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Policy Institute

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ELECTRICITY MARKET REVIEW

ISET POLICY INSTITUTE
AGRICULTURE & RURAL POLICY RESEARCH CENTER

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INFORMATION

- In May 2024 there was an increase in the total electricity generation by 6% on a yearly and by 30% on a monthly basis.
- Consumption increased by 1.9% on a yearly basis and by 6% compared to the previous month.
- Generation exceeded consumption by 361 mln. kWh which was 26% of the total generation and 34% of the total consumption in May 2024.
- There were imports of 7.9 mln. kWh in May 2024.
- There were exports of 319 mln. kWh in May 2024.
- The main import partner country was Azerbaijan.
- The main export partner country was Turkey.
- The price of imports reached 6.50 ¢, or 17.66 tetri per kWh.
- The price of exports reached 4.72 ¢, or 12.81 tetri per kWh.
- The HHI index for the Georgian electricity generation market was above the threshold of highly concentrated market. In May 2024, its level was 3,372.
- The HHI for the Georgian electricity consumption market remained below the threshold of a highly concentrated market. In May 2024, its level was 1,965.

ABBREVIATION USED

Mln	million
kWh	kilowatt-hour
HPP	Hydro Power Plant
WPP	Wind Power Plant
TPP	Thermal Power Plant
HHI	Hirschmann-Herfindahl Index
Telmico	Tbilisi Electricity Supply Company
Ep Georgia	Ep Georgia Supply
Geostat	National Statistics Office of Georgia
ESCO	Electricity Market Operator

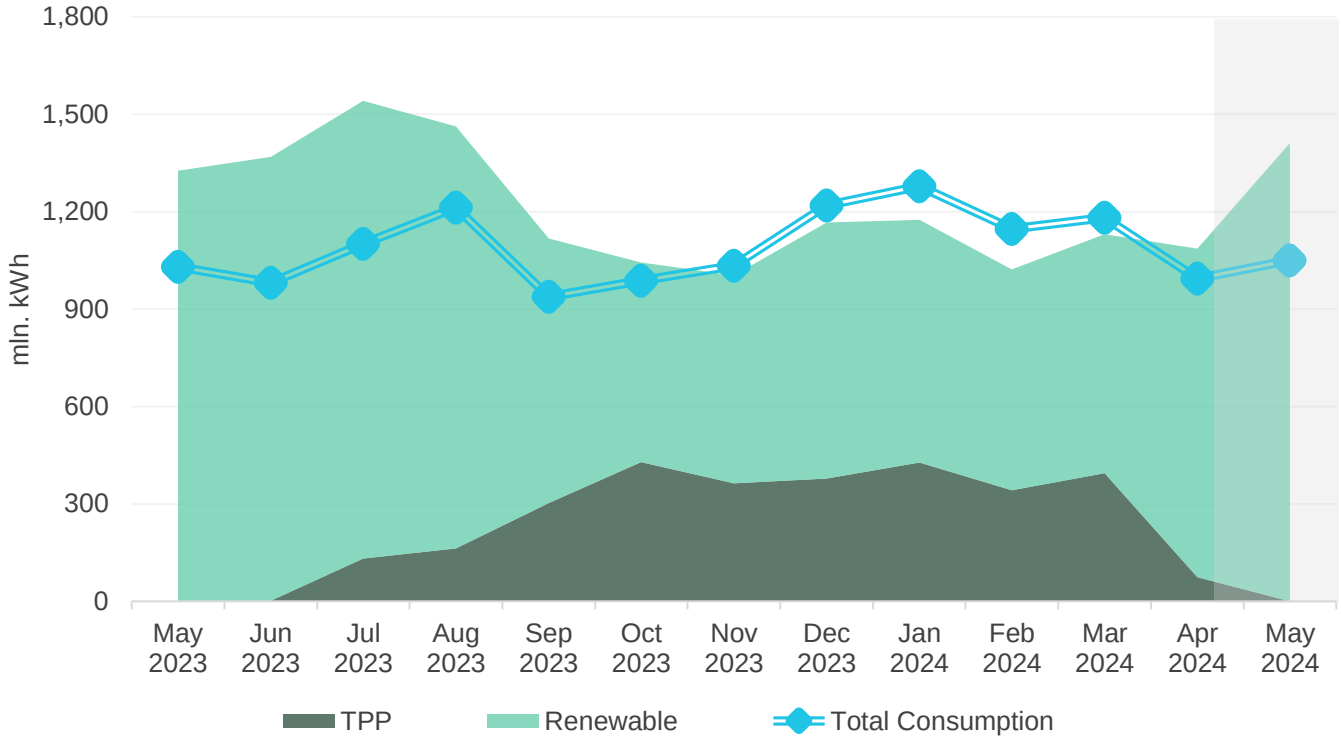
1. Generation – Consumption – Trade

In May 2024, Georgian power plants generated 1,411 mln. kWh of electricity (Figure 1). This represents a 6% increase in the total generation compared to the previous year (in May 2023, the total generation was 1,325 mln. kWh). The rise in generation on a yearly basis comes from an increase in generation of hydro power plant by 7%, while the generation of thermal and wind plants decreased by 100% and 14%, respectively.

