



Co-funded by
the European Union

EU4ENERGY PHASE II

EU4Energy: Regional Workshop on New Roles of DSOs under the Clean Energy Package





Co-funded by
the European Union

Power system and basic data

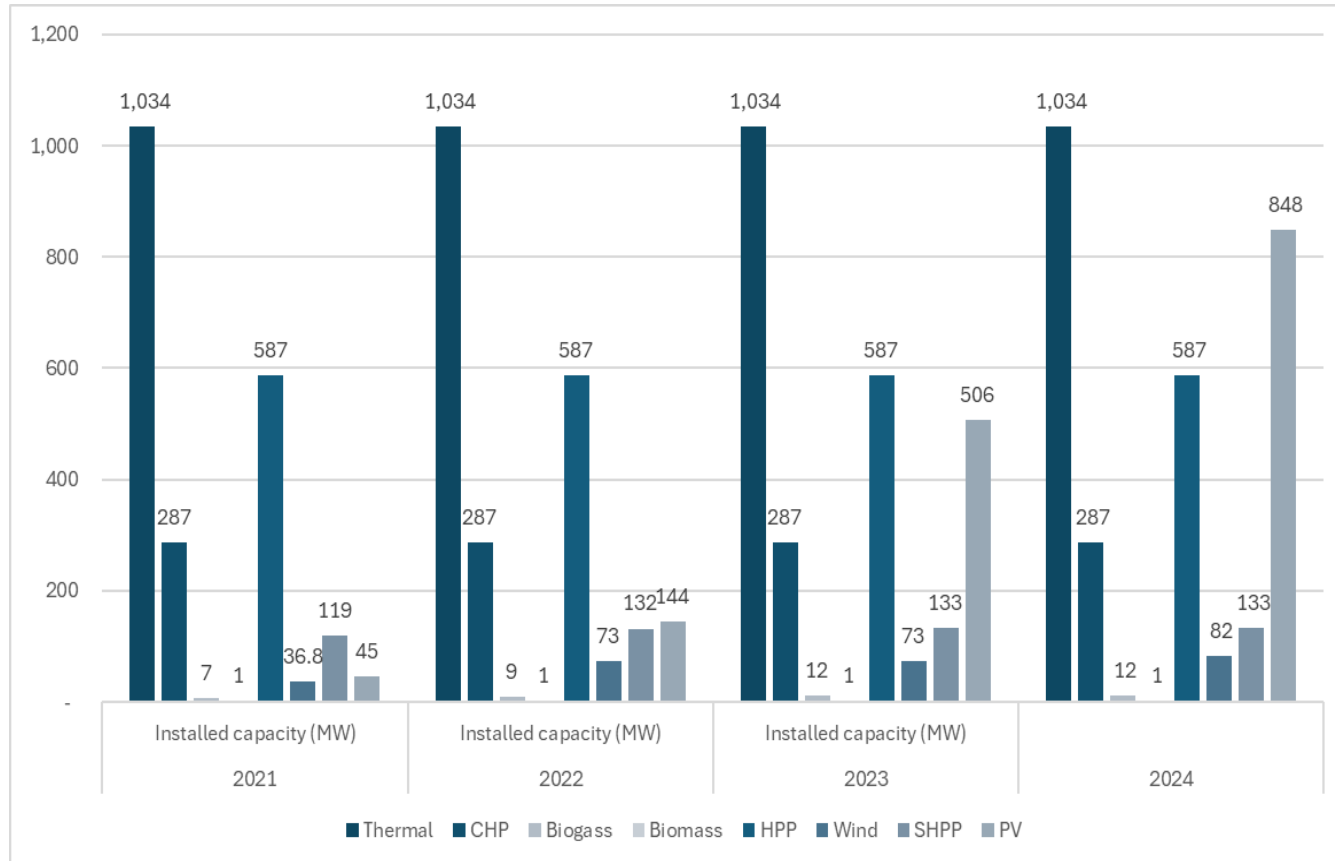


- 25.713km²,
- 1.8 Million population,
- NATO member & US Strategic Partner,
- EU Association Country since 2005,
- Energy Community Contracting Party, since its establishment.
- Interconnection points with neighbors - Greece (2x400 kV), Bulgaria (1x400 kV), Serbia (1x400 kV); and Kosovo (1x400 kV);
- Ongoing project for construction of interconnection 400 kV line with Albania;
- 6.889 GWh gross electricity consumption in 2024;
- 89,4% - domestic production (6.156 GWh);
- 10,6% - import (733 GWh);



Co-funded by
the European Union

Installed Capacity



- Total installed capacity in North Macedonia is 2.984 MW
- RES is represented with 1.663 MW or 55,72%
- The highest share are PVs with 28,4,% and after that HPPs with 23,5%
- PVs installed capacity increased 68% in 2024 compared to 2023 and 4,9 times compared to 2022 !

