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# EU4ENERGY PHASE II

## Status Quo of DSO New Roles Implementation and Regulations in Georgia



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# Legal Framework



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- Law of Georgia on Energy and Water Supply
- The Resolution N10 of April 17, 2014 on Approving Network Rules
- The Resolution N19 of June 28, 2021 on Approving Distribution Network Rules
- The Resolution N36 of June 29, 2021 on Approving Investment Evaluation Rule



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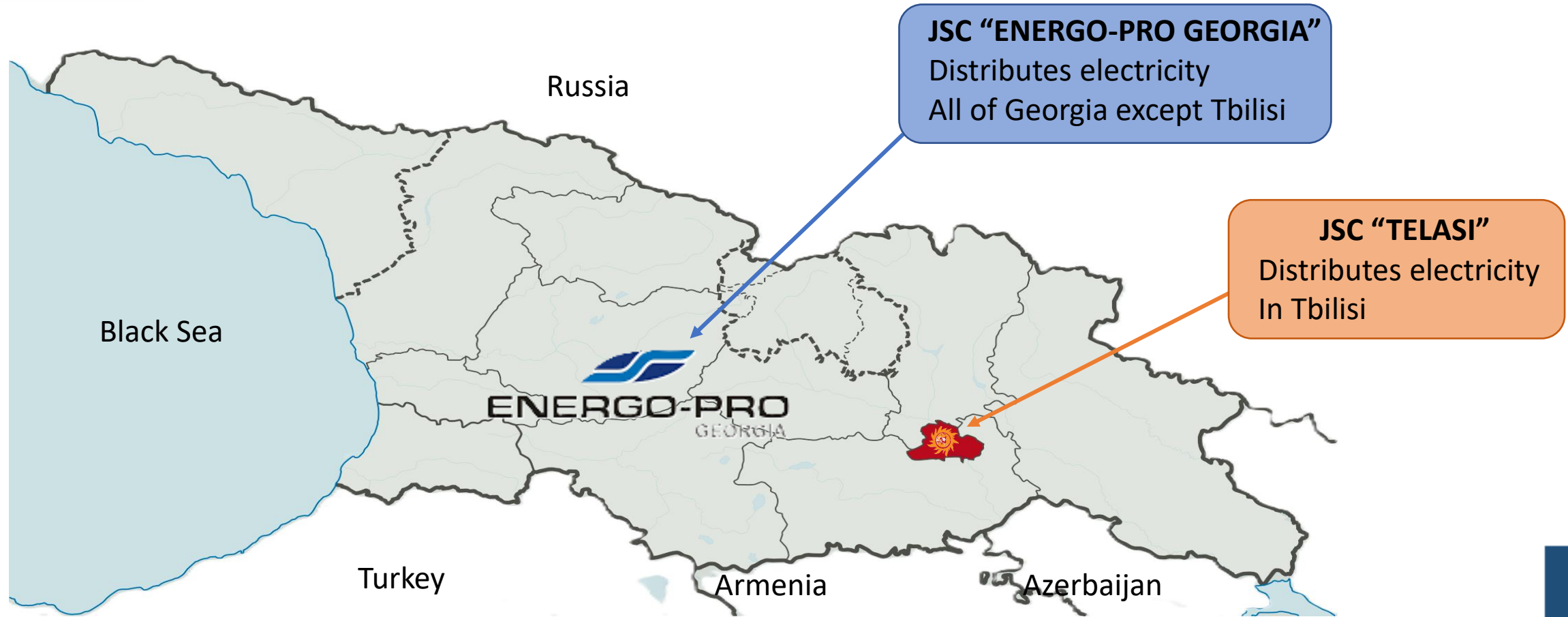


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# DISTRIBUTION SYSTEM OPERATORS IN GEORGIA



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# DISTRIBUTION SYSTEM OPERATORS IN GEORGIA



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## JSC "ENERGO-PRO GEORGIA"

Customers: **1 306 800**

Min/Max Load: **297/890 MW**

Distributes: **6.67 bn. kW\*h**

110-35 kV Substations: **328**

6-10/0.4 kV substations: **15 592**

35-110 kV Power transmission lines: **4024 km**

6-10 kV Power transmission lines: **15 301 km**

<1 kV Power transmission lines: **39 042km**



## JSC "TELASI"

Customers: **676 373**

Min/Max Load: **206/643 MW**

Distributes: **3.46 bn. kW\*h**

110-35 kV Substations: **36**

6-10/0.4 kV substations: **2 191**

35-110 kV Power transmission lines: **439 km**

6-10 kV Power transmission lines: **2 125 km**

<1 kV Power transmission lines: **3 825 km**





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# Investments In Distribution Networks