On a monthly basis, the generation increased by 30% (in April 2024, the total generation was 1,085 mln. kWh) (Figure 1). The monthly rise in total generation is induced by the increase of hydro power generation by 40%, while the generation of thermal and wind power plants decreased by 100% and 18%, respectively.

The consumption of electricity on the local market was 1,050 mln. kWh (+2% compared to May 2023, and +6% compared to April 2024) (Figure 1). In May 2024, power generation exceeded consumption by 361 mln. kWh which was 26% of the total generation and 34% of the total consumption (in May 2023, the difference between the total generation and the consumption resulted in a surplus of 295 mln. kWh, around 22% of the total generation and 29% of the total consumption for the month).

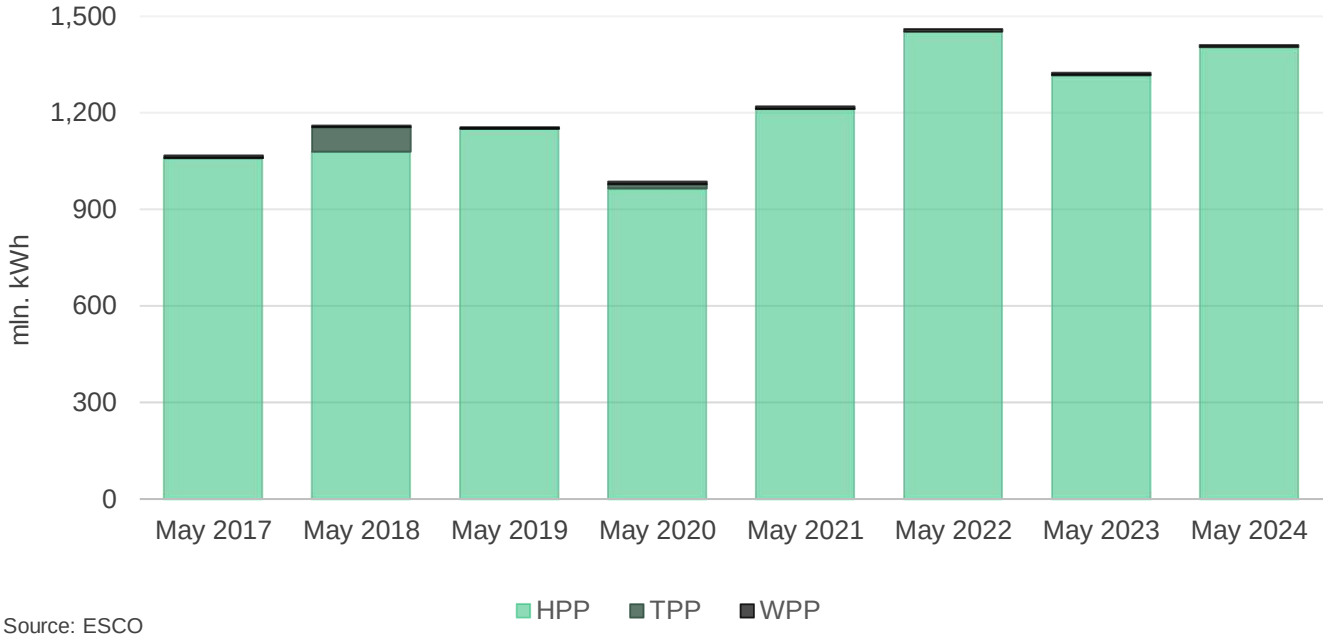
Figure 1 **- Electricity Consumption and Generation**



Source: Electricity System Commercial Operator (ESCO)

In May 2024, hydro power plants were the leading source of generation. In May 2024, hydro power (HPP) generation amounted to 1,404 mln. kWh (99.5% of total), thermal power (TPP) generation was 0 mln. kWh (0% of the total generation), while wind power (WPP) generation amounted to 7 mln. kWh (0.5% of the total generation) (Figure 2).

