

2024 YEAR

ELECTRICITY MARKET REVIEW



GNERC

GEORGIAN NATIONAL ENERGY AND WATER SUPPLY REGULATORY
COMMISSION

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Abbreviations

Universal Supplier	- Universal service supplier
Public Supplier	- Electricity supplier in the form of public service
Regulated Supplier	- Universal and public service suppliers
Regulatory Power Plant	- Power plants defined in accordance with the electricity (capacity) forecast balance
Seasonal Power Plant	- Power plants defined in accordance with the electricity (capacity) forecast balance
Small Power Plant	- Power plant with a design capacity not exceeding 15 megawatts
PPA	- Power plants with a guaranteed electricity purchase agreement

Definitions

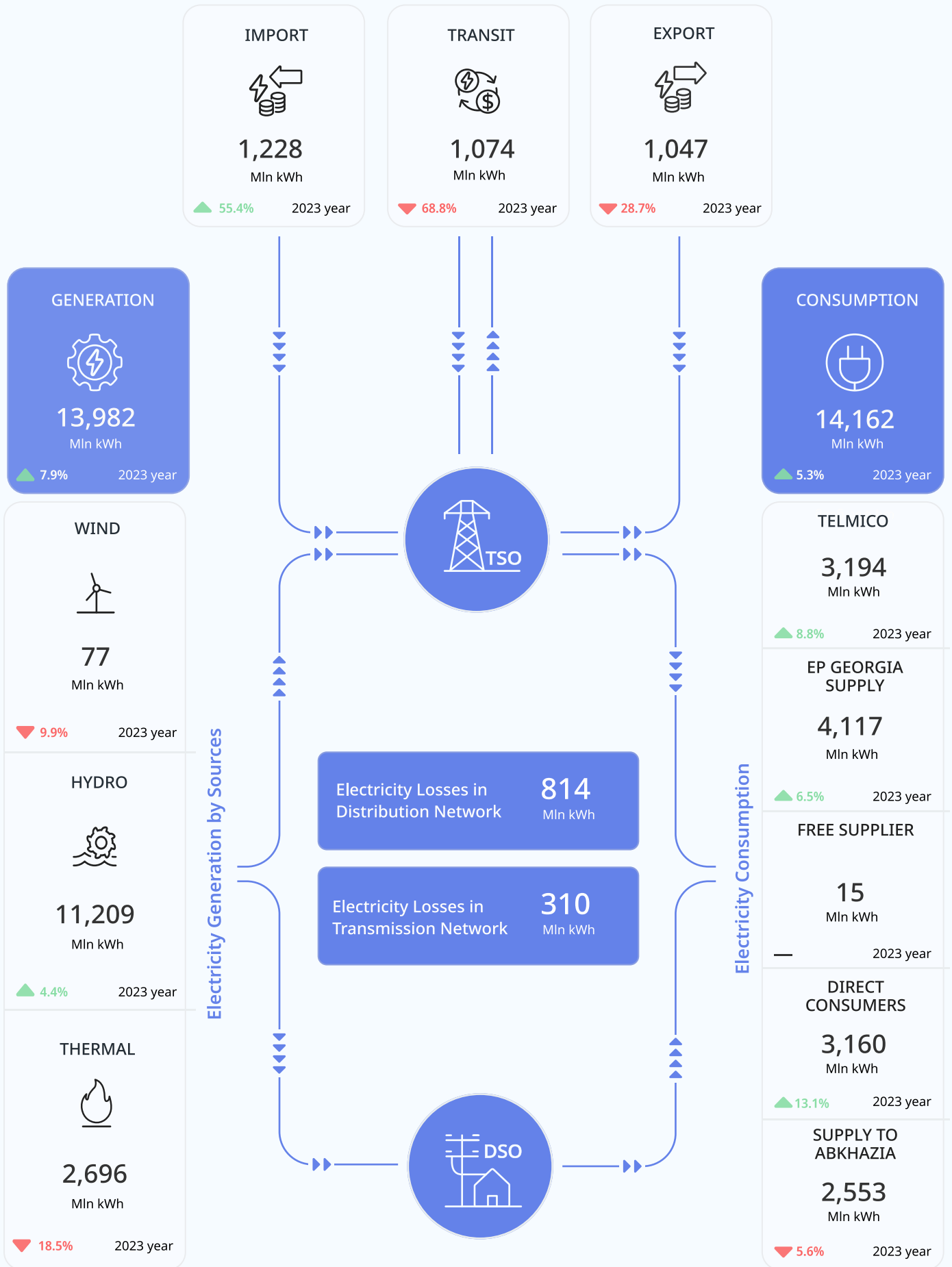
Generation	- Electricity Busbar Delivery by Power Plants
Consumption	- Consumption Including Network Losses
Direct Consumers' Consumption	- Direct Consumers' Consumption also encompasses the self-consumption of power plants.
Maximum Consumption	- The Highest Daily Consumption Recorded in the Reporting Month
Minimum Consumption	- The Lowest Daily Consumption Recorded in the Reporting Month
Maximum Load	- The Maximum Load Recorded at a Specific Hour in the Reporting Month
Minimum Load	- The Minimum Load Recorded at a Specific Hour in the Reporting Month

For data visualization simplification, the report applies the following rounding approaches:

Generation	- Rounded to the Nearest Whole Number
Consumption	- Rounded to the Nearest Whole Number
Percentage	- Rounded to the Nearest Tenth

The analysis presented in this report is based on data collected as of February 1, 2025

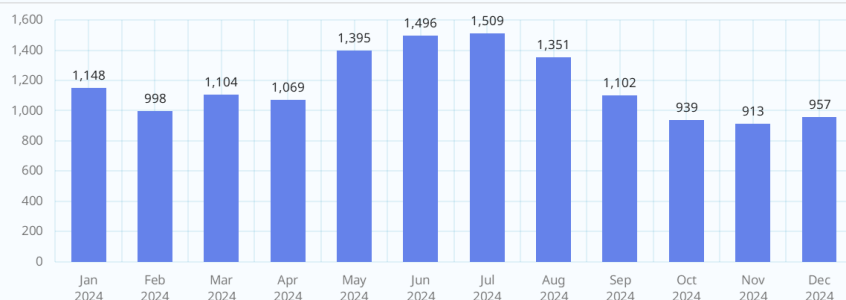
1. Electricity Balance



2. Generation and Consumption

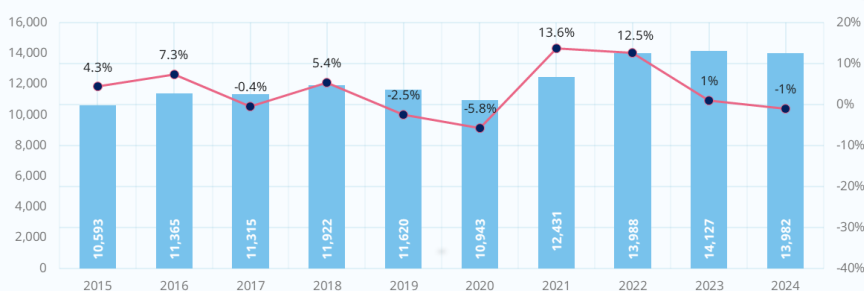
In 2024, electricity generation has amounted to 13,982 million kWh, which is 1% lower compared to 2023.

Figure 1.
Electricity Generation
(million kWh)



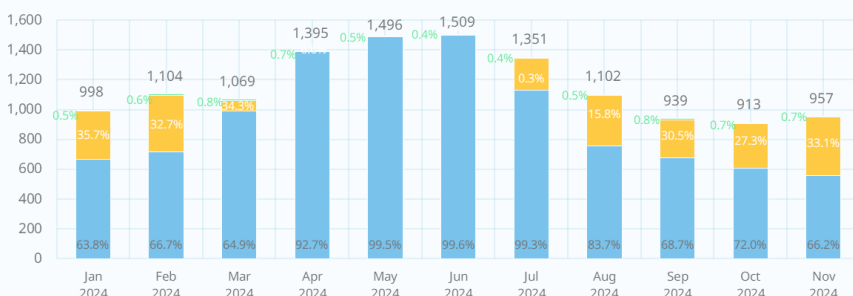
From 2015 to 2024, electricity generation has increased by an average of 3.4% annually.

Figure 2.
Electricity Generation
(million kWh)



In 2024, electricity generated from renewable energy sources has constituted 80.7%, while electricity generated from thermal power plants has amounted to 19.3%. This represents a slight deviation from the share distribution recorded in 2023, when renewable energy sources has accounted for 76.6% and thermal power plants for 23.4%.

