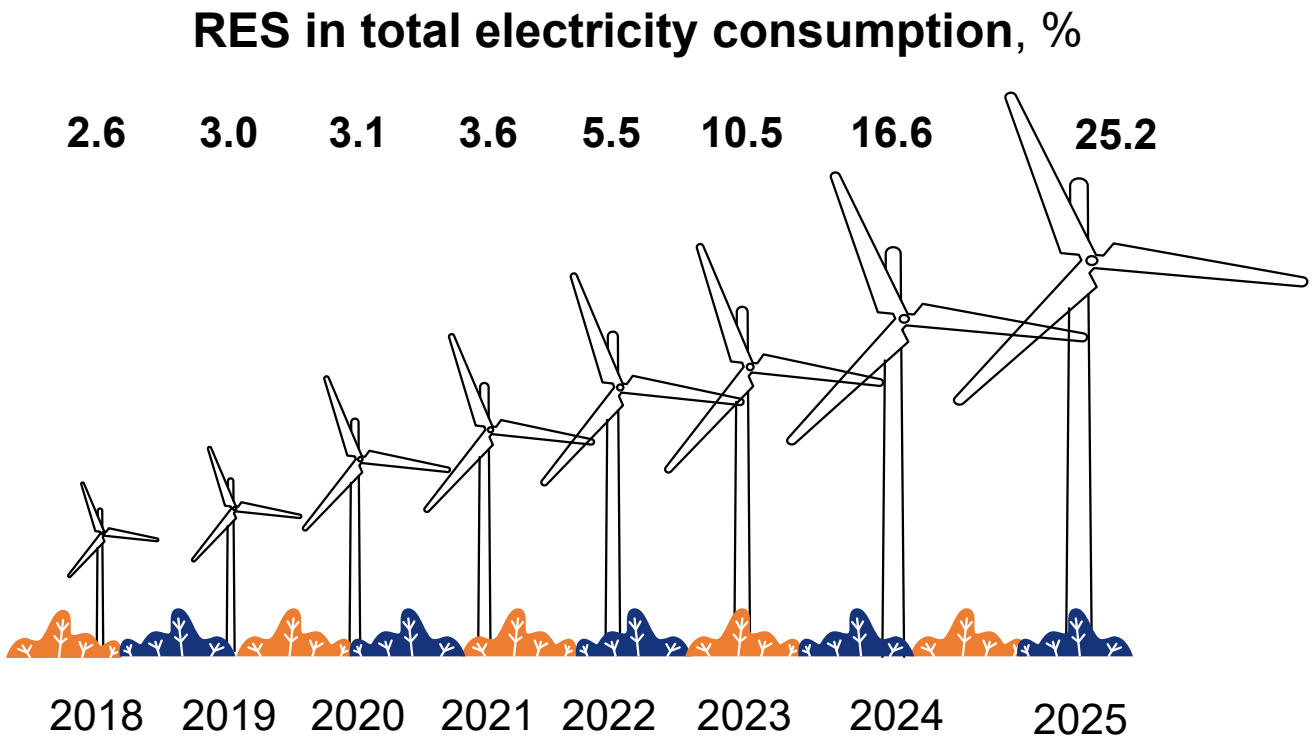
Installed RES capacity 2020 - august 2025





8x increase vs end 2021

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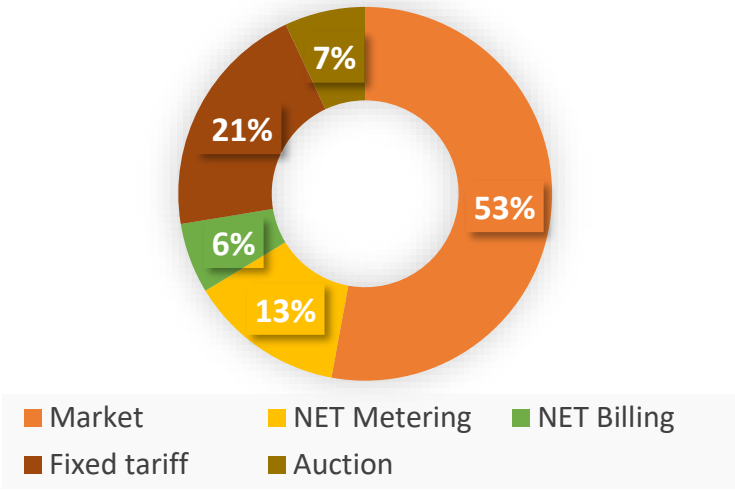
Overview of renewable energy support schemes