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- The distribution network development and investment plan for a five-year period is developed and annually updated by the distribution system operator for the next five years. Before approved by the commission, checks whether the investments planned by the distribution system operator are sufficient to satisfy all needs, such as:
- Improvement of safety norms and reliability standards of electricity supply through the distribution network
- Improvement of service quality (continuity of supply, quality of electricity).
- Reduction of losses in the distribution network.
- Integration of renewable energy sources into the distribution network.
- Measures to be implemented based on strategic plans.
- Improvement of the ecological situation (introduction of environmentally safe technologies).
- Development of automatically managed electricity distribution networks (SCADA systems).
- Development of SMART METTERING technologies.



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# The Regulation For EV Chargers



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Electric vehicle chargers are deregulated under the Law of Georgia on Energy and Water Supply, meaning that electricity supplied to electric vehicles by chargers is not a licensable activity.

This means that charging prices are set by the market, and anyone can install EV chargers and request connection to the distribution network.

According to the rules of the distribution network, anyone can request to connect an EV charging station. The commission has adopted a rule change for EV charger connections, making the connection cost half that of a regular connection.





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# The Regulation For New Connections



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Voltage step (kV)	Capacity (kW)	Term of connection of the new object to the network (working days)		Cost of connection of the new object including VAT (EUR)	Cost of connection of the EV Chargers including VAT (EUR) (-50%)
		Self- governing cities	Other Municipalities		
	0,4	10 (1-10 kW 220 V)	40	60	270
10 (1-10 kW 380 V)		40	60	676	338
From 10 to 30		40	60	2,365	1,182
From 30 to 50		40	60	4,730	2,365
From 50- to 80		40	60	7,568	3,784
From 80 to 100		40	60	9,459	4,730
From 100 to 120		40	60	12,162	6,081
From 120 to 150		40	60	15,203	7,601
From 150 to 200		45	60	27,027	13,514
From 200 to 320		60	90	37,162	18,581
From 320 to 500		60	90	56,588	28,294
From 500 to 800		90	110	72,973	36,486
From 800 to 1000		90	110	91,216	45,608
From 1000 to 1300		90	110	97,297	48,649
From 1300 to 1600		90	110	108,108	54,054
From 1600 to 2000		90	110	135,135	67,568
From 2000 to 2600	90	110	175,676	87,838	
From 2600 to 3200	90	110	216,216	108,108	
6-10 kV	1-500	60	90	43,919	21,959
	From 500 to 1000	90	110	67,568	33,784
	From 1000 to 1500	90	110	96,959	48,480
	From 1500 to 2000	90	110	118,243	59,122
	From 2000 to 3000	90	120	156,588	78,294
	From 3000 to 5000	90	120	253,041	126,520

The Distribution system operator is obliged, after the payment of the connection fee, to connect the new object to the distribution network. This includes carrying out all the necessary work (the entire technological cycle) to connect new objects to the distribution network at 0.220 kV, 0.380 kV, and 6/10 kV voltage levels within the territory where the operator conducts electricity distribution.

**The fee for connecting EV chargers to the distribution network is half the cost of a typical consumer connection.**





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# The Regulation For RES connection



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Until February 16, 2023, the connection of RES to the distribution network was deregulated, according to the rules of the distribution network. Specifically, the power plant would apply to the distribution system operator for a connection, and the operator would issue technical conditions for the connection. These technical conditions included both the requirements for connecting to the distribution network and a list of necessary strengthening and repair works. This often led to disputes between the power plant owner and the distribution system operator, resulting in frequent complaints to the GNERC.

Based on the above, projects for power plants using renewable energy sources often became unfeasible and were subsequently suspended.







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# The Regulation For RES connection



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To support the integration of renewable energy sources into the grid, the Commission has developed new amendments that establish stringent principles for connecting to the distribution grid.

Possible standard options for RES (up to 15 MW) connecting to the distribution grid have been defined:

- I. Arrangement of a connection cell at the DSO's substation.
- II. Integration into the DSO's power transmission line.

The connection point (network readiness) fee is established based on the power to be connected, as follows:

- a) For stations with an installed capacity of up to 2 MW: 60,000 GEL (20 270 euro) per MW.
- b) For stations with an installed capacity ranging from 2 MW to 15 MW: 300,000 GEL (101 351 euro) per MW.