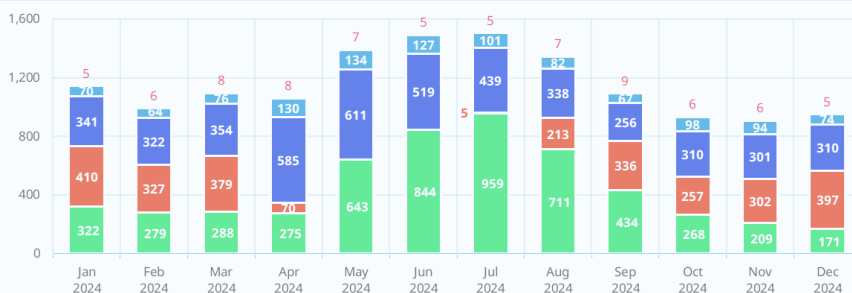
Figure 3.
Electricity Generation by Sources
(million kWh)



In 2024, electricity generation from hydropower plants increased by 4.41% compared to the previous year. Notably, 2024 was the best year in hydrological terms, as hydropower plants generated 11,209 million kWh, marking a record high in Georgia's electricity sector history. Additionally, generation from regulatory power plants increased by 0.1%, from seasonal power plants by 8.9%, and from small-capacity power plants by 8.1%. However, compared to the previous year, electricity generation from wind power plants decreased by 9.9% and thermal power plants saw an 18.5% decline.

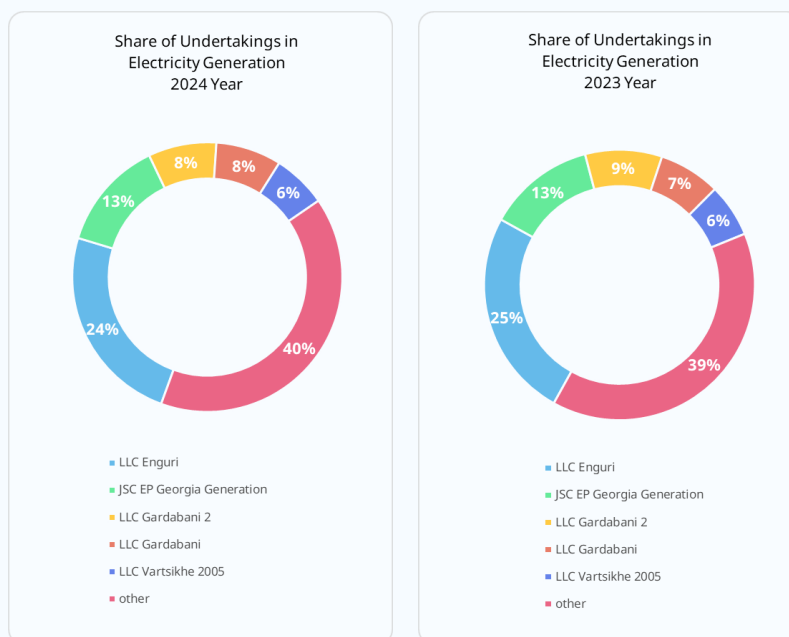
In 2024, three hydropower plants were commissioned with a total installed capacity of 48.7 MW. Among them, the largest plant has an installed capacity of 45.7 MW, while the remaining two are small-capacity power plants.

Figure 4.
Electricity Generation by Power Plant Categories (million kWh)



In 2024, the five largest Undertakings has constituted 59.8% of the total electricity generation, of which 73.2% came from hydropower plants and 26.8% from thermal power plants. In 2023, the share of the five largest enterprises in total generation was 60.8%, with hydropower plants contributing 72.8% and thermal power plants 27.2%.

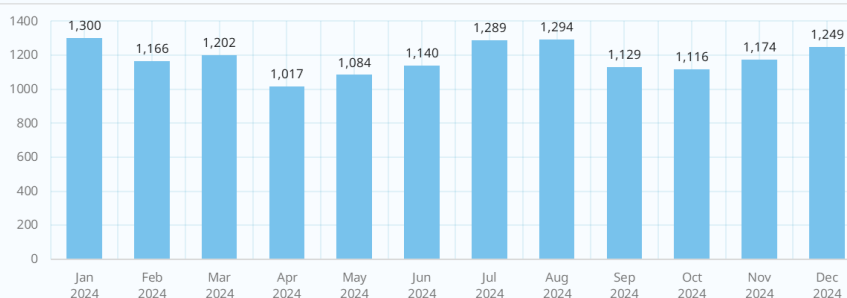
Figure 5.
Share of Undertakings in Electricity Generation



The Herfindahl-Hirschman Index (HHI) for the electricity generation segment in 2024 was 1,026, indicating a low level of market concentration.

In 2024, electricity consumption has amounted to 14,162 million kWh, reflecting a 5.3% increase compared to 2023. This growth was driven by an increase in direct consumers' consumption, the volume of electricity supplied to consumers by universal and public service suppliers, and the rise in distribution system operators' losses. Notably, compared to 2023, electricity supply in Abkhazia and transmission system operator losses has decreased in 2024.

Figure 6.
Electricity Consumption (million kWh)



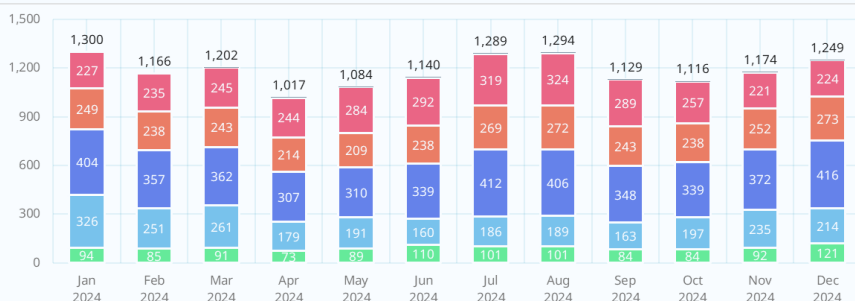
From 2015 to 2024, consumption has increased by an average of 3.3% annually.

Figure 7.
Electricity Consumption (million kWh)



In 2024, compared to 2023, electricity consumption in Abkhazia has decreased by 5.6%, while transmission system operator losses has declined by 18.2%. At the same time, direct consumers' consumption has increased by 13.1%, electricity supplied to consumers by public service suppliers has grown by 4.5%, electricity supplied by universal service suppliers has risen by 9.6%, and distribution system operators' losses increased by 5.5%.

Figure 8.
Electricity Consumption by Consumer Categories (million kWh)

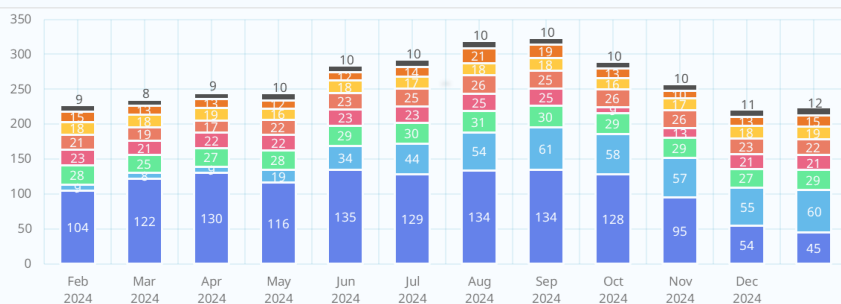


In 2024, a significant share of the country's electricity consumption (51.6%) was attributed to regulated suppliers. Direct consumers has accounted for 22.3%, while the free supplier's share was 0.1%. Electricity supply in Abkhazia has made up 18%, and the remaining 7.9% was attributed to losses in the transmission and distribution system operators' networks.

In 2023, a significant share of the country's electricity consumption (50.6%) was attributed to regulated suppliers. Direct consumers has represented 20.8%, while Abkhazia's supply share has amounted to 20.1%. The remaining 8.6% has corresponded to losses in the transmission and distribution system operators' networks.

In 2024, compared to the previous year, the increase in electricity consumption by direct consumers was primarily driven by the growth in electricity usage among certain categories of direct consumers, including industry, metal ore mining, cryptocurrency mining, and others.

Figure 9.
Direct Consumer' Consumption by Categories (million kWh)

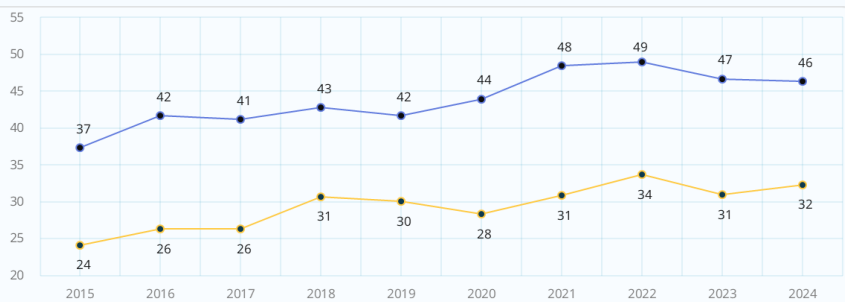


From 2015 to 2024, maximum consumption has increased by an average of 2.8% annually, while Minimum Consumption grew by 3.7%

annually. In 2024, compared to 2023, maximum consumption has decreased by 1.5%, whereas minimum consumption increased by 4.3%.