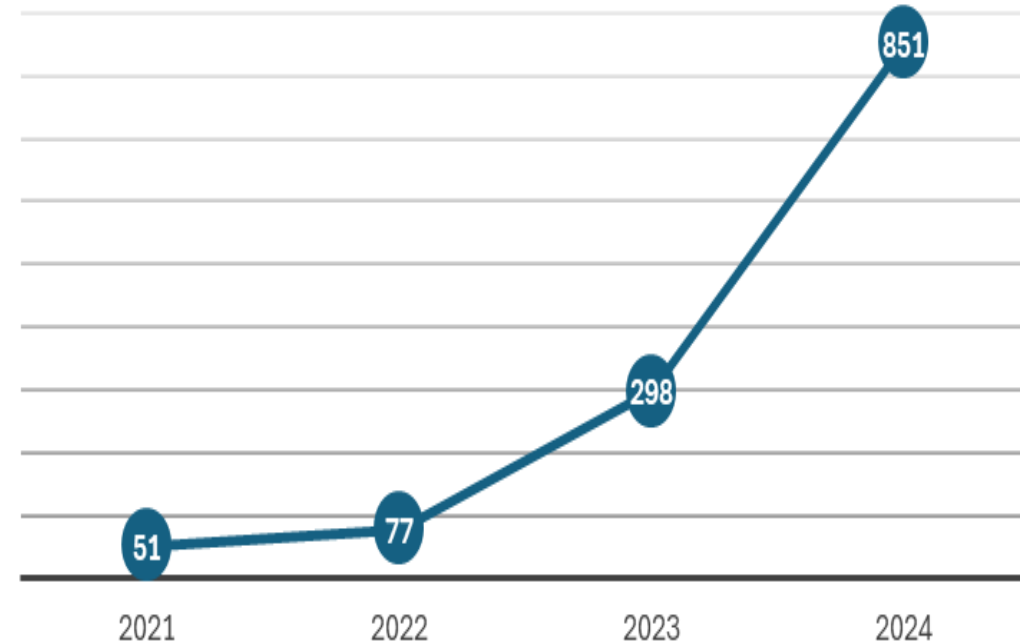


Co-funded by
the European Union

Electricity generation

Type of PP (GWh)	2021	2022	2023	2024
Total	5,284	5,633	6,553	6,130
TPP	2,105	3,034	3,032	2,355
CHP	1,517	967	1,348	1,259
RES	1,662	1,632	2,173	2,515
HPP	1,132	1,034	1,277	1,108
WPP	103	107	165	194
Small HPP	321	363	371	308
PV	51	77	298	851
Biogas	54	51	62	54

PV - generation (GWh)





Co-funded by
the European Union

National Regulatory Authority - ERC

- Established in 2002 with the amendments of the Energy Law, in operation since 2003,
- Currently at ERC are: one president and four commissioners (5 out of 7), 38 professionals and two administrative employees,
- ERC is organised in 8 departments and currently two employees are on the position as advisors to the president and members of the ERC and one is internal auditor,
- ERC is independent body with own budget and decision-making procedures,
- ERC is member of ECRB, ERRA, MEDREG and BES, and observer to EWG ACER and CEER,
- Roles and responsibilities as in the Third internal energy market package,
- In the process is preparation of the application for observership status to the ACER GAS and ACER REMIT Working groups





Co-funded by
the European Union

Electricity Distribution System Operators

- ERC has issued two licenses for two separate electricity distribution system operators (DSO):
 - Elektrodistribucija Ltd Skopje, whole territory of the country
 - JSC ESM Skopje – Energetika Branch (only in industrial area in the city of Skopje with only 52 industrial customers)

Voltage level (kV)	110kV (OH)	110kV Cable	35kV (OH)	35kV Cable	20(10)kV (OH)	20(10)kV Cable	0,4kV (OH)	0,4kV Cable
Length (km)	186	6	917	214	6.878	3.564	12.729	4.985
Share (%)	96,88	3,12	81,08	18,92	65,87	34,13	71,86	28,14