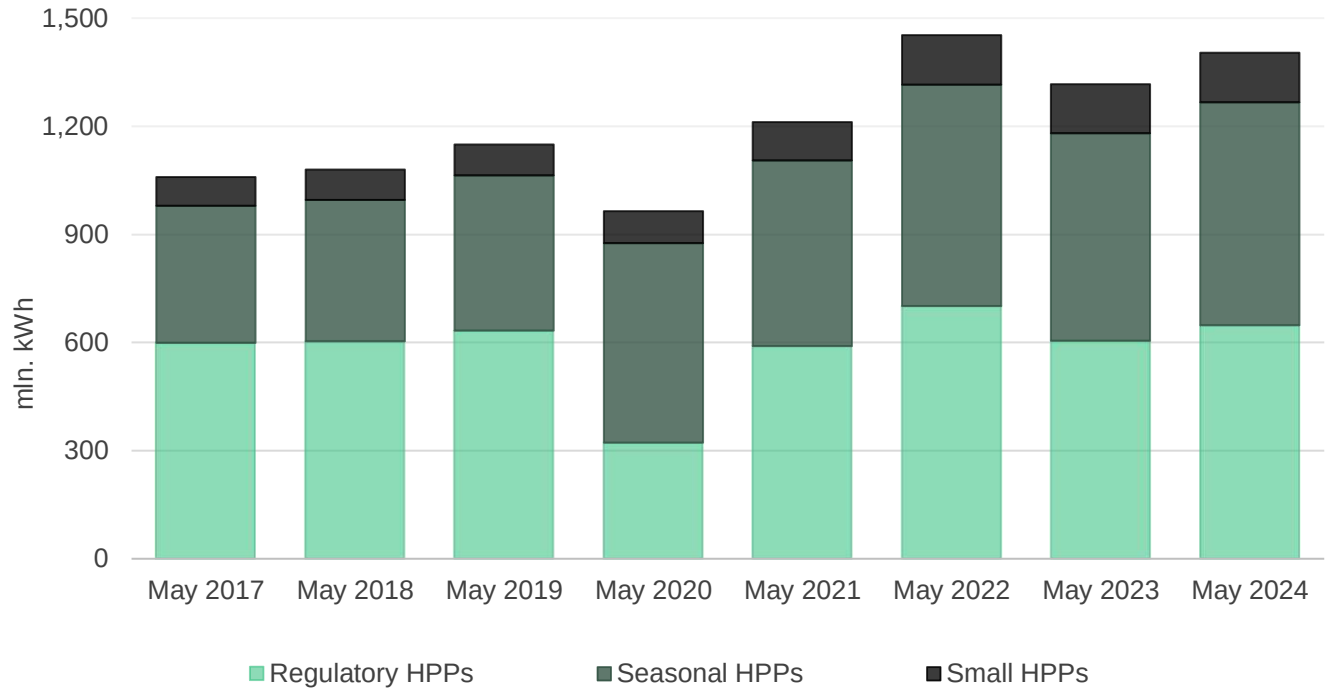
Figure 2 **- Electricity Generation by Sources**



Source: ESCO

Among hydropower generators, large (regulatory) HPPs produced 46.2% (648 mln. kWh) of electricity, while seasonal and small HPPs produced 44.1% (619 mln. kWh) and 9.8% (137 mln. kWh), respectively (Figure 3).