Figure 10.
Maximum and Minimum consumption (million kWh)

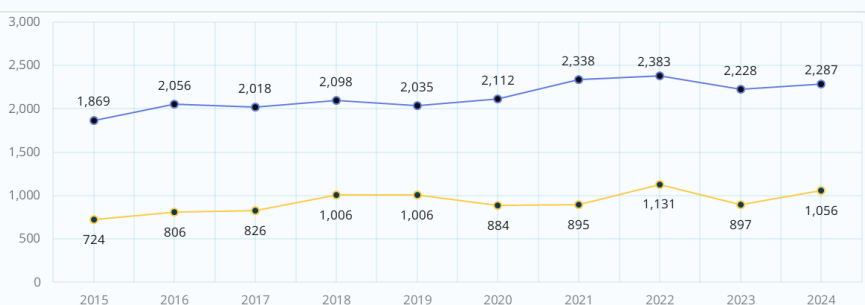
— Maximum Consumption
— Minimum Consumption



From 2015 to 2024, the maximum load has increased by an average of 2.3% annually, while the minimum load has increased by 5.2% per year. In 2024, compared to 2023, the maximum load has increased by 2.6%, whereas the minimum load has increased by 17.7% annually.

Figure 11.
Maximum and Minimum load (million kWh)

— Maximum load
— Minimum load

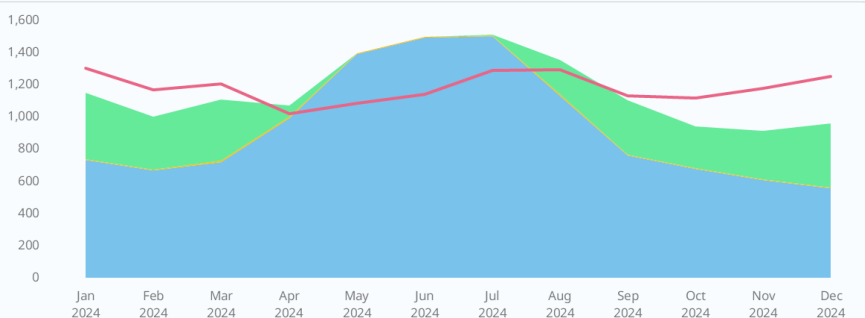


In Georgia, electricity supply and consumption are characterized by seasonality. Specifically, electricity consumption is traditionally higher during the winter period than in the summer period, while electricity supply is characterized by a trend opposite to electricity consumption.

According to the monthly electricity generation-consumption balance for 2024, during the winter period, the demand for electricity could not be met by local generation sources, and the import of electricity became necessary. This indicates the need for the development and promotion of technologies that will minimize the share of imported electricity required to satisfy local consumption during the winter period. In addition, during the summer period, due to water abundance, surplus electricity is exported to neighboring countries.

Figure 12.
Consumption and Generation by Months (MWh)

Thermal
Wind
hydro
Consumption

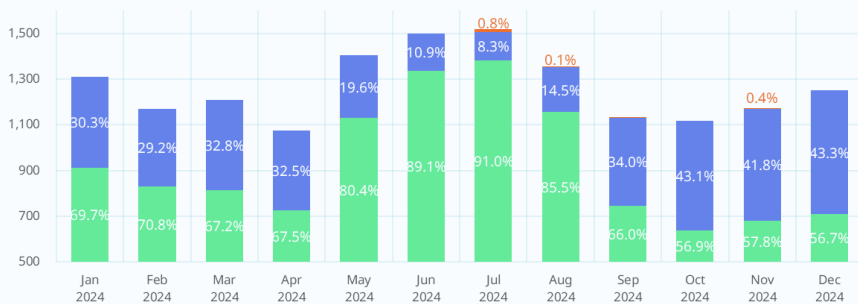


3. Wholesale Market

In 2024, 61 direct consumers, 7 wholesale suppliers, 74 producers, and 12 exporters have participated in electricity trading in the wholesale market. The total volume of traded electricity has amounted to 15,211 million kWh, including 11,053 million kWh under direct contracts

(including Abkhazia), 4,141 million kWh in the balancing market, and 17.5 million kWh on the energy exchange.

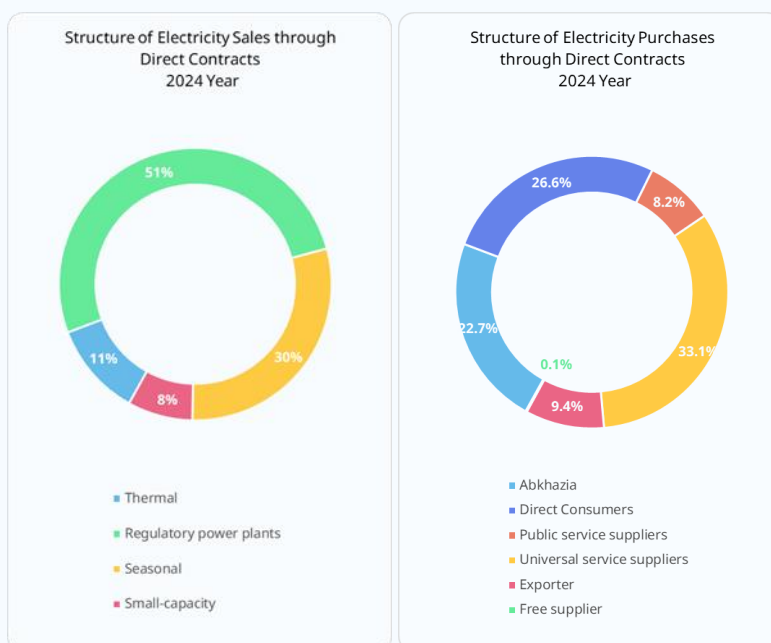
Figure 13. Wholesale Market Structure



3.1 Direct contracts

In 2024, 22% of the electricity sold directly by producers through direct contracts was used for supplying Abkhazia. Universal and public service suppliers purchased 41%, direct consumers have purchased 16%, and the free supplier has purchased 0.1%.

Figure 14. Structure of Electricity Purchase-Sale through Direct Contracts



In 2024, wholesale suppliers have purchased 1,154 million kWh of electricity, almost all of which was sold to direct consumers. Among the wholesale suppliers, three major wholesale suppliers have amounted to 91% of electricity sales. The average weighted purchase price of electricity for wholesale suppliers was approximately 10.8 tetri/kWh, while the average weighted sale price was 13.9 tetri/kWh.

In 2024, direct consumers have purchased 2.934 million kWh of electricity through direct contracts, of which 61% was purchased from electricity producers and 39% from wholesale suppliers. The average weighted purchase price for direct consumers was approximately 10.34 tetri/kWh.

In 2024, electricity producers have sold 7,512 million kWh through direct contracts (excluding sales at zero price for themselves, Abkhazia, and exports), while the average weighted selling price was approximately 7.8 tetri/kWh.

In 2024, the average weighted price on the direct contracts market has amounted to approximately 8.3 tetri/kWh, with the maximum price being 16.1 tetri/kWh and the minimum price being 1.25 tetri/kWh.

3.2 Energy Exchange

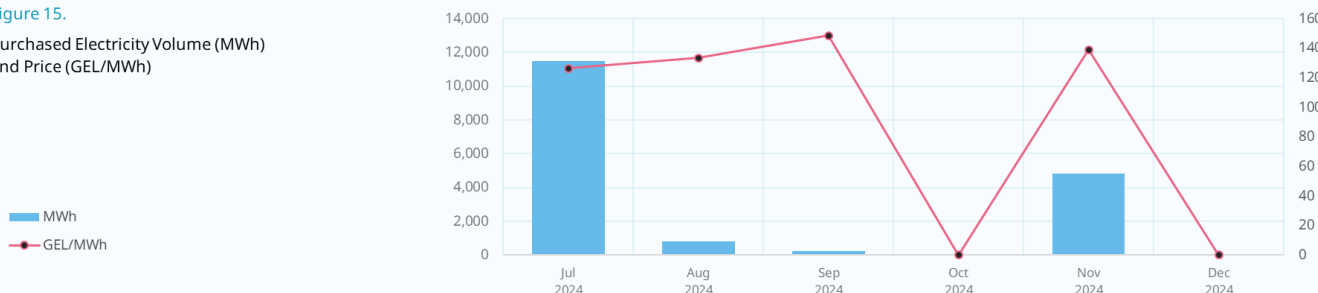
As of 2024, there are 9 electricity producers, 3 system operators, 7 direct consumers, and 2 suppliers registered on the Georgian Energy Exchange.

In 2024, electricity was sold on the energy exchange by two undertakings, totaling 17.5 million kWh (each generating electricity from their own 8 power plants). This electricity was purchased by distribution and transmission system operators to cover losses. Instead of purchasing balancing electricity, they saved up to 0.4 million GEL in 2024 by purchasing electricity on the Energy Exchange.