Voltage level TS (kV/kV)	110/xx, with TSO	110/xx	35(20)/10	10/0,4
Number	41	13	76	7.450

Category of connection	MV1	MV2	LV 1.1	LV 1.2	LV2	Total
Number	78	1.409	6.887	3.582	912.562	924.519



Co-funded by
the European Union

Electricity Distribution (2021-2024)

Year (Consumption)	2021 (MWh)	2022 (MWh)	2023 (MWh)	2024 (MWh)	2024/2023 (%)	2024/2022 (%)
MV1	230,823	218,143	188,106	202,206	7.50	-7.31
MV2	819,075	773,668	737,378	791,960	7.40	2.36
LV1.1 - Public lighting	87,787	67,339	60,363	63,135	4.59	-6.24
LV1.2	423,035	376,138	340,330	353,559	3.89	-6.00
LV2 - Households	3,316,805	3,080,244	2,995,531	3,069,507	2.47	-0.35
LV2 - Rest	752,759	705,742	670,521	726,595	8.36	2.95
Total	5,630,284	5,221,274	4,992,229	5,206,962	4.30	-0.27



Co-funded by
the European Union

Unbundling of DSO

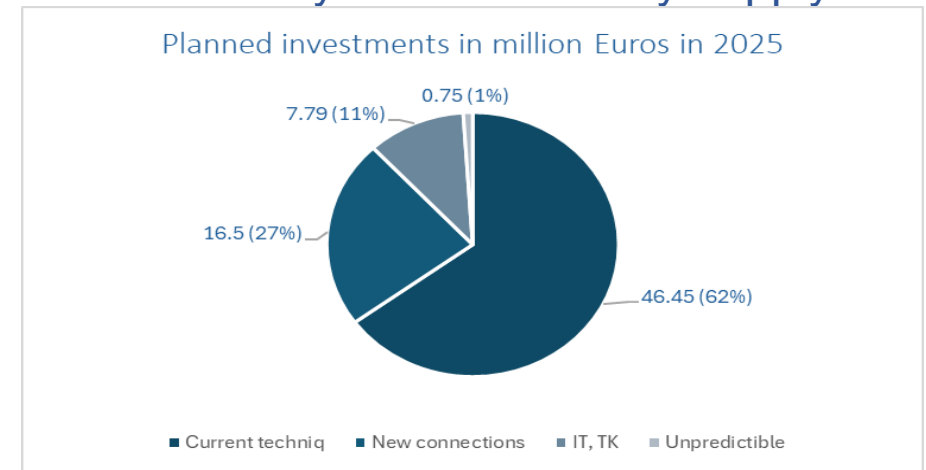
- Separate legal entity established by EVN Macedonia (90% of shares EVN AT and 10% of shares GoNM),
- EVN Macedonia has established:
 - EVN Elektrani, generation company
 - EVN Supply, supply company
 - EVN HOME, universal supplier for households and small consumers and supplier of last resort (newest)
 - Elektrodistribucija, distribution company.
- Compliance program approved by ERC,
- Compliance officer approved by ERC,
- Regular annual reports for the implementation of the compliance program approved by ERC,
- Separate logo that aims not to confuse customers.
- ERC 27th of February 2025 issued a Decision for imposing measures to electricity DSO to comply with certain unbundling requirements.