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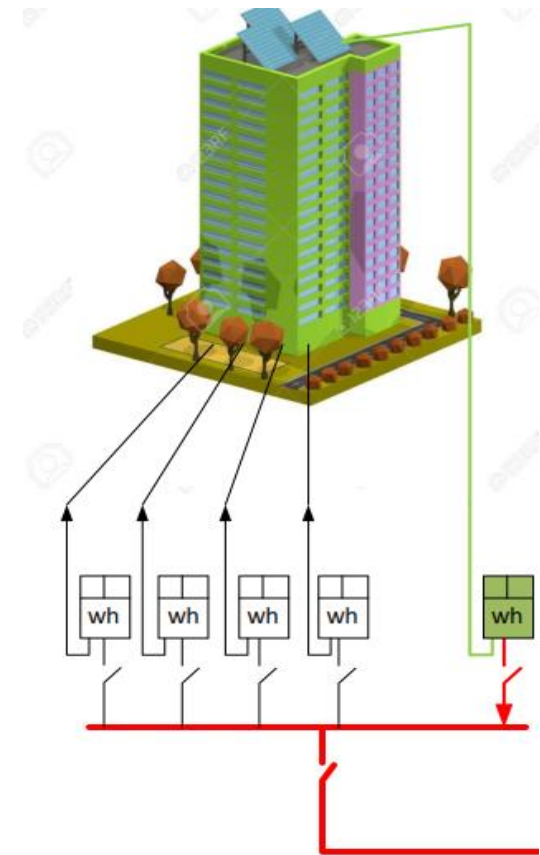
# The Regulation For NET-Metering



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Development of net metering regulations in Georgia since 2016:

- I. Individual connection using a reverse meter.
- II. Group connection/switching on of users (under a single transformer substation).
- III. Virtual net metering.





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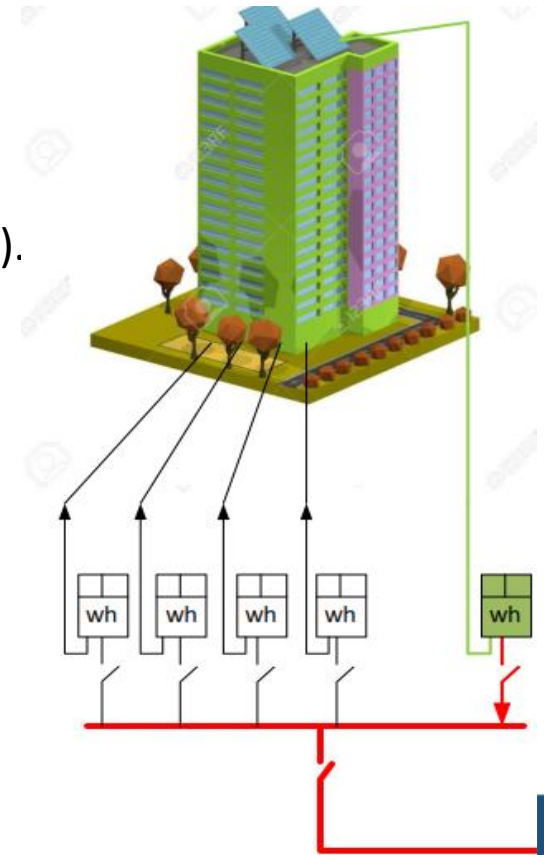
# The Regulation For NET-Metering



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Net metering regulation scheme:

- The installed capacity of the micro-electric plant is 500 kW (previously 100 kW before 2021).
- Renewable energy source.
- Connection to the network follows a single-window principle.
- Monthly billing for generation and consumption.
- Carryover of excess electricity to the following month.
- Annual reimbursement for excess generated electricity.