In 2024, the average weighted price of electricity traded on the Energy Exchange was 13.455 tetri/kWh.

Figure 15.

Purchased Electricity Volume (MWh) and Price (GEL/MWh)



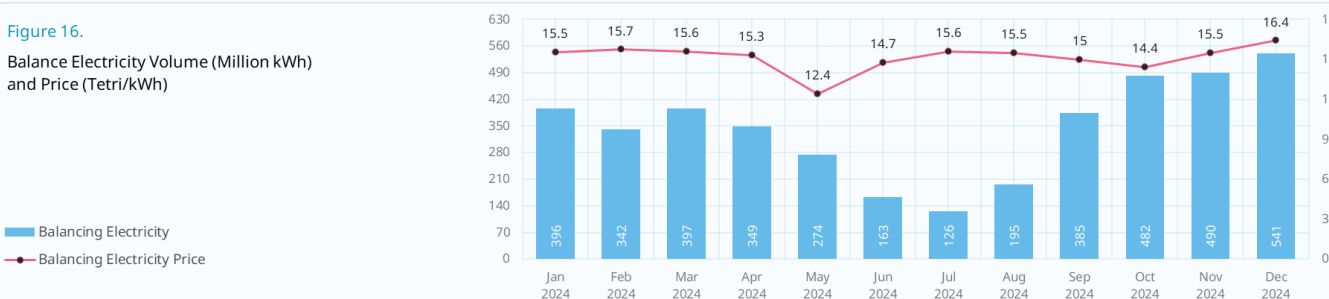
3.3 Balancing Electricity

In 2024, the volume of balancing electricity has amounted to 4,141 million kWh, while the weighted average price of balancing electricity was 15.231 tetri/kWh, which is 8.6% higher compared to the same indicator of the previous year (14.024 tetri/kWh).

In 2024, the highest price of balancing electricity was recorded in December, while the lowest price was observed in May.

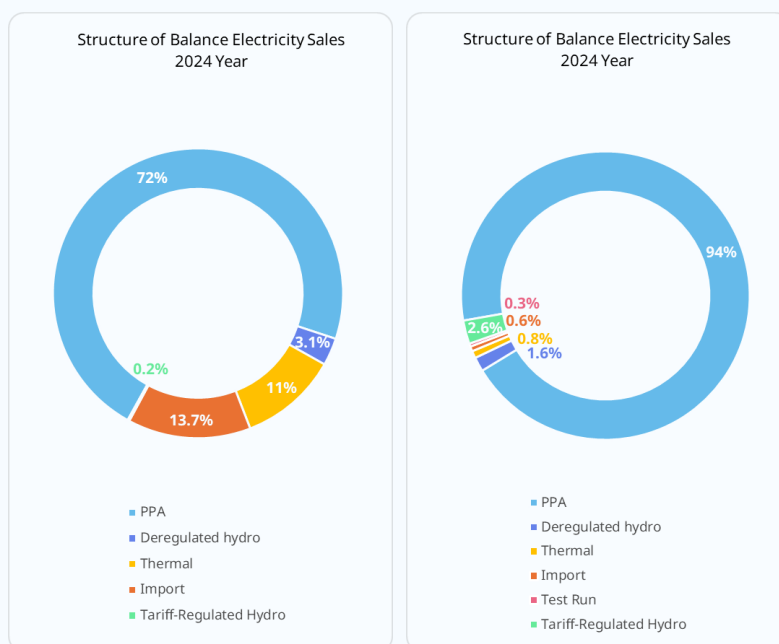
Figure 16.

Balance Electricity Volume (Million kWh) and Price (Tetri/kWh)



In 2023, the highest price of balancing electricity was recorded in October (15.002 tetri/kWh), while the lowest price was observed in May (8.520 tetri/kWh).

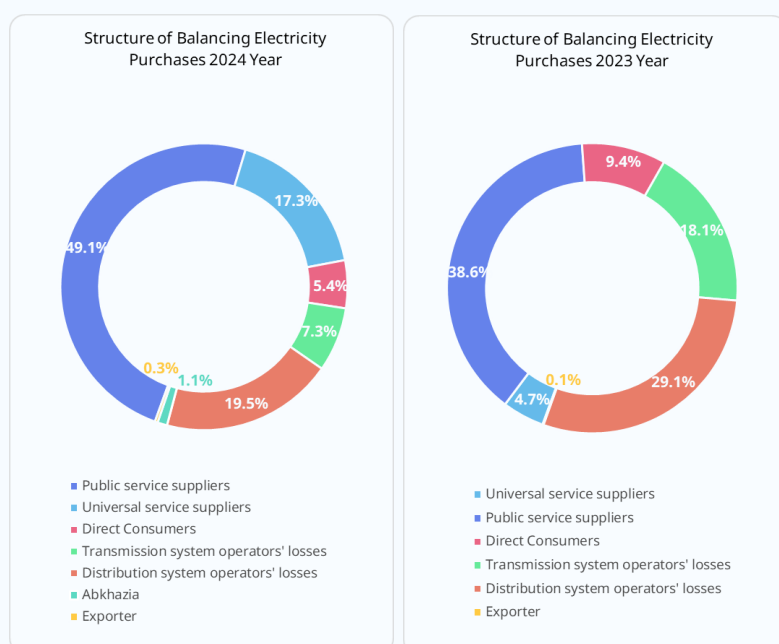
Figure 17.
Structure of Balancing Electricity Sales



In 2024, balancing electricity was purchased by: public service suppliers – a total of 2,034.1 million kWh (49.1%); universal service suppliers – 717.6 million kWh (17.3%); transmission and distribution system operators for covering losses – 1,107.3 million kWh (26.7%); exporters – 13.1 million kWh (0.3%); and direct consumers – 223.2 million kWh (5.4%).

In 2023, balancing electricity was purchased by: public service suppliers – a total of 940.3 million kWh (38.6%); universal service suppliers – 114.1 million kWh (4.7%); transmission and distribution system operators for covering losses – 1,149.9 million kWh (47.2%); exporters – 2.5 million kWh (0.1%); and direct consumers – 228.1 million kWh (9.4%).

Figure 18.
Structure of Balancing Electricity Purchases



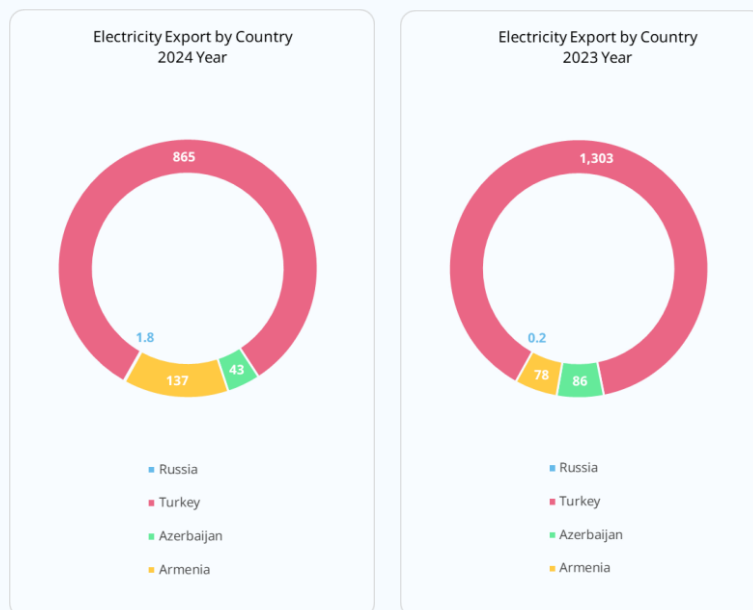
4. Cross-Border Trade

4.1 Export-import

In 2024, 1,047 million kWh of electricity was exported, which is 29% less compared to the same indicator of the previous year.

Figure 19.

Electricity export (million kWh)



In 2024, 1,228 million kWh of electricity was imported to Georgia, which is 55% more compared to the same indicator of the previous year.

Figure 20.