Co-funded by
the European Union

Grid Development

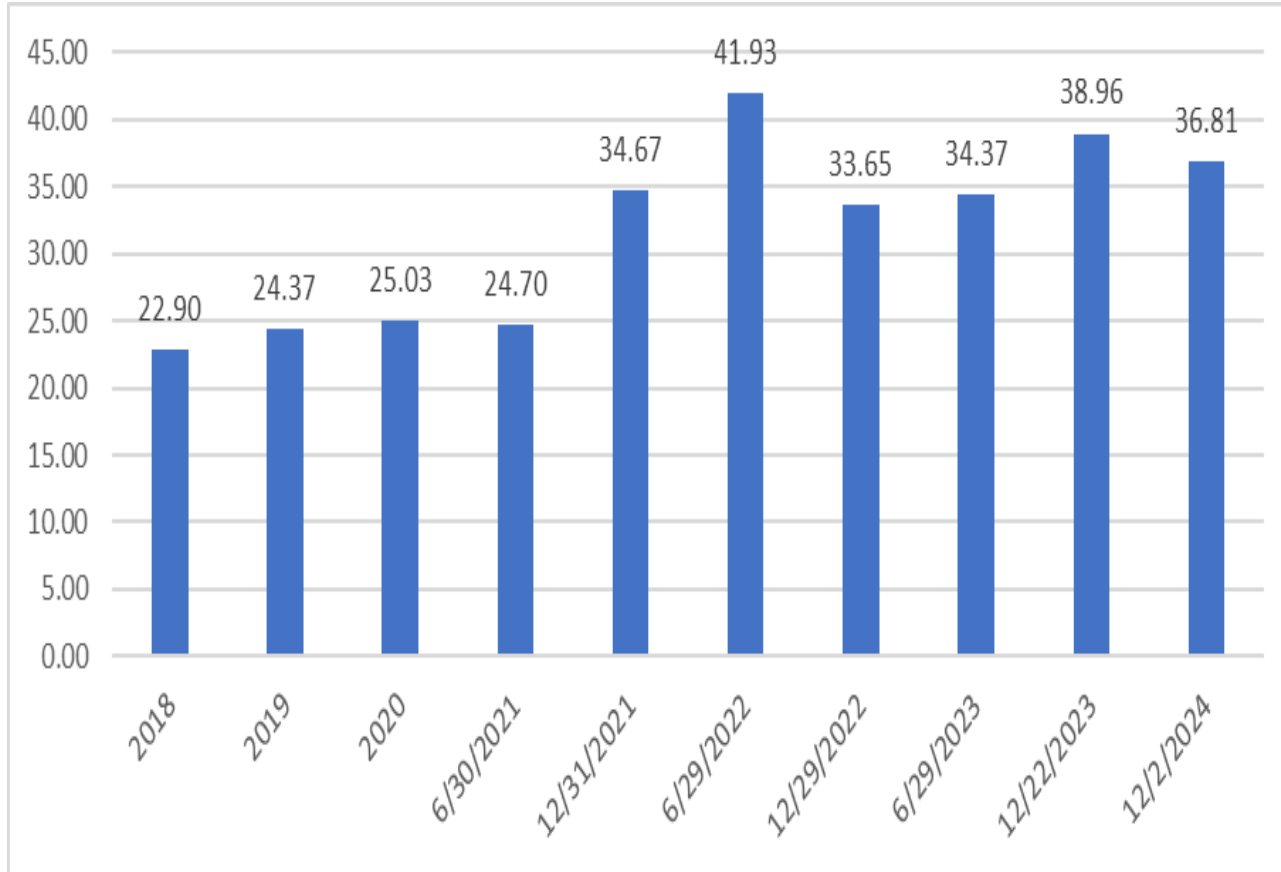
- ERC approves 5 - year network development plan of DSO every year for the period of next five years that should be submitted to ERC by 31st of October.
- The plan incorporates all necessary information for the expansion and upgrade of the distribution system and the information submitted by the competent institutions about the needs for connection of new users to the distribution network, as well as the needs and possibilities for construction and connection of electricity storages.
- The plan should be harmonised with the Ministry for the construction of new capacities for RES, electricity generation and achieving the national goals and the indicative trajectory for RES, energy efficiency, reduction of greenhouse gas emissions and increase of the security in the electricity supply.
- Grid development plan considers needs for development of:
 - Current techniq: HV lines/TS, Meters and metering equipment, MV/LV network, dislocation of meters)
 - New connections and request of investment by the clients
 - IT and TK, Infrastructure and vehicles,
 - Unpredictable investments





Co-funded by
the European Union

Level of average distribution tariff (EUR/MWh)



Connection category	Capacity (den/kW)	Active electricity (den/kWh)	Reactive electricity (den/kVAr)
MV1	X	X	X
MV2	X	X	X
LV1.2.	X	X	X
LV1.1.		X	
LV2		X	