Support schemes %



FEED-IN TARIFF	FIXED PRICE (AUCTIONS)
✓ Tariffs are approved on an annual basis, per technology type, by the National Agency for Energy Regulation ✓ Capacity limit ✓ No second-hand installations allowed ✓ Value of tariff known in advance	✓ Successful first auction for 165 MW wind and solar 2024-2025 ✓ Average price of 67.2 EUR/MWh for WPP and 59.1 EUR/MWh for PVPP ✓ Up to 190 MEUR of investments

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key success stories

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Self Consumers

Success & Problematic Story

- By the end of 2023, there were **5 051 beneficiaries** of the net metering scheme.
- The **installed capacity** reached **115.31 MW.**

- All **surplus** electricity is **injected into the grid** and used when the power plant is not generating (kWh=kWh).

- The installed capacity is limited by the capacity of the connection point, up to a maximum of 200 kW.

This situation led to:
- oversizing of generation capacities;
- Limmited acces to other beneficiaries (DG constrains);
- Higher costs of elctricity.

NET METERING
- beneficiaries until 31 December 2023.

- valid until 31 December 2027

NET BILLING
- from 1 January 2024

- By August, there are **2 616 beneficiaries**
- The **installed capacity** reached **52.3 MW**

The surplus electricity is sold at a price determinde by ANRE (kWh=MDL), transferable on a monthly and annual basis

The installed capacity:
- For households - up to 10 kW or according to the historical consumption
- For business - according to the historical consumption

The concept of "remote" prosumer is introduced

Consumers in apartment blocks can become prosumers by acting collectively and may obtain a Non-Licensed Consumption (NLC) status for common-use sites, under the secondary regulatory framework

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Renewable Energy Communities

Definition	Membership	Principles	Rights
➢ Legal entity based on open and voluntary participation, autonomous, and effectively controlled by shareholders or members located in the proximity of renewable energy projects owned and developed by it ➢ Comprises a wide range of local stakeholders ➢ The primary objective is to provide environmental, economic, or social benefits to its members or the local areas where it operates, rather than to generate financial profit	➢ The renewable energy community is made up of two or more members or stakeholders, organised according to a statute ➢ Members or shareholders of a renewable energy community can be individuals, condominium associations, small and medium-sized enterprises, villages and towns, represented by its executive bodies, final consumers, without excluding vulnerable energy consumers, within the meaning of Law No. 241/2022 on the Energy Vulnerability Reduction Fund	➢ Open and voluntary participation ➢ Democratic decision making (one member = one vote) ➢ Members of a renewable energy community retain their rights and obligations as end-users, including the right to switch supplier	➢ Produce, consume, store & trade renewable energy ➢ Share electricity within the community ➢ Participate in electricity markets (directly or via aggregators) ➢ Sell unshared electricity to suppliers ➢ Verify and negotiate sale contracts ➢ Provide aggregation & other market services ➢ Enjoy non-discriminatory treatment

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Renewable Energy Communities

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Progress on piloting activities	Capacity Building
Four pilot communities have been selected and are currently undergoing registration with the National Agency for Energy Regulation and the Agency for Public Services. The registration is foreseen to be finalised by December 2025, and communities operationalised by Q2 2026.	**Seven representatives of local municipalities** have benefitted from: ➢ Six capacity-building workshops with technical experts, public representatives, DSOs and TSO ➢ One individual consultation in view of developing a tailored community energy concept for the needs of their respective constituencies Three field visits have been undertaken to facilitate communication with local stakeholders in Nisporeni, Mândrești and Filipeni.
Beneficiaries: ➢ Logănești commune (Hîncești district) ➢ Cociulia commune (Cantemir district) ➢ Two multi-story appartement buildings in Chișinău.	**Beneficiaries:** ➢ Nisporeni ➢ Volintiri ➢ Mândrești ➢ Zubrești ➢ Strășeni ➢ Filipeni ➢ Tomai
Project implemented with the support of the UNDP, funded by the Kingdom of Sweden and the Kingdom of Norway.	Project implemented with the support of the German Energy Agency (Dena), funded by the German Ministry of Foreign Affairs and IKI.