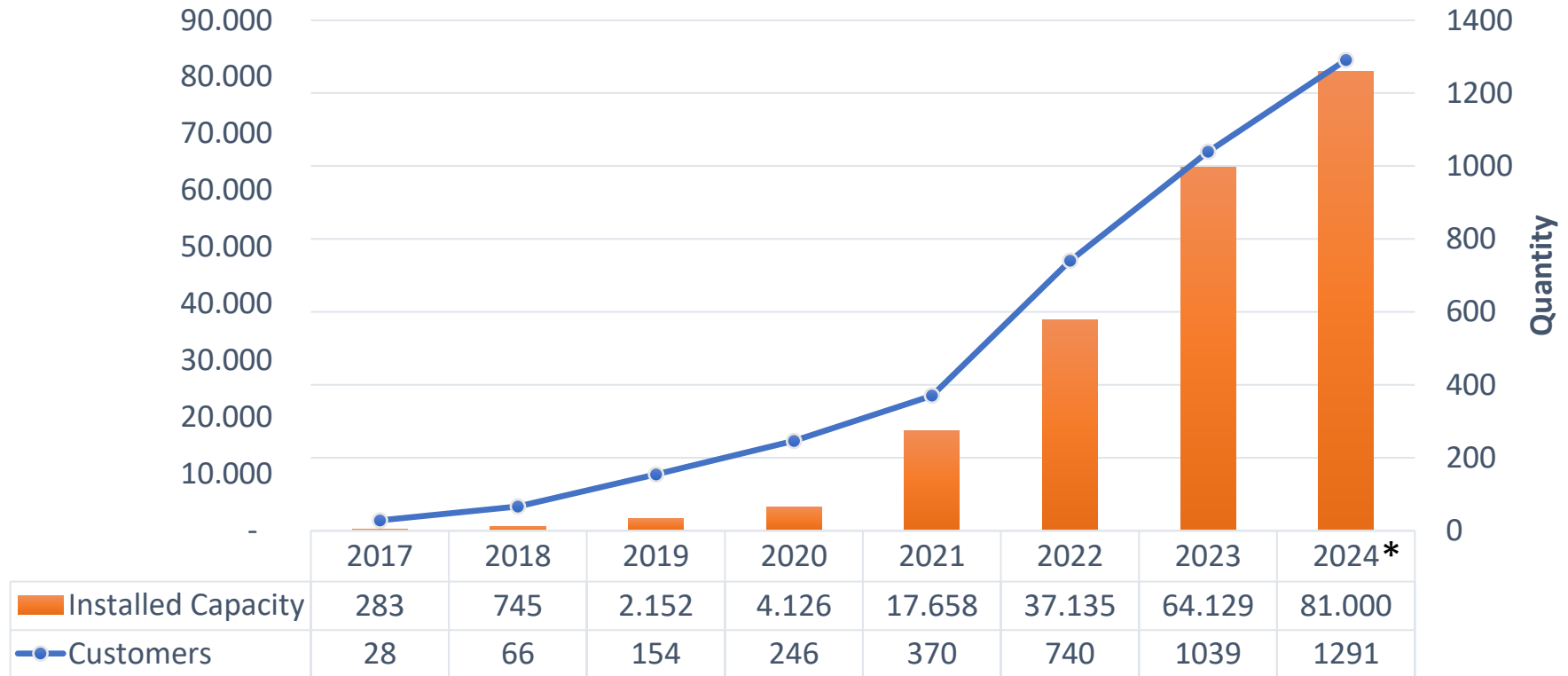
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# The Regulation For NET-Metering

## The Dynamics of the Development of Micro Power Plants in Georgia in the Period of 2016-2024 (June)



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# Smart Metering Development In Georgia



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In accordance with the "Electricity Distribution Network Rules" approved by Commission Resolution N19 on June 28, 2021, all new residential buildings connected to the electricity distribution network must have a smart meter installed. Additionally, any customer has the right to request the installation of a smart meter, but must pay the smart meter fee determined by the Commission.

Effective January 1, 2024, all new connections to the distribution network must be equipped with a smart meter.

JSC "Telasi" has initiated the installation of smart meters for all existing customers across its entire distribution network, with the project expected to last 7-10 years at a total cost of approximately 100 million euros.

In the first phase, JSC "Energo-Pro Georgia" is installing smart meters for customers in the Kakheti region distribution network, with detailed design processing currently underway.





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# Ongoing Reforms/projects



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- Developing regulations for self-consumption.
- Developing new regulations for the transition from NET-metering to NET-billing in 2027.
- SCADA systems are being implemented in the distribution substations of Energo-Pro Georgia. They are currently being installed in nearly all substations in major cities. At JSC "Telasi," the detailed design of the SCADA system arrangement has been completed, and the contractor selection process is now underway.
- The guideline for the development of smart metering systems is being prepared with the participation of DSOs and GNERC employees.
- Consultations are underway with various international organizations regarding the development of regulations for demand-side management.
- Developing regulations and technical requirements for energy storage systems.



Thank you for your attention



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