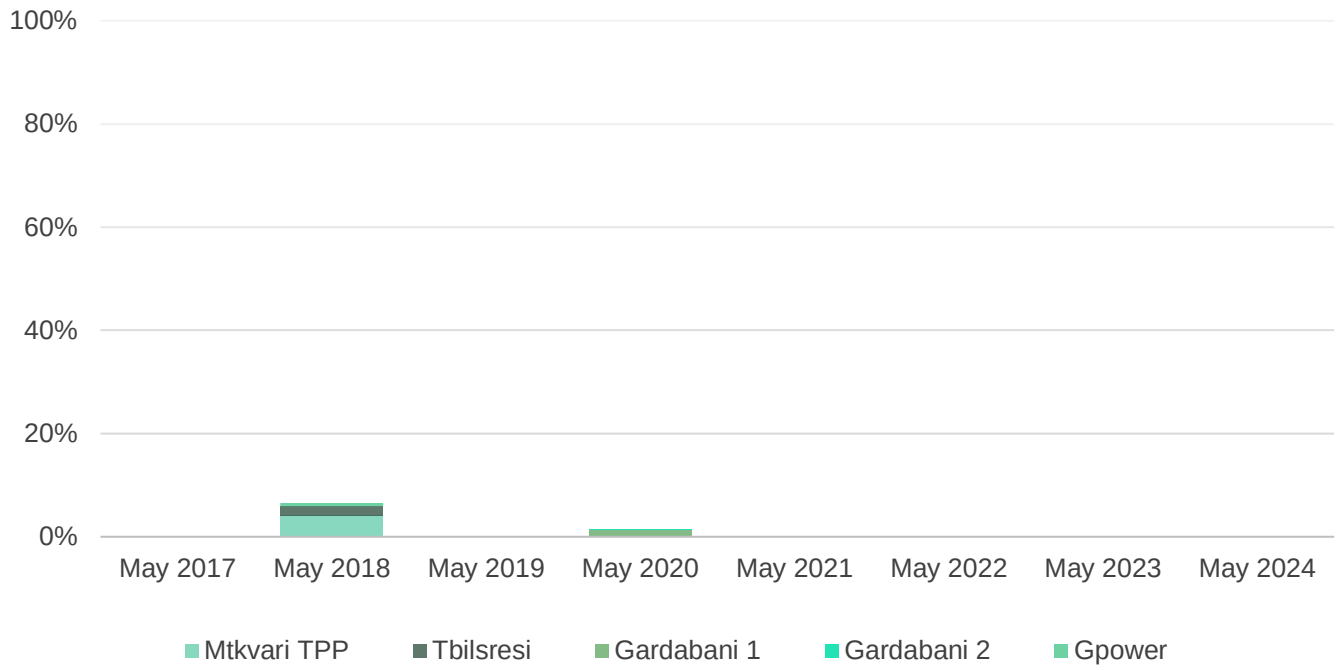
Figure 3 **- HPP Generation by Type**



Source: ESCO

As for thermal power generation, there was no generation in May 2024 (Figure 4).

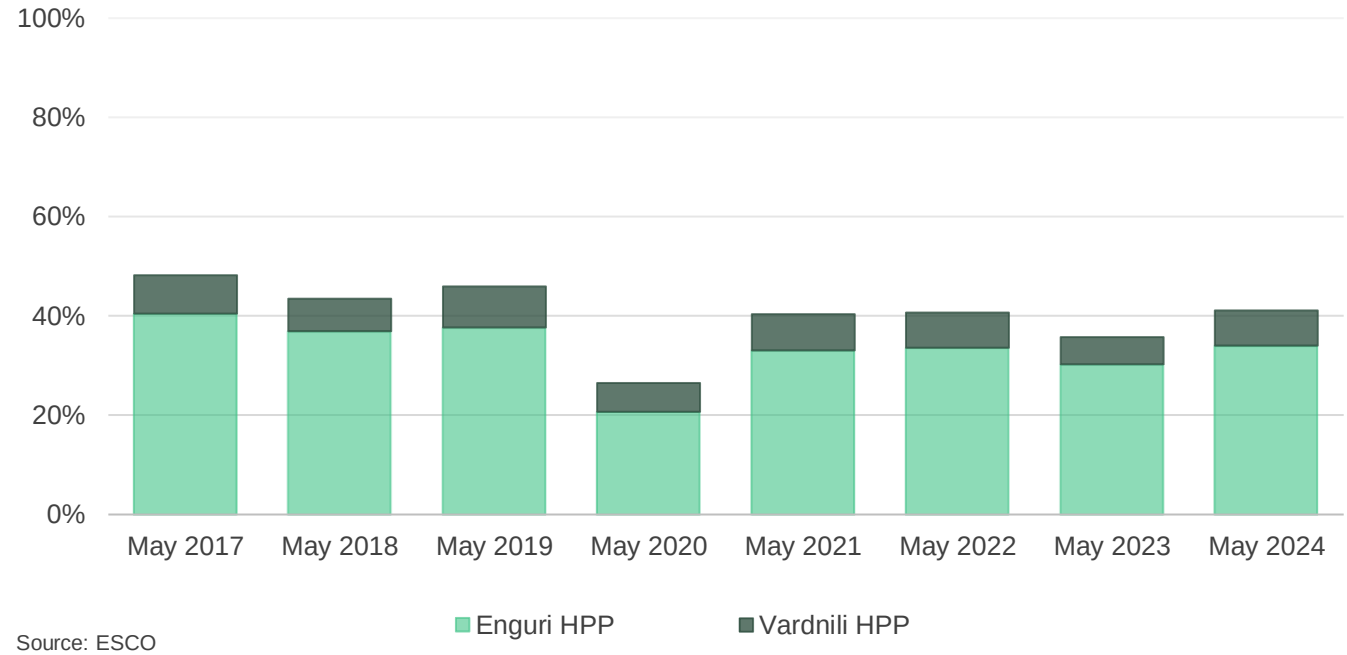
Figure 4 **- Share of Large TPPs in Total Generation**



Source: ESCO

As for HPP generation, Vardnili HPP generated 100 mln. kWh (15.5% of generation for regulatory HPPs and 7.1% of total generation). Enguri HPP generated 480 mln. kWh, which represents 74.1% of the generation of regulatory HPPs and 34% of total generation (Figure 5).