Logănești pilot community. Source: undp.org

Capacity-building event, December 2024.

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Problematic Issues

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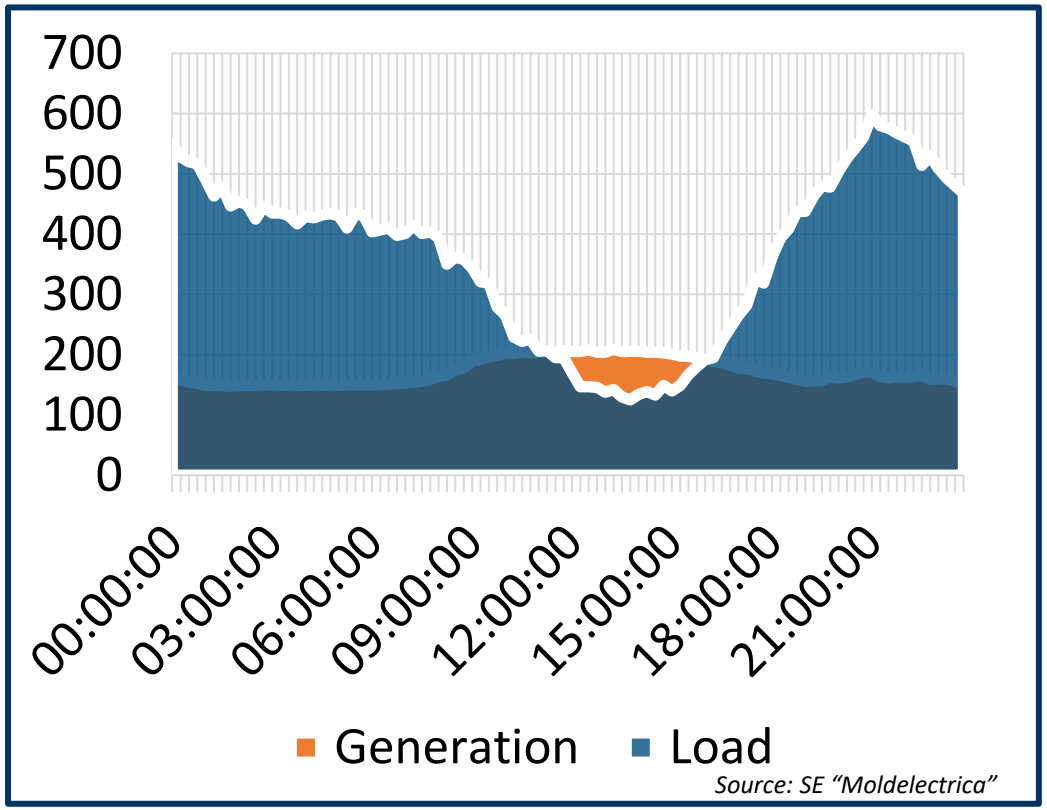
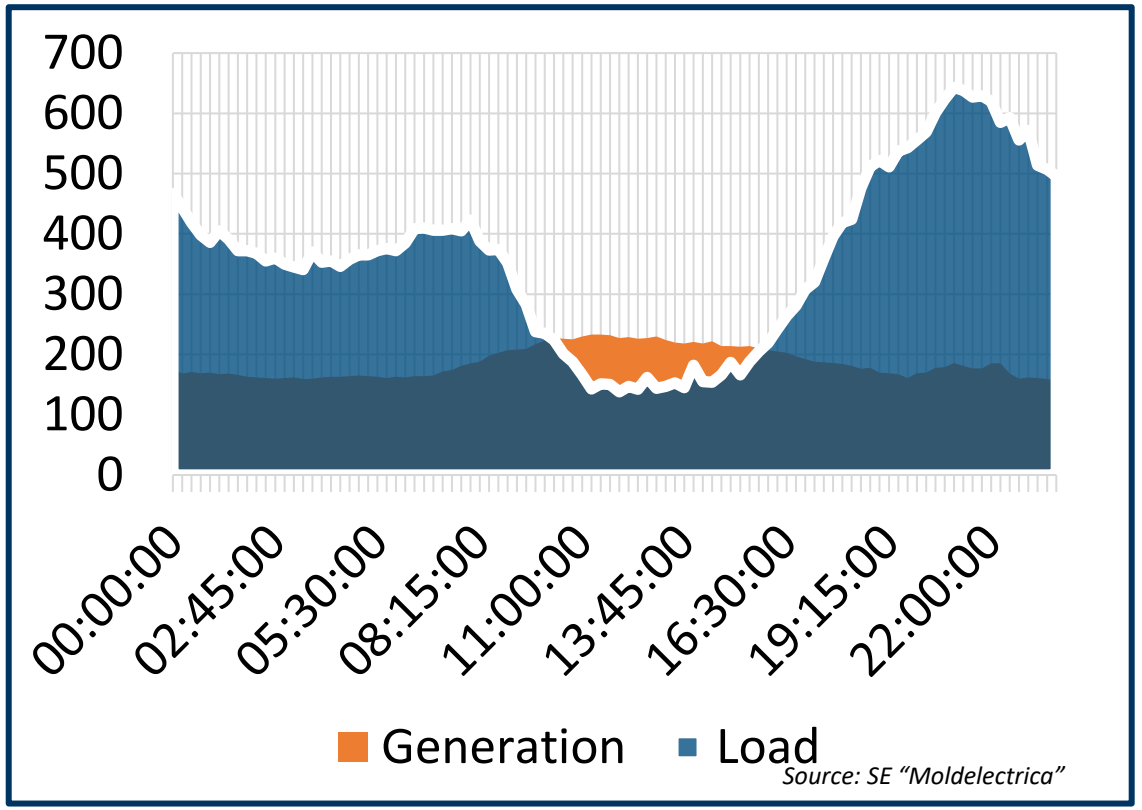
Problematic issues