Electricity import (million kWh)

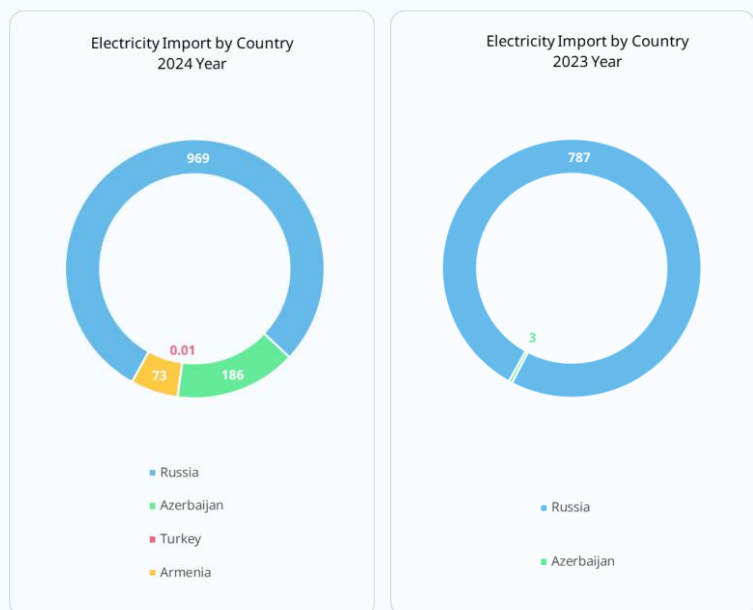
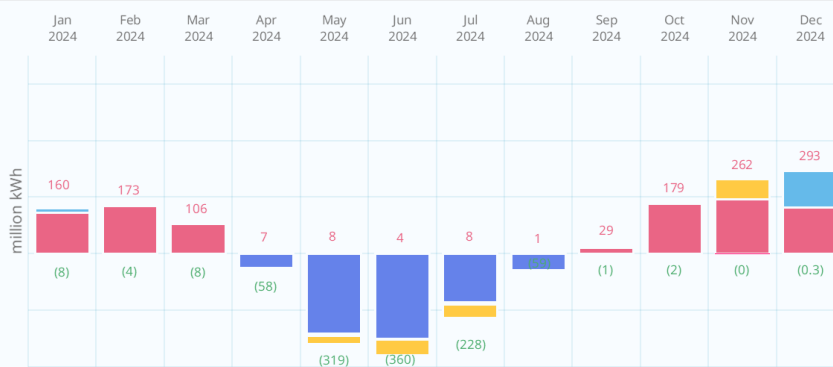


Figure 21.

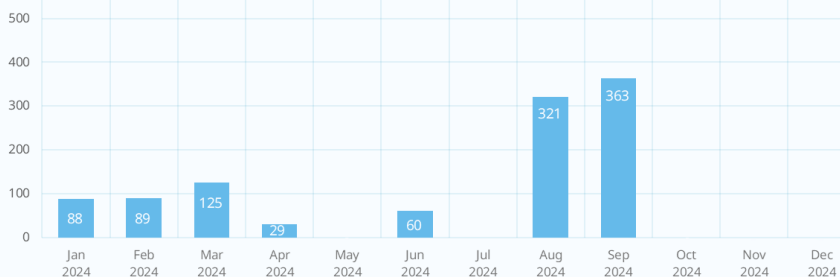
Export -
Import +



4.2 Transit

In 2024, 1,074 million kWh of transit was carried out, which is 69% less compared to the previous year. This includes 1,015 million kWh from Azerbaijan to Turkey, which is 67% less than the previous year, and 60 million kWh from Russia to Turkey, which is 69% less than the previous year. In 2024, no transit was carried out from Armenia to Turkey, while in 2023, the transit in this direction has amounted to 145 million kWh.

Figure 22.
Transit (million kWh)



5. Guaranteed capacity

In 2024, the calculation of the guaranteed capacity fee was made for 11,515 million kWh, which resulted in a total guaranteed capacity fee of 156 million GEL, as provided by the actual guaranteed capacity sources.

Figure 23.
guaranteed capacity (million kWh) and Price (tetri/kWh)

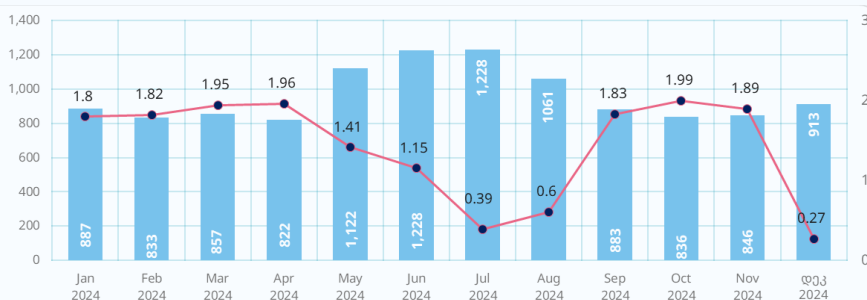
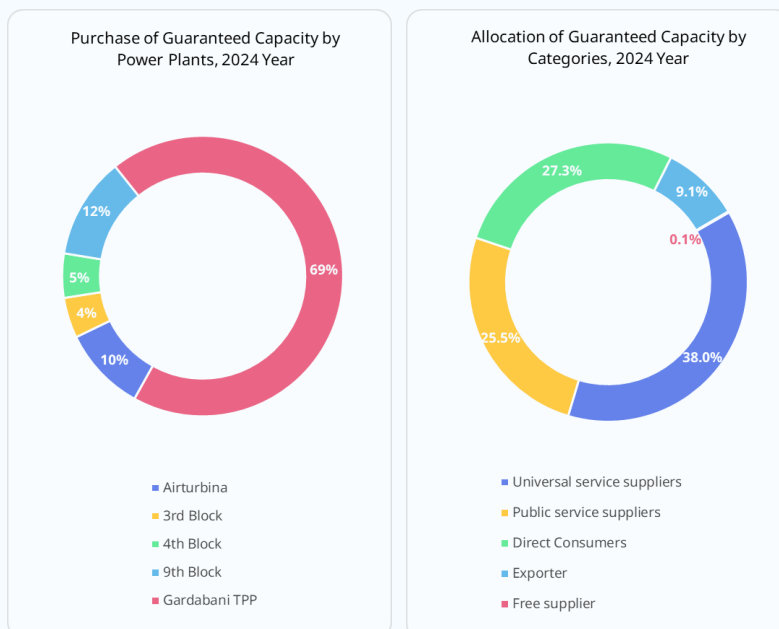


Figure 24.
Purchase and calculation of guaranteed capacity



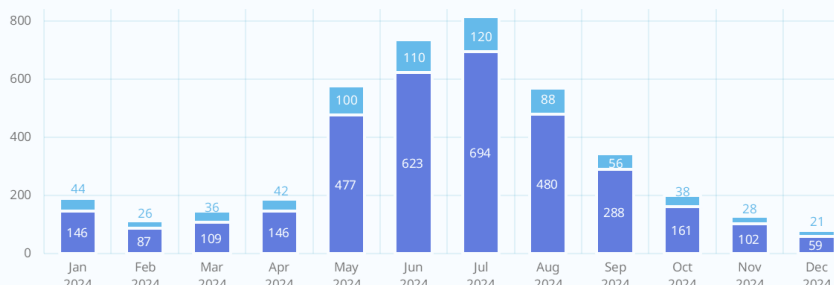
6. Trading results of undertakings with public service obligation

6.1 “Enguri HPP” LLC and “Vardnili HPP Cascade” LLC

In 2024, the total generation of the Enguri HPP and Vardnili HPP cascade has amounted to 4,081 million kWh, which is 2.8% less compared to the previous year.

Figure 25.
Electricity Generation (million kWh)

- LLC Vardnili HPP Cascade
- LLC Enguri HPP



46.4% of the total generation from the Enguri HPP and Vardnili HPP cascade was used for the electricity supply of Abkhazia, 35.9% was purchased by universal and public service suppliers, 17.2% was purchased by exporters, and 0.6% - by direct consumers.

Figure 26.
Trading Results of Electricity Generated by Enguri-Vardnili HPP by Categories

- Direct Consumers
- Exporter
- Universal service suppliers
- Public service suppliers
- Abkhazia

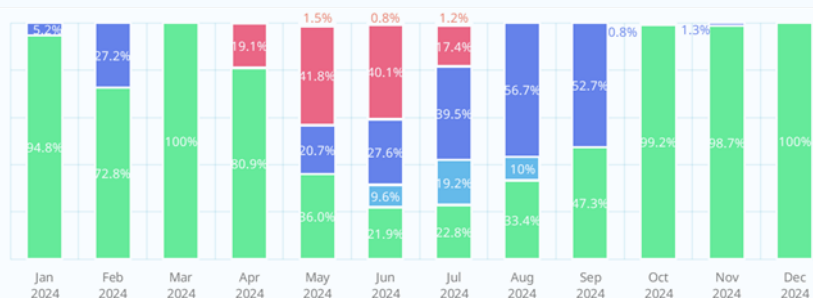
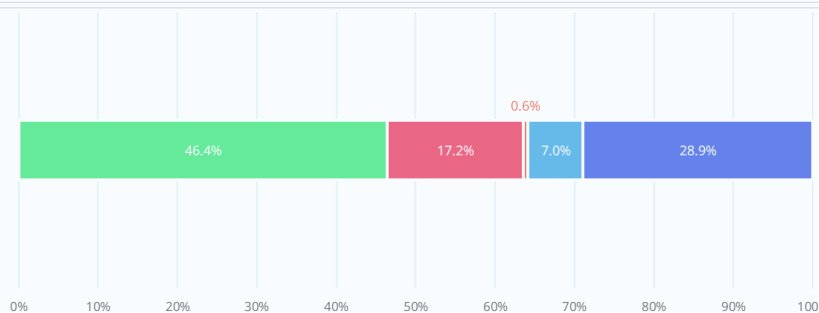