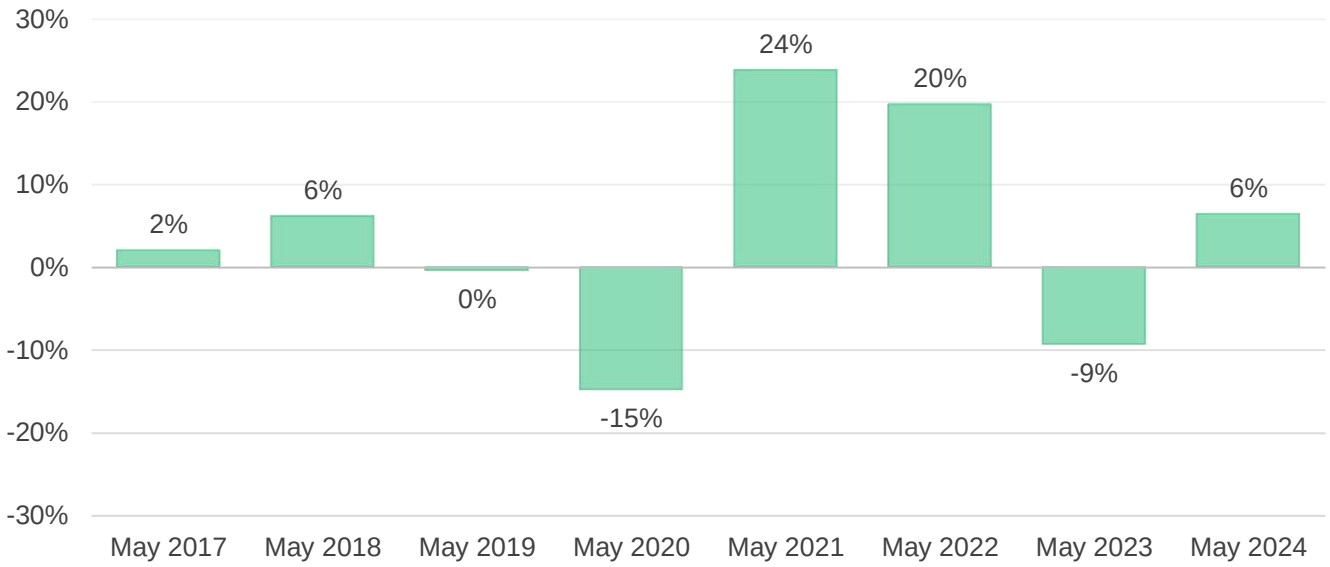
Figure 5 **- Share of Enguri and Vardnili in Total Generation**



Source: ESCO

Overall, the total generation increased by 6% compared to May 2023 (Figure 6).

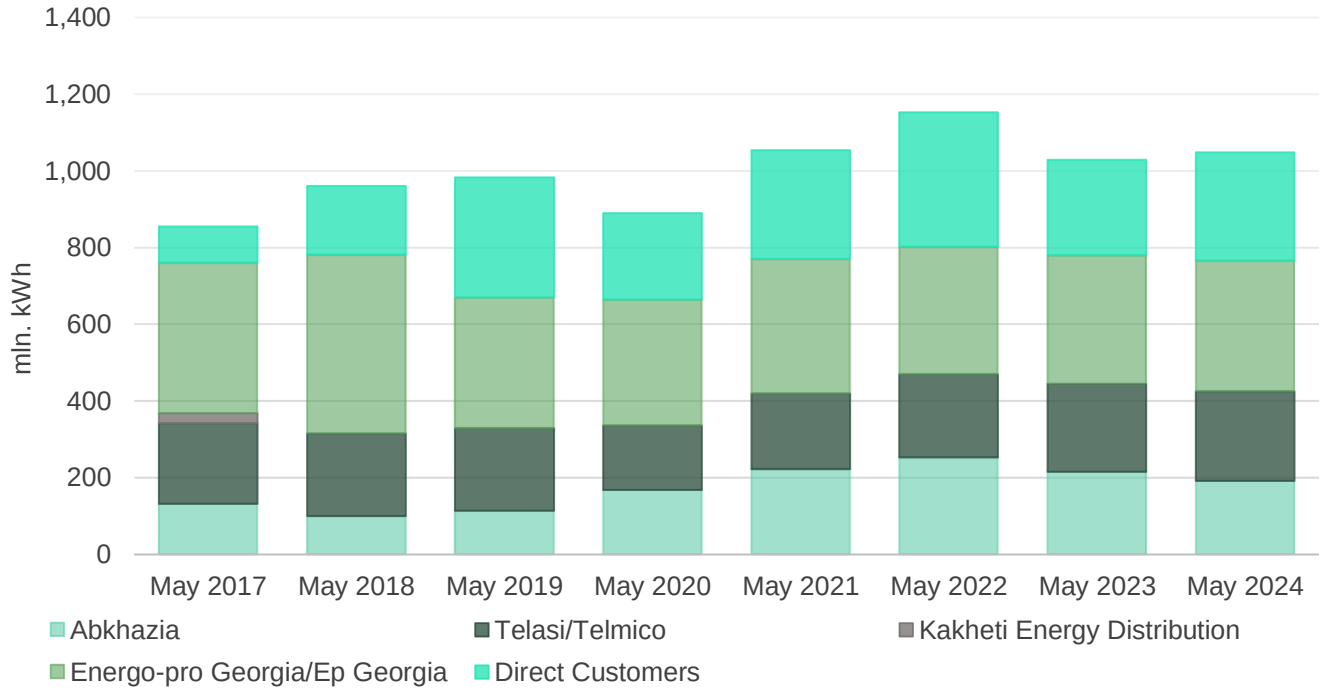
Figure 6 - Growth of Generation (%, y/y)