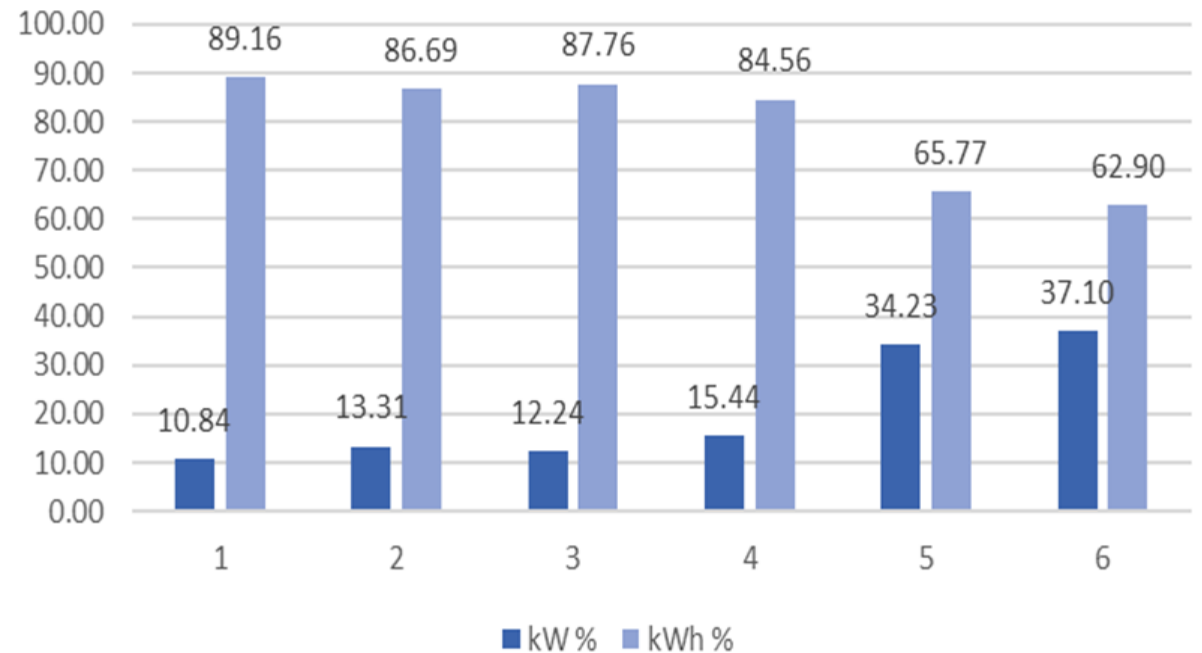
Co-funded by
the European Union

Distribution tariffs

In November 2023 ERC changed the Tariff system for distribution of electricity:

- Introduction of new tariff element fix charge named access to the distribution network,
- High installation of the PVs on the rooftop and prosumers that decreased delivery of electricity,
- Additional raising costs to the rest of the consumers that uses electricity from the network,
- Capacity component has been increased in order all consumers to participate in the fixed cost of DSO.

Distirbution of MAR on capacity and electricity based component (%)