Figure 27.
Trading Results of Electricity Generated by Enguri-Vardnili HPP by Categories

- Abkhazia
- Exporter
- Direct Consumers
- Public service suppliers
- Universal service suppliers



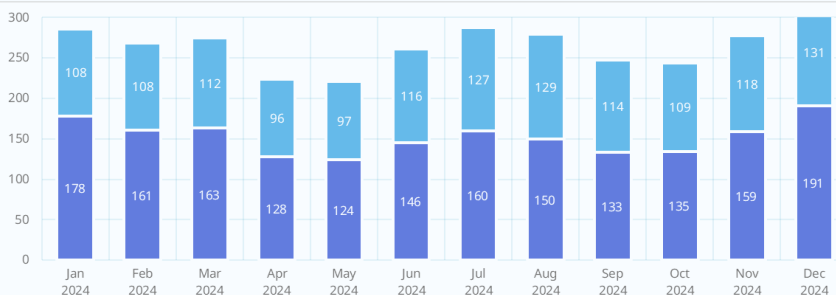
6.2 “Tbilisi Electricity Supplier Company” LLC

In 2024, the electricity purchased by Telmico has amounted to 3,194 million kWh, of which 1,829 million kWh was purchased for the activities of the universal service supplier, and 1,365 million kWh was purchased for the activities of the public service supplier.

Figure 28.

Electricity Purchase (million kWh)

- Public service suppliers
- Universal service suppliers



In 2024, Telmico has purchased 52% of the electricity for the universal service supplier from PSO power plants, 37% - balancing electricity, and 11% from deregulated power plants.

Figure 29.

Share of Electricity Purchases by Universal Supplier by Sources

- Deregulated Power Plants
- Balancing Electricity
- PSO Power Plant

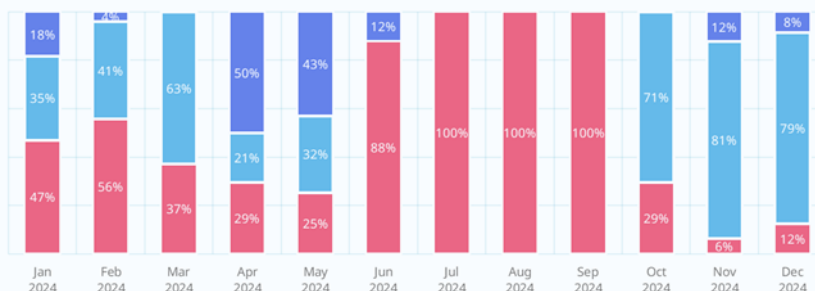
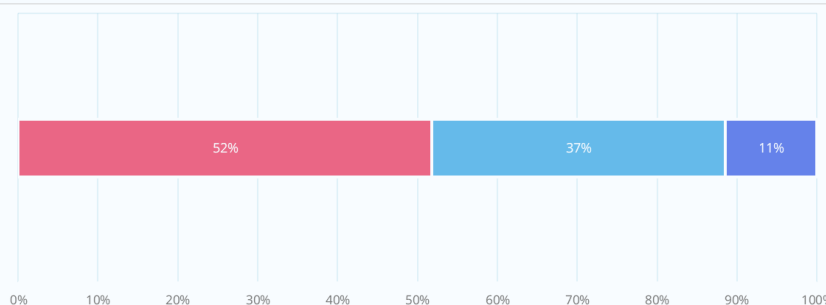


Figure 30.

Share of Electricity Purchases by Universal Supplier by Sources

- PSO Power Plant
- Balancing Electricity
- Deregulated Power Plants



In 2024, Telmico has purchased 9% of its electricity for its public service supplier activities from PSO power plants, 80% from balancing electricity, and 11% from deregulated stations.

Figure 31.

Share of Electricity Purchases by Public Supplier by Sources

- Deregulated Power Plants
- Balancing Electricity
- PSO Power Plant

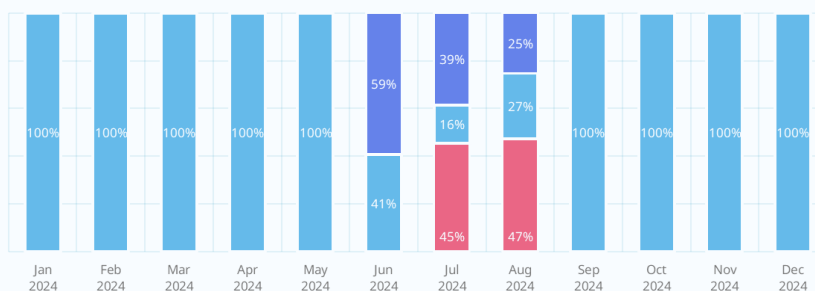
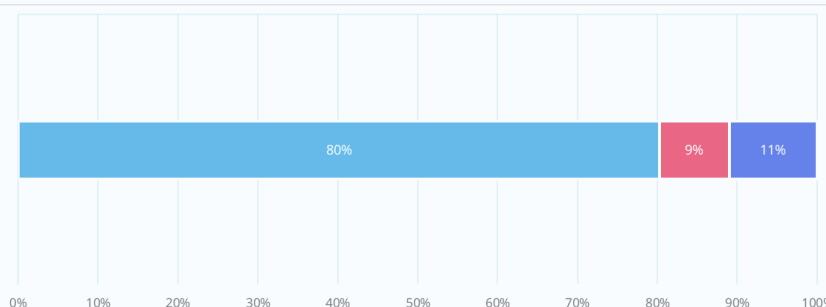


Figure 32.

Share of Electricity Purchases by Public Supplier by Sources

- Balancing Electricity
- PSO Power Plant
- Deregulated Power Plants

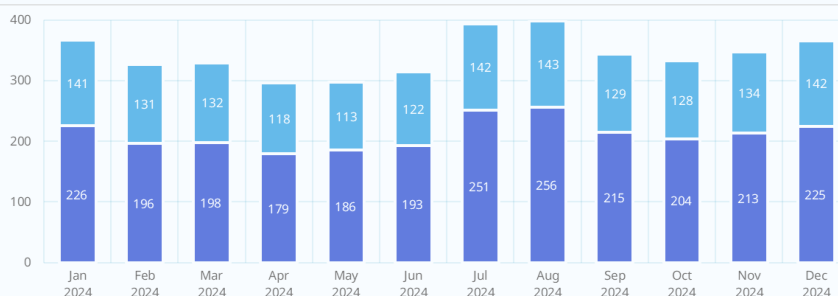


6.3 JSC „EP Georgia Supply”

In 2024, the electricity purchased by „EP Georgia Supply” has amounted to 4.117 million kWh, of which 2.543 million kwh was purchased for the activities of the universal service supplier, and 1.574 million kWh for the activities of the public service supplier.

Figure 33.
Electricity Purchase (million kWh)

- Public service suppliers
- Universal service suppliers



In 2024, for the activities of the universal service supplier, „EP Georgia Supply” has purchased 89% of electricity from PSO power plants, 9% from deregulated stations, and 2% from balancing electricity.

Figure 34.
Share of Electricity Purchases by Universal Supplier by Sources

- Deregulated Power Plants
- Balancing Electricity
- PSO Power Plant

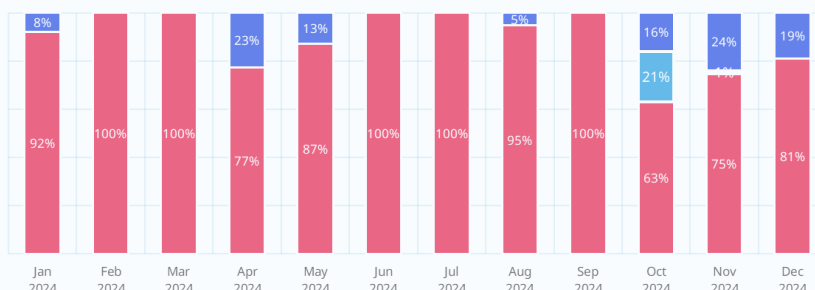
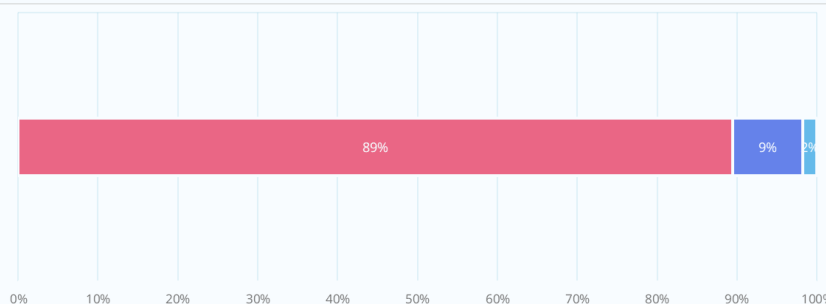


Figure 35.
Share of Electricity Purchases by Universal Supplier by Sources

- PSO Power Plant
- Deregulated Power Plants
- Balancing Electricity



In 2024, for the activities of the public service supplier, „EP Georgia Supply” has purchased 22% of electricity from PSO power plants, 60% - balancing electricity, and 18% - from deregulated stations.