Source: ESCO

Total electricity demand came from: Energo-Pro Georgia/Ep Georgia[1] (32.5% - 341 mln. kWh), Abkhazia (18.2% - 191 mln. kWh), Telasi/Telmico[2] (22.3% - 234 mln. kWh), and direct customers (26.9% - 282 mln. kWh) (Figure 7). Annual demand from Telasi/Telmico, Energo-Pro Georgia/Ep Georgia and direct customers increased by 1.4%, 1.7%, and 13.8%, respectively, while it decreased from Abkhazia by 11.1%. Overall, there was an annual increase of 1.9% in the total electricity consumption in May 2024, compared to May 2023 (Figure 8).

Figure 7 - Electricity Consumption by Type of Consumer

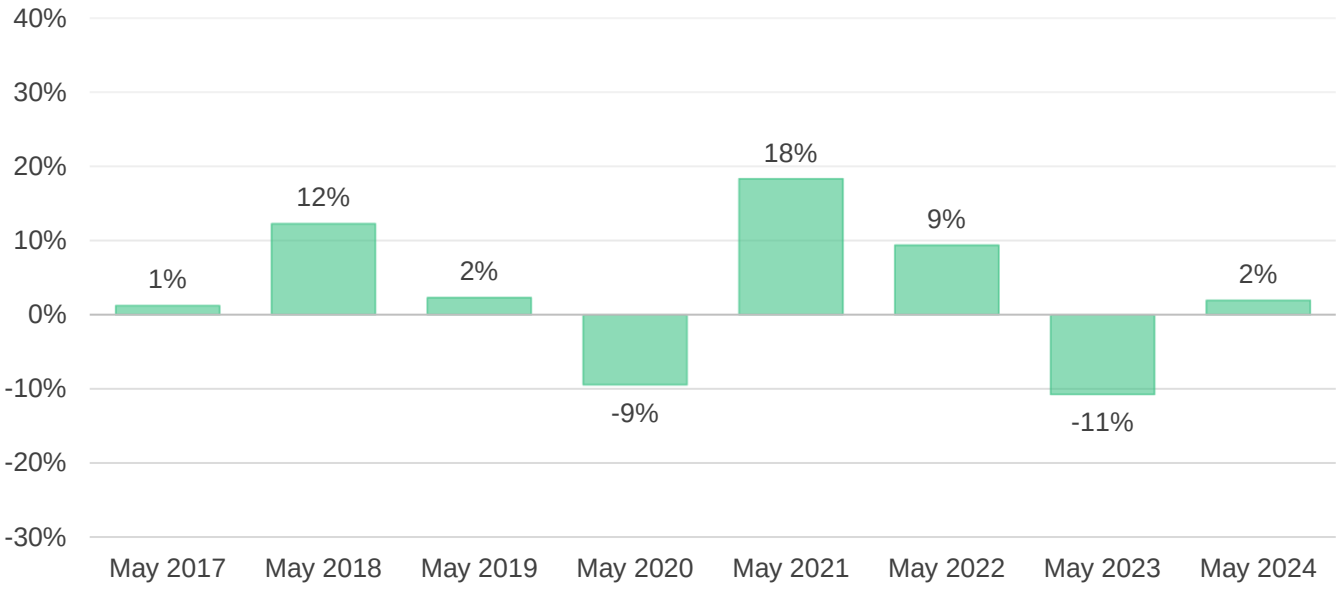


Source: ESCO

[1] Energo-Pro Georgia acquired Kakheti Energy Distribution in September 2017.

[2] Since 1st of July 2021, after adoption of a new electricity market model concept, operations of distribution and final supply have been disentangled, thus three different groups of players appeared on the market, Distribution Licensees - responsible for distribution activities and covering losses in the distribution network - Universal Service Suppliers - responsible for providing electricity to residential sector and small enterprises and Public Service Organizations - responsible for providing electricity to medium and large enterprises upon the written agreement. Currently, Energo-pro Georgia and Telasi continue their distribution activities, while EP Georgia Supply and Tbilisi Electricity Supply Company (Telmico) have been separated from them and play the role of both Universal Service Suppliers and Public Service Organizations.