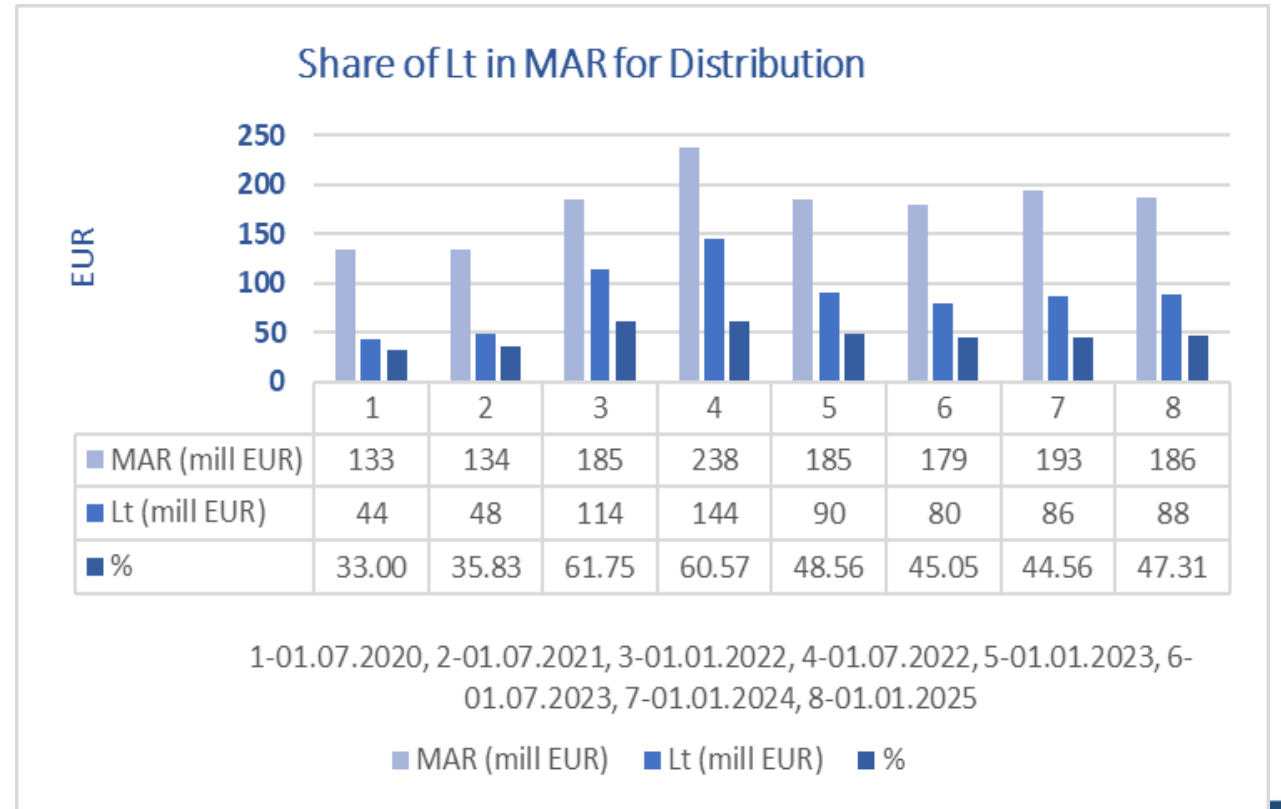




Co-funded by
the European Union

Losses in the Distribution Network

- Electricity for covering the losses is purchased by the DSO according to rules approved by ERC on the transparent and objective and nondiscriminatory manner,
- ERC approves plan for decreasing of the losses in which until December 2023 the percent was approved,
- In 2023 ERC approved the plan in which quantities were approved for the next regulatory period.
- Rulebook for setting the MAR was changed to reflect the real situation in network in which the input quantities have been decreasing due to the high share of RES.