Figure 36.
Share of Electricity Purchases by Public Supplier by Sources

- Deregulated Power Plants
- PSO Power Plant
- Balancing Electricity

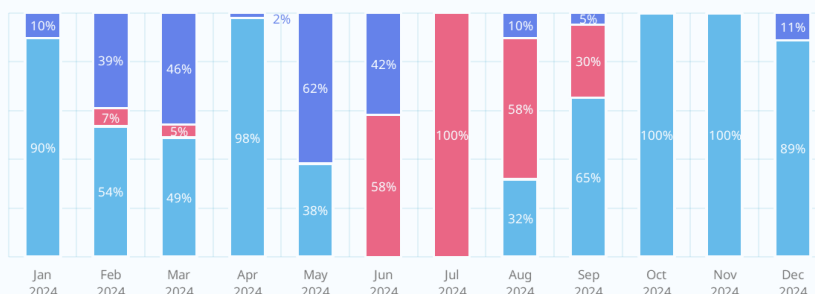
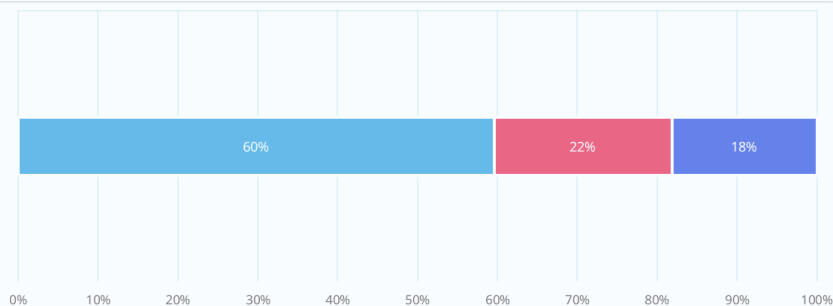


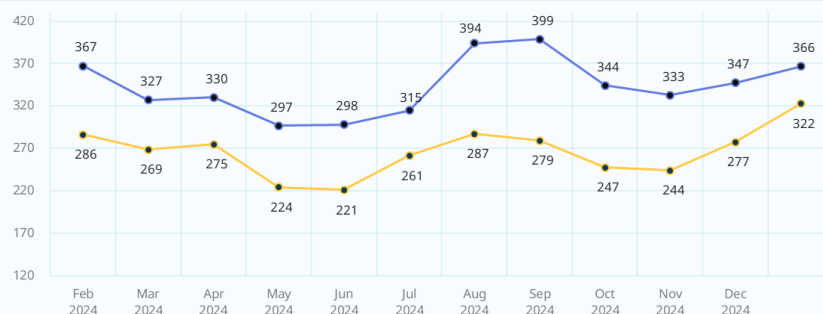
Figure 37.
Share of Electricity Purchases by Public Supplier by Sources



7. Retail market

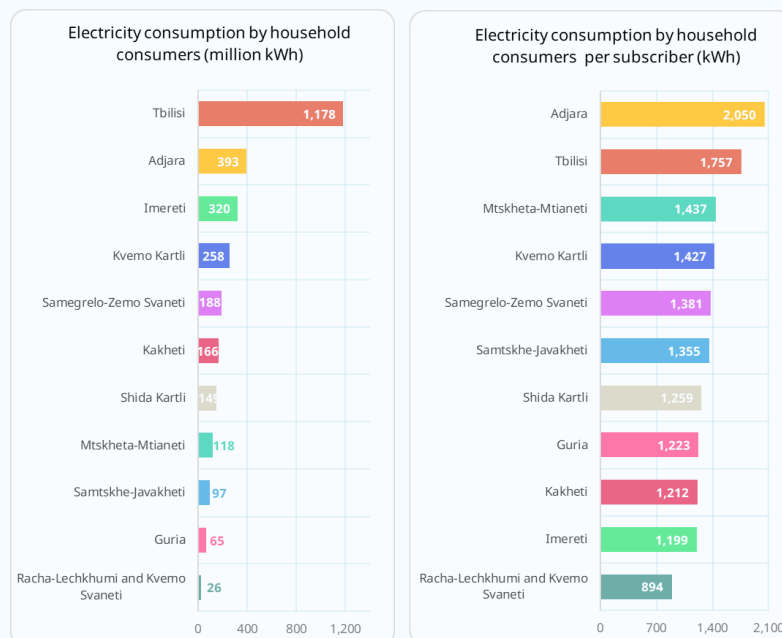
In 2024, the total electricity supplied to consumers by regulated suppliers has amounted to 7,310 million kwh, which is an increase of 7.5% compared to the previous year.

Figure 38.
Electricity Supply to Consumers by Regulated Suppliers (million kWh)



In 2024, 40% of electricity consumption by household consumers is recorded in Tbilisi. As for electricity consumption per subscriber, the average consumption per subscriber across the country is 1,527 kwh, with the maximum consumption recorded in Adjara, and the minimum consumption in Racha-Lechkhumi and Kvemo Svaneti.

Figure 39.
Electricity consumption by household consumers by region

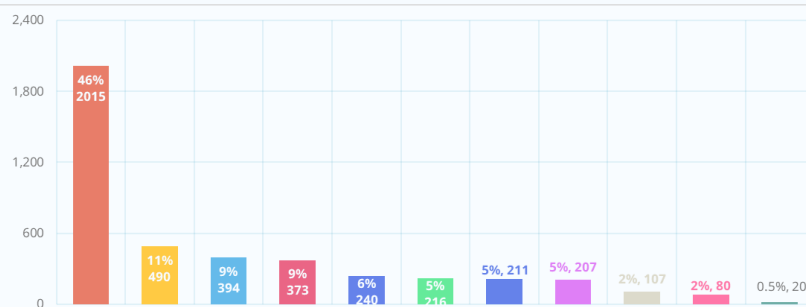


In 2024, 46% of electricity consumption by non-household consumers will be recorded in Tbilisi, and 54% in the rest of Georgia's regions.

Figure 40.

Non-household consumption (million kWh)

- Tbilisi
- Adjara
- Kvemo Kartli
- Imereti
- Kakheti
- Mtskheta-Mtianeti
- Samegrelo-Zemo Svaneti
- Shida Kartli
- Samtskhe-Javakheti
- Guria
- Racha-Lechkhumi and Kvemo Svaneti



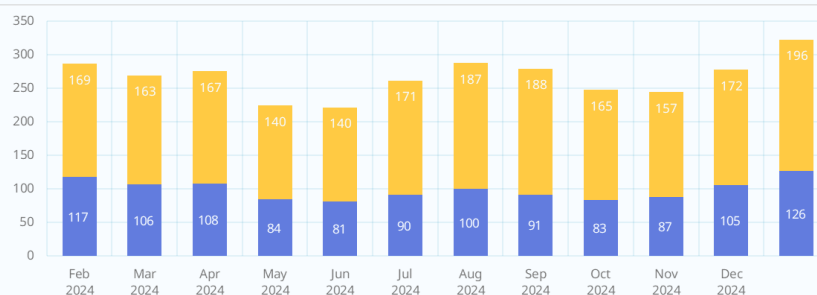
7.1. „Tbilisi Electricity Supply Company“ LLC

In 2024, the electricity supplied to customers by „TELMICO“ LLC has amounted to 3,194 million kWh, which is 8.8% more than in the same period of the previous year.

Figure 41.

Electricity consumption (million kWh)

- Non-household consumers
- Household consumers

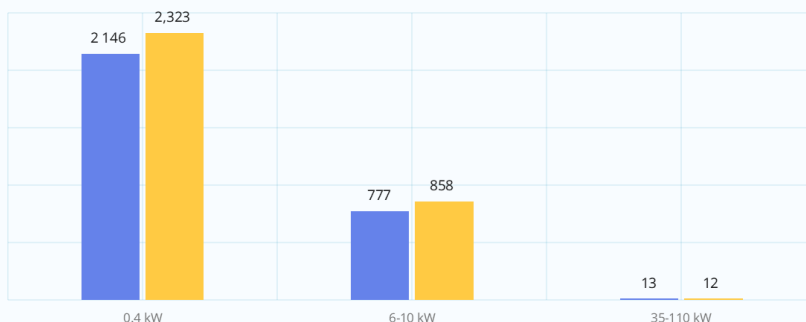


This year, consumption was distributed according to voltage levels as follows: 0.4 kw – 72.7%, 6-10 kw– 26.9%, 35-110 kw – 0.4%

Figure 42.