Figure 8 - Electricity Consumption Growth (%, y/y)

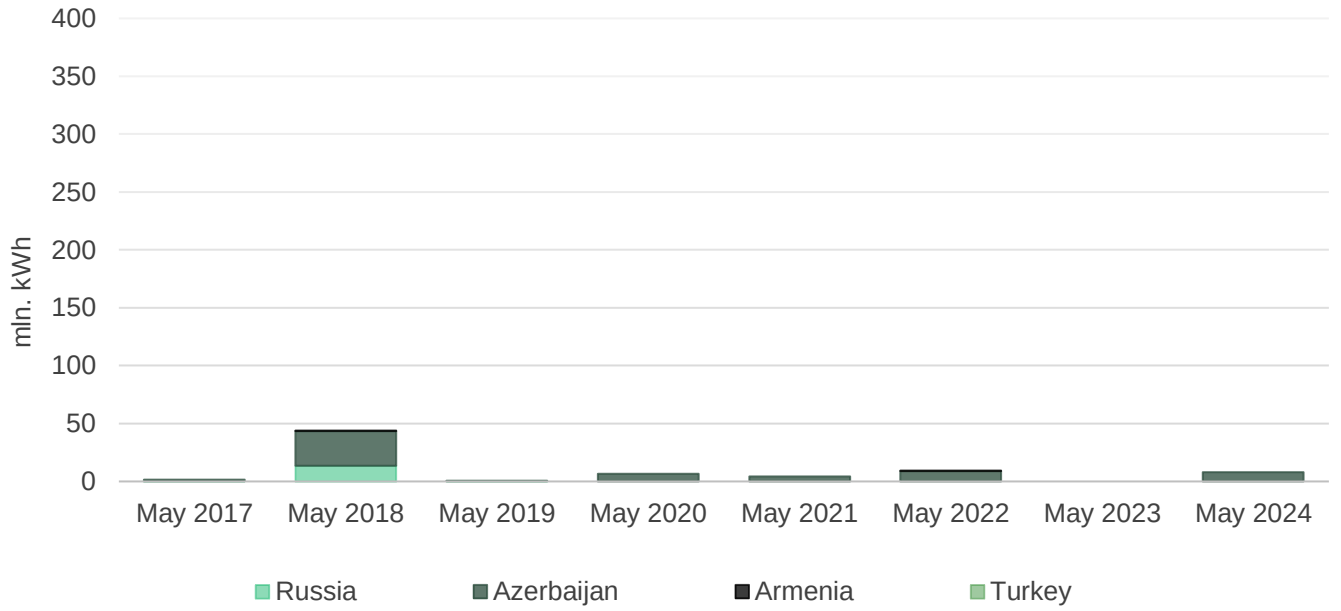


Source: ESCO

In May 2024, there was an import of 7.9 mln. kWh of electricity (in May 2023, there was no import) (Figure 9). All of this import came from Azerbaijan. In May 2024, there was an export of 283 mln. kWh of electricity to Turkey, 28.6 mln. kWh to Armenia and 7.7 mln. kWh of electricity to Azerbaijan (in May 2023, there was an export of 186.9 mln. kWh of electricity to Turkey, 0.05 mln. kWh of electricity to Russia, and 61.3 mln. kWh of electricity to Armenia) (Figure 10). There was no transit in May 2024 (in May 2023, there was 65.1 mln. kWh transit from Russia to Turkey).