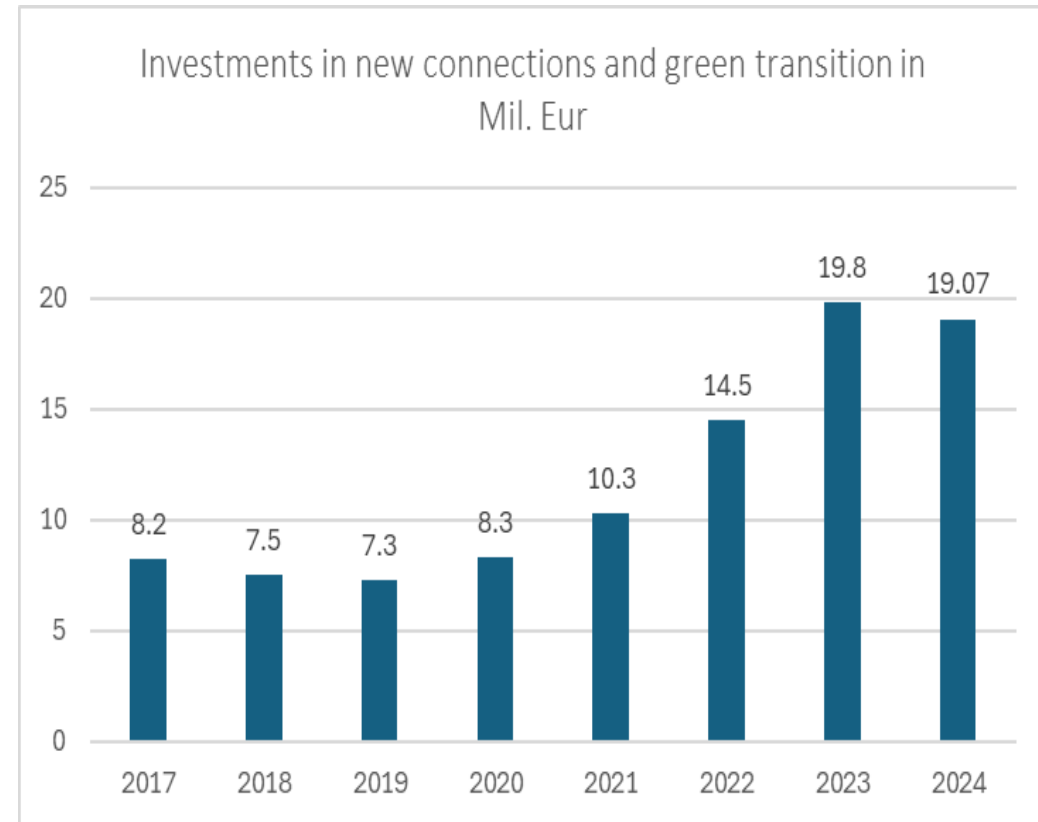




Co-funded by
the European Union

Incentives for RES

- Transparent procedure for connection to the networks as part of the Transmission Grid Code and Distribution Grid Code, approved by ERC
- Transparent methodology for calculation of the fee for connection to the networks, approved by ERC as part of the network codes
- Excluded from part of the connection fee that refers to the providing of technical conditions in the distribution network
- Excluded from payment of the transmission and distribution charges for the generated electricity in accordance with the Energy law
- Excluded from balancing responsibility if RES generator has obtained status for preferential producer with feed-in tariffs
- Priority dispatch in accordance with the Energy law.





Prosumers and Virtual Producers

Co-funded by
the European Union

- Prosumers: households, community of households, small consumers, budget user, can generate electricity for own consumption and excess of produced electricity to delivered into the grid.
- Maximum install capacity for households is 6kW and for the rest of consumers is 40kW.
- SoUS is eligible to buy the excess of electricity.
- Supplier of the consumer is obliged to conclude the agreement for taking of the excess of produced electricity.
- Prosumers do not pay distribution charge for the electricity injected into the grid.
- Settlement period is six months.
- Total metering points: 1598 (thereof legal entities: 785 and households: 813)
- Total installed capacity: 25 kW
- "virtual producer" (VP) is a producer or supplier that is a participant in the electricity market and that commercially and technically integrates electricity producers, prosumers and electricity storage operators connected to an electricity distribution network, thus enabling centralized management of their production and their treatment as a producer participating in the electricity market.
- RES who are previously registered as participants in the electricity market after concluding the contract with VP should submit a request for termination of the contract of participation in the electricity market.
- The VP commercially integrates the RES by concluding the contract to manage their produced electricity and sells it to the electricity market, in their name and on their behalf.
- VP provides balancing services in accordance with the Balancing rules.
- In 2024 were registered 13 VPs.



Strengthening the Electricity Market

Co-funded by
the European Union

- Electricity Market Operator (MEMO) also performs organized electricity market operator or power exchange,
- ERC approved Rules for operation of the organized electricity market and Decision for fees for participation on the day ahead electricity market,
- The Macedonian power exchange started operations in the domestic day-ahead market on 10th of May 2023 with delivery date of 11th of May 2023.
- By the end of 2024, 28 participants were registered on the day ahead market.
- PX finished the year 2024 with a total of 969.554,7 MWh with average price of 102 EUR/MWh.
- DSO purchased 92.511 MWh electricity from PX by the average price of 81 EUR/MWh.
- Possibilities for RES producers to use the PX for trading.
- In November 2023 in Athens, a Memorandum of Understanding for the coupling of the electricity markets of Greece, North Macedonia, Albania and Kosovo were signed by NRAs, TSOs, and PXs.



Co-funded by
the European Union

Future Challenges

- Proposal of a new Energy law is in parliament procedure with transposed CEP and Integration Electricity Market Package as adapted by the Ministerial Council of the Energy Community,
- Preparation and adaption of new Law on RES with transposition of RES Directive as adapted by the Ministerial Council of the Energy Community is in progress,
- New role of ERC to establish an environment for transparent, none discriminatory and objective access to the networks and to the market of new market participants (storages, demand side response, flexibility, energy communities, EV, RES generators), and adjustment of the tariffs and methodologies to reflect the new reality,
- New responsibilities of DSO and TSO related to grid development, ancillary services, smart metering, data and information exchanges, etc.
- Integration of the regional electricity market and EU market based on common rules and market coupling.

Thank you for your attention!
Elena Kolevska, Head of Electricity Department
Elena.Kolevska@erc.org.mk
www.erc.org.mk

