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EU4ENERGY PHASE II

Status quo of DSO new roles implementation and regulations in the Republic of Moldova

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New Roles of DSOs in energy transition

DSOs role is evolving together with the energy production and consumption landscape.

- **No more “fit and forget”** approach applied to existing and new connections;
- **Increasing consumers awareness** by giving proper market signals;
- Increased role in **cooperation with TSOs**;
- Increased role in **grid congestions management** process;
- DSOs have a key role in **integration of renewables**;
- Key role in deployment of **smart grids and consumer flexibility services**.



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Main tasks of DSOs

Electricity distribution activity is separated from the generation and supply activities (unbundled).

DSO has the following main tasks and obligations:

- ensure long-term capacity of distribution networks, develop and execute development plans of electricity distribution networks considering the forecast of electricity consumption;
- operate, maintain, modernize and develop electrical distribution networks in conditions of **security, reliability and efficiency**;
- manage the electricity flows of in the distribution networks;
- carry out connections, disconnections and reconnections to the electricity distribution networks within the terms and conditions established by the Regulator.



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Role of DSOs in national energy transition

New provisions were established to encourage distributed generation from renewable sources.

- ❖ Producers of electricity from renewable sources, including prosumers of electricity from renewable sources, benefit from a simplified procedure for connecting small power plants to the grid by means of a simplified notification;
- ❖ Mechanisms to support distributed generation have been established and implemented:
 - **the "net metering"** mechanism – will operate until December 31, 2027;
 - **"Net billing"** mechanism – implemented as of January 1, 2024;
 - Amendments have been made to the Law on electricity to allow the establishment and development of renewable electricity communities;
 - The new Law will describe in detail the concept of active consumers, the conditions for the creation and operation of energy communities, the conditions for the connection of storage units, flexibility services, etc.



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Regulatory tools to reflect on new roles of DSO in energy transition (1)

The **five Network Codes and Guidelines** establish detailed rules related to different market segments and system operation:

1. Forward Capacity Allocation **Guideline** (FCA);
2. Capacity Allocation and Congestion Management **Guideline** (CACM);
3. Electricity Balancing **Guideline** (EB GL);
4. System Operation **Guideline** (SOGL);
5. **Network Code** on Emergency and Restoration (ER NC).

All Terms, Conditions and Methodologies (TCM) that will be developed at the regional and/or national level by the system operators including DSOs are subject to NRA review and approval. This way **Regulators** have the ability to **track** and monitor the implementation of the **new Roles of the DSOs**.



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Regulatory tools to reflect on new roles of DSO in energy transition (2)

Network development plans and annual investments plans one of the tools to reflect the new roles of DSOs in energy transition.

- DSOs are developing the grids according to a medium term development plan (3 years), reviewed and approved by the NRA;
- The Development Plan takes into consideration the national strategies on energy and climate, feasible requests of the local public authorities and investors, and other costs related with DSO tasks, obligations and requirements in order to ensure sustainable grid development and electricity supply;
- Approved investments are transposed in annual investment plans, and the commissioned investments are being reflected in the distribution charges;
- Basically NRA is supervising the regulated undertakings in order to ensure that the planned investments comply with the new roles of DSOs;



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Technical readiness of DSOs for green transition and decentralization (1)

Smart metering at the distribution level

- According to the Regulation on the measurement of electricity for commercial purposes, approved by NRA, all non-household consumers and electricity producers with installed capacities **greater than 50 kW** install remote reading measuring equipment;
- In 2024, the Ministry of Energy of the Republic of Moldova, with the financial support of UNDP, launched a **pilot program** to install smart meters for final consumers. For this purpose, representative groups of consumers have been selected. Within the project, a total of **35,000 smart meters** will be installed at end-consumers measurement points in the authorized territories of both DSOs. At the same time, the software necessary for the collection, processing and management of data on smart meters is also developed;



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Technical readiness of DSOs for green transition and decentralization (2)

Development of remote monitoring and real-time control of substations;

- DSO "RED Nord" - the MV networks that leave from the TSO power stations and are equipped with remote monitoring devices. Due to the location on the territory of the TSO stations, the remote operation of the circuit breaker cells is carried out by the TSO personnel.
- In the case of private DSO "Premier Energy Distribution", the number of stations equipped with remote control systems is shown below:

Remote control	Number
Number of HV/MV substations remotely controlled	84
Number of MV/LV substations remotely controlled	5
Number of MV circuit breakers/reclosers remotely controlled	208





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Distribution network charges

• Cap regulation:

- NRA sets a maximum level of revenue that a company is allowed to collect each year of the regulated period (formed from **fixed** and **variable costs**);
- X-efficiency imputed already in allowed revenues;
- allowed to make profits if actual costs for providing regulated service are below the approved revenues.

$$\text{Allowed Revenue} = \text{Regulated Costs}_{(Y_n)} * \text{CPI -X \%} + \text{RAB Depreciation}_{(Y_n)} + \text{Rate of Return}_{(Y_n)} - \text{Deviation factor}_{(Y_{n-1})}$$

$$\text{Annual Tariff} = \frac{\text{Allowed Revenue (AR)}}{\text{Quantity of distributed electricity}}$$





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Conclusions

- ❑ The role of **DSOs** has evolved and now it is a **important tool** in the transition to carbon neutrality, sustainable use of electricity and in increasing the overall welfare of the electricity market participants;
- ❑ In order to accomplish the targets a clear and transparent **regulatory framework** is **mandatory**;
- ❑ Large **investments** into grid infrastructure, mainly **smart metering** will be required in order to make use of all flexibility mechanisms;
- ❑ **Storage capacities** will be needed to ensure grid balance on every moment of time.
- ❑ **Cooperation** among market participants (TSOs, DSOs, NRAs, PXs and other) is becoming of utmost importance, in order to facilitate best practice sharing and capacity building efforts.



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THANK YOU FOR THE ATTENTION

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