Orthodox & Catholic Easter



Memorial Easter

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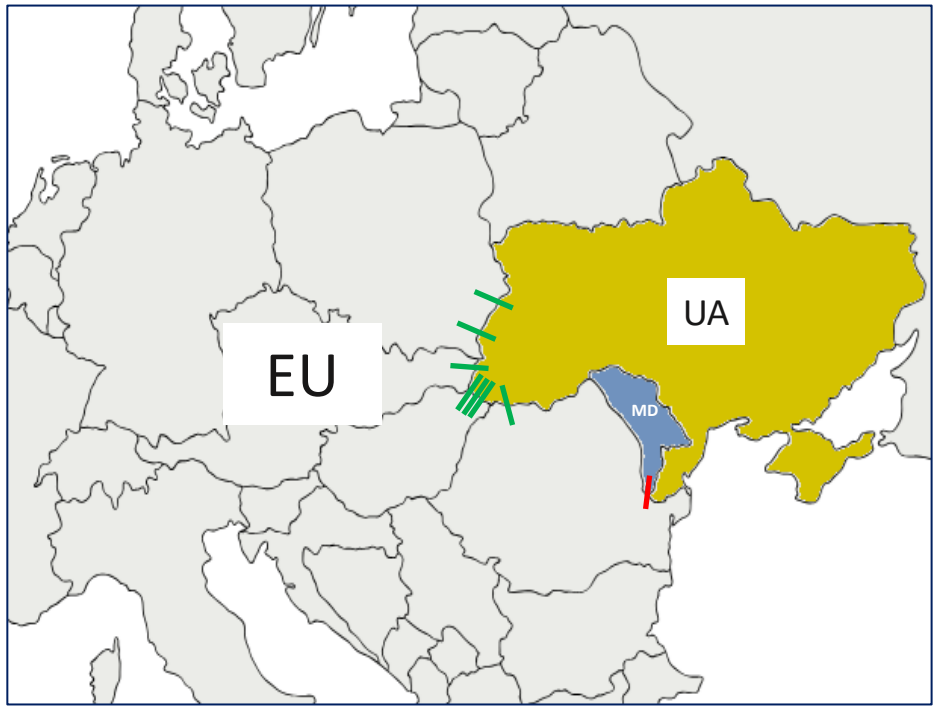
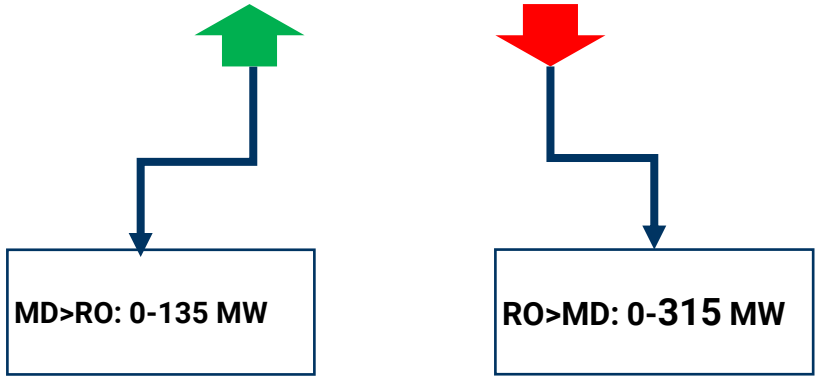
Net transfer capacity at the borders Moldova