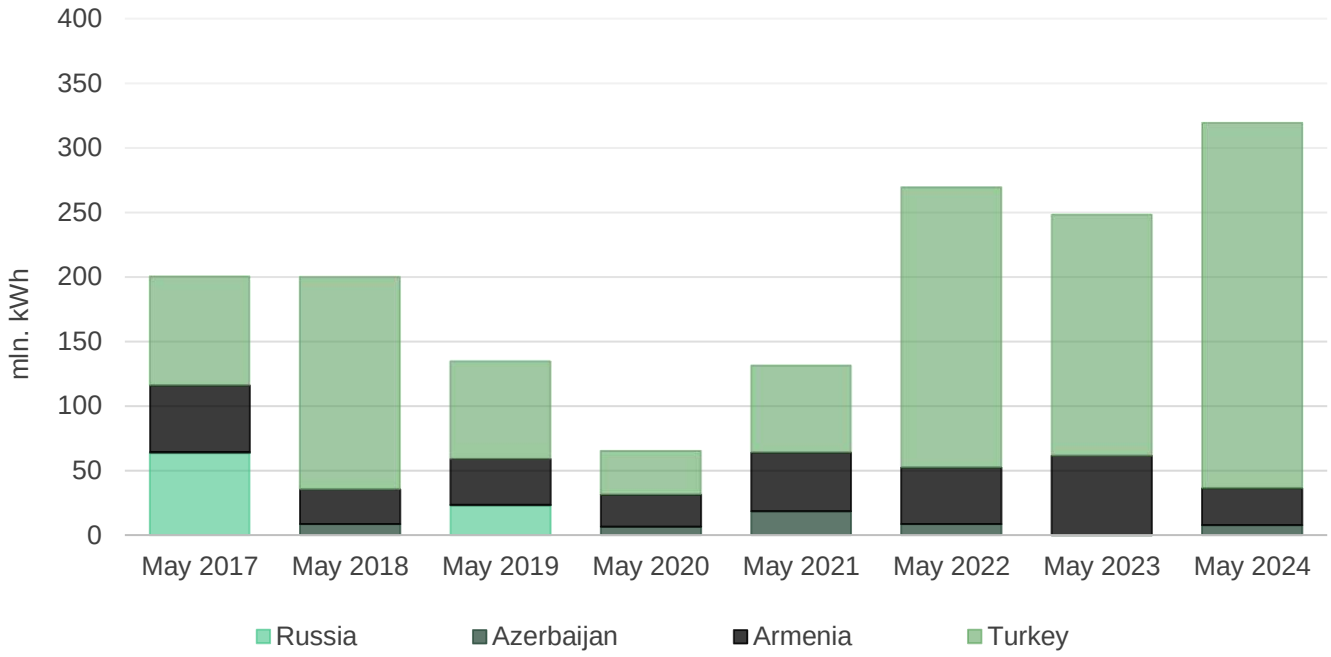
In May 2024, exports increased by 29% compared to May 2023.

Figure 9 - Imports by Year



Source: ESCO

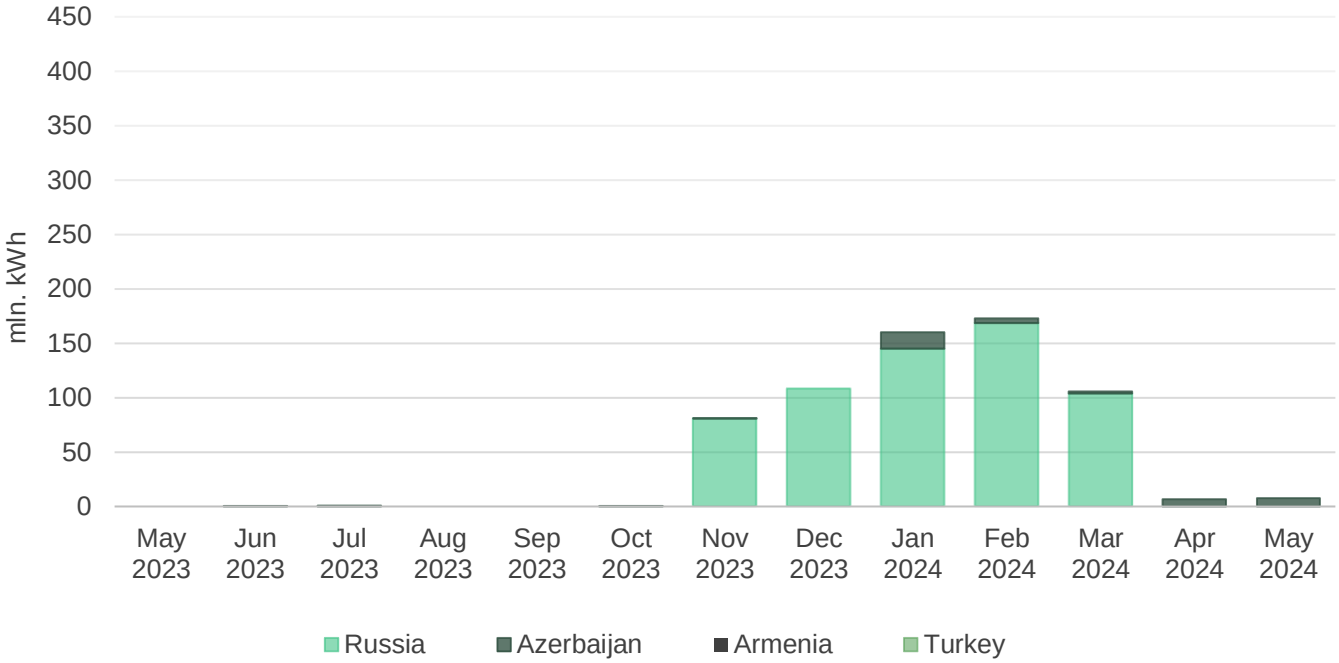
Figure 10 **- Exports by Year**



Source: ESCO