Consumption by voltage levels (million kWh)

- 2023 Year
- 2024 Year

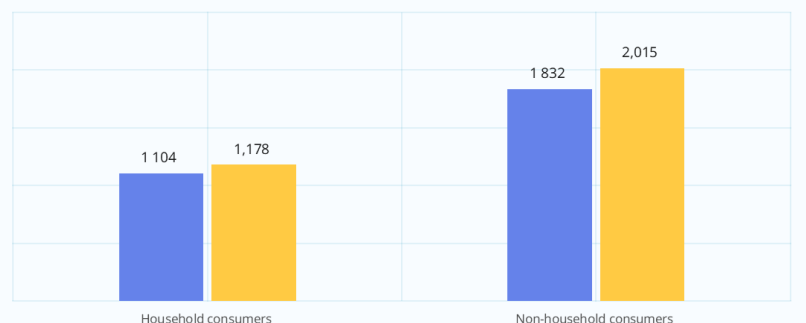


In 2024, electricity consumption by household consumers has amounted to 1,178 million kwh, which is 6.8% more than the previous year, while electricity consumption by non-household consumers amounted to 2,015 million kwh, which is 10% more than the previous year.

Figure 43.

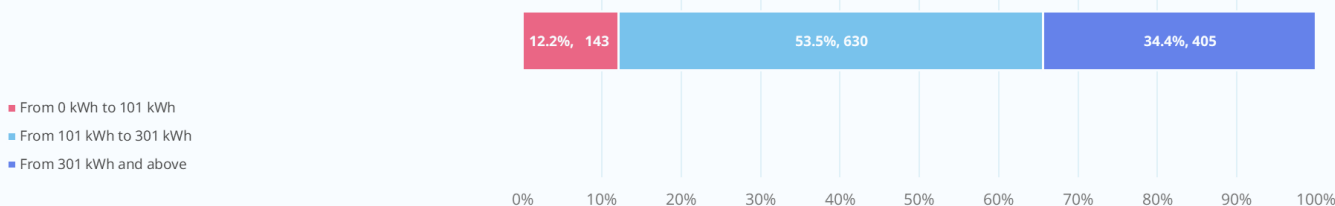
Consumption by category (million kWh)

- 2023 Year
- 2024 Year



12.2% of electricity consumed by household consumers is recorded at the lowest tier of electricity tariffs, 53.5% at the second tier, and 34.4% at the third tier.

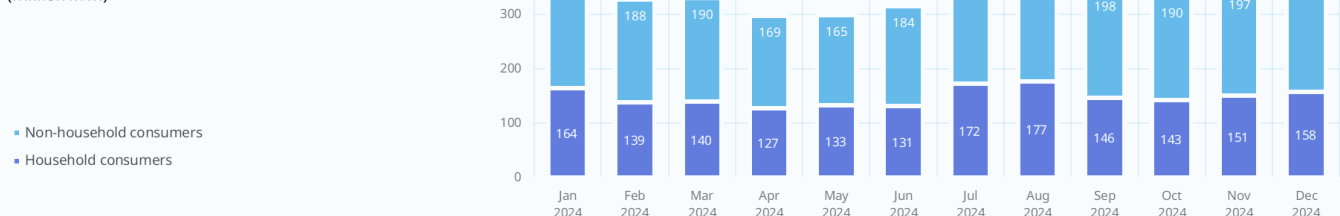
Figure 44.
Electricity consumption by tiered tariff limits (million kWh)



7.2. „EP Georgia Supply” JSC

In 2024, the electricity supplied to consumers by „EP Georgia Supply” has amounted to 4.117 million kwh, which is 6.5% more than the previous year.

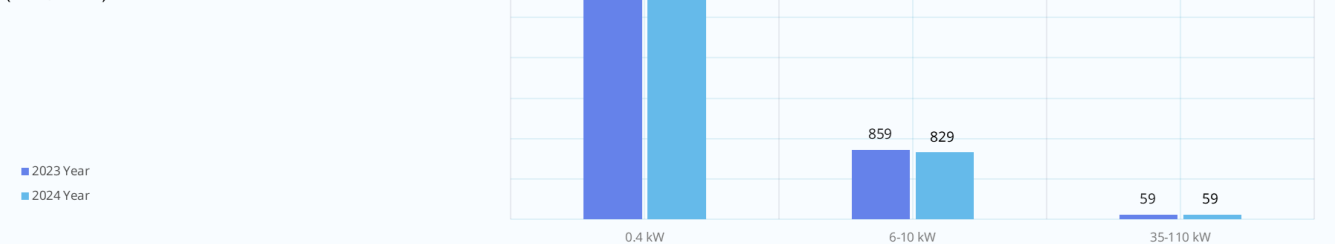
Figure 45.
Electricity consumption (million kWh)



In the current year, consumption was distributed according to voltage levels as follows:

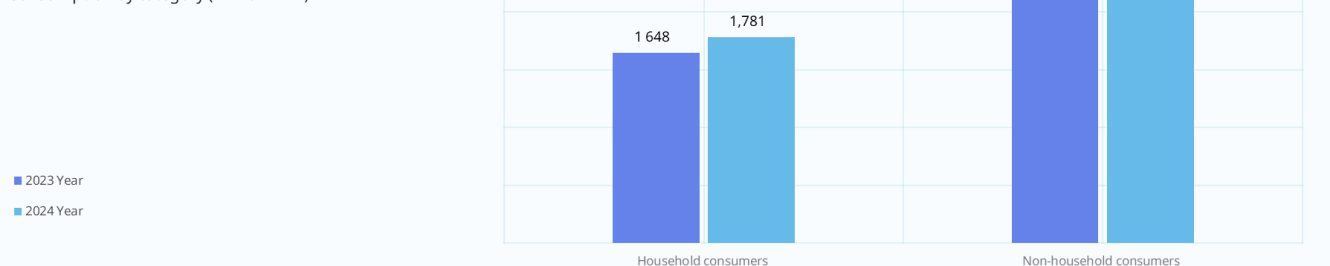
0.4 kw – 78.4%, 6-10 kw – 20.1%, 35-110 kw – 1.4%.

Figure 46.
Consumption by voltage levels (million kWh)



In 2024, electricity consumption by household consumers has amounted to 1,781 million kwh, which is 8% more than the previous year, while electricity consumption by non-household consumers has amounted to 2,336 million kwh, which is 5.4% more than the previous year.

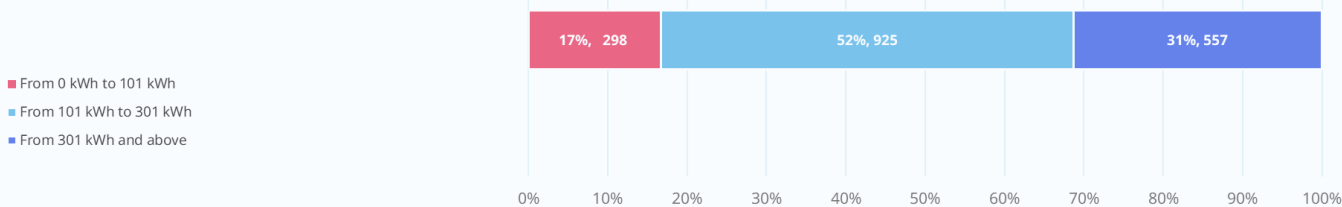
Figure 47.
Consumption by category (million kWh)



17% of electricity consumed by household consumers is recorded at the lowest tier of electricity tariffs, 52% at the second tier, and 31% at the third tier.

Figure 48.

Electricity consumption by tiered tariff limits (million kWh)

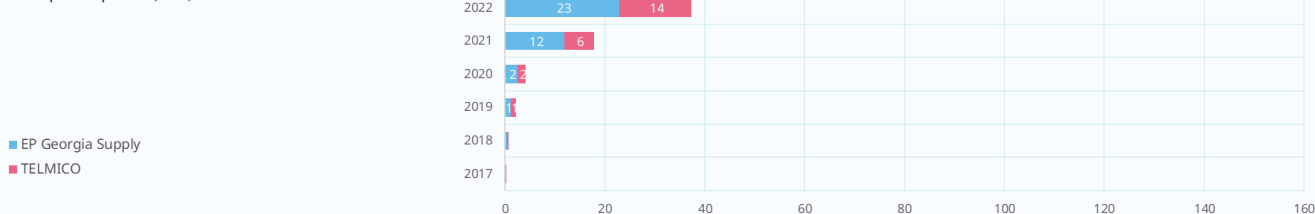


7.3. Micropower plants

As of 2024, a total of 1,683 customers use the net metering system, and the total capacity of micro-power plants is 141.8 MWh, of which 70.9% is connected to „Energo-Pro Georgia” JSC, and 29.1% - to the distribution network of „Telasi”JSC

Figure 50.


Total installed capacity of micro-power plants (MW)






GEORGIAN NATIONAL ENERGY AND WATER SUPPLY
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