Current:
Moldova - Romania NTC border according to the distribution rules

(MD>RO: 0-135 MW, RO>MD: 0-315 MW).



The Republic of Moldova, due to implemented ID allocation processes on MD-RO border and with the support of EU institutions and countries in the region, benefits from 1 January 2025 from the possibility of **reallocating the NTC not used by the UA on daily auctions across the RO-MD border**, which on average allowed to increase NTC by 350 MW in addition to default 255 MW calculated for MD daily allocations.

From July 2025, **New process to calculate net transfer capacity at the borders of Ukraine and Moldova.**
In the context of import limitations there is an urgent need to develop an electricity balancing market.

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Flexibility and Demand Response Solutions

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Renewable Energy Auctions V2

The modelling results indicated that adittional 170 MW of wind capacity can undergo a “fixed price” mechanism + at least 22 MW/44 MWh for battery storage.

August – October 2025 - Revision of the tender Regulation and start of consultation of the tender documentation

December 2025 – The launch of the tender procedure.

February - March 2026 – Submmision of offers

April 2026 – Opening of offers

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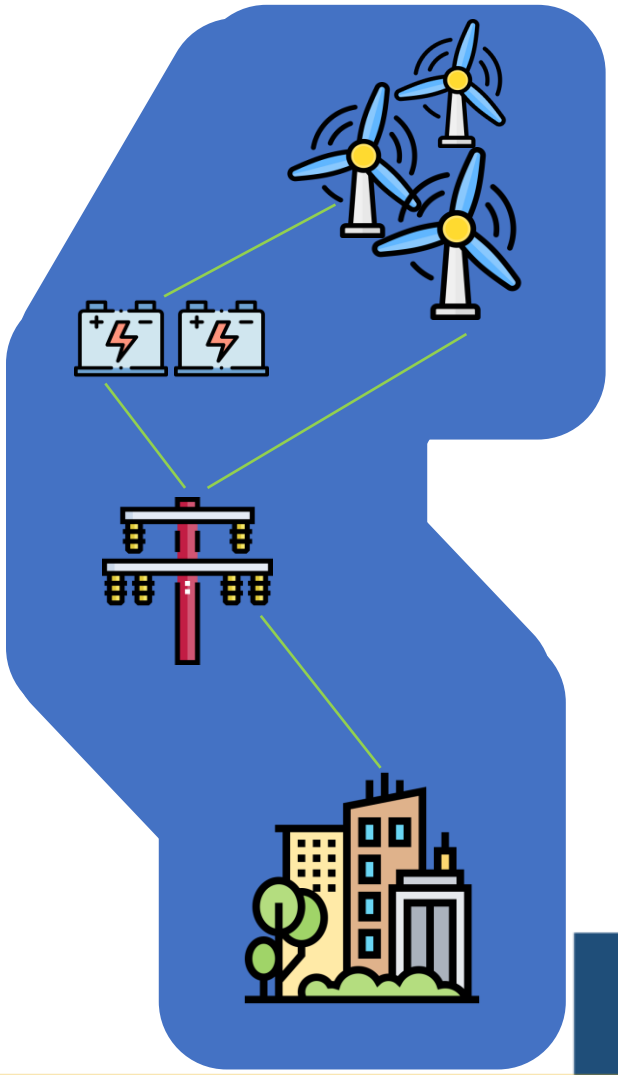
New elements of the RES auctions:



BESS Requirement in the Support Scheme

- **Mandatory**: Investors must install a Battery Energy Storage System (BESS) to join the auction.
- **No cost coverage**: Support scheme does **not** cover BESS investment.
- **Risk management**: Helps covering negative imbalances, which can be penalized up to **200%** of the fixed auction price.
- **Flexibility & Revenue potential**: BESS will access:
  - System services market
  - Balancing electricity market

Source: https://www.flaticon.com/free-icons/

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Electricity balancing market

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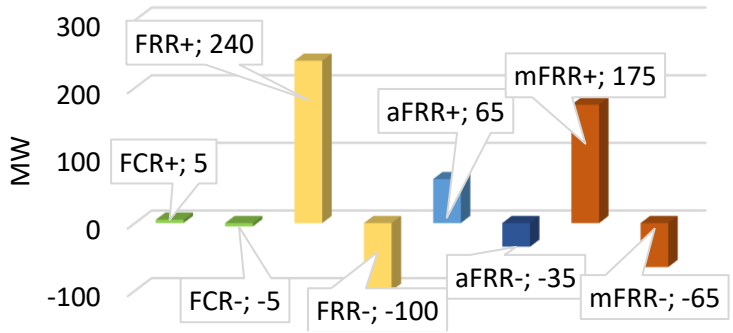
Transmission System Operator
SE "Moldelectrica"

Report on production unit testing and data regarding ancillary service requirements:



Source: ANRE

The estimated **capacity reserve requirements necessary for the TSO** to operate the system and ensure the continuous balance between consumption and generation.

- Frequency Stabilization Reserve ("FCR") **+/- 5 MW**
- Automatic frequency restoration reserves ("aFRR") **+ 65 MW** and **- 35 MW**
- Manual frequency restoration reserves ("mFRR") **+ 175 MW** and **- 65 MW**

The National Agency for Energy Regulation of the Republic of Moldova (ANRE)

On **May 30, 2025** ANRE approved the **Decision on the launch of the system services market and the balancing electricity market.**

- Launch of the tender for the procurement of new balancing capacities – **September 2025** .

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Roadmap for system services market and balancing capacity auctions

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Transmission System Operator
SE "Moldelectrica"

SE „Moldelectrica" Roadmap for launching the system services market and auctions for balancing capacity

#	Action	Deadline
1	Development of qualification procedure for providing system services (in accordance with RPEE and Grid Codes)	March 2025
2	Preparation of the report on the results of testing the available / existing balancing capacities	April 2025
3	Updating the Moldelectrica information system	July 2025
4	Adjustment of the transmission service tariff by including the costs for purchasing system services	July 2025
5	Amendment of the RPEE to ensure a functional framework and harmonization of RPEE with the requirements of the Grid Codes	May 2025
6	Development of procedures, framework contracts for procurement of system services and adjustment of procedures and framework contracts for balancing energy from existing sources	May 2025
7	Development of procedures, framework contracts and terms of reference for the procurement of new balancing capacities	June 2025
8	**Launching the tender for the procurement of new balancing capacities**	**September 2025**
9	Conducting the tender for the procurement of new balancing capacities	November 2025
10	Evaluation of offers	December 2025


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Thank You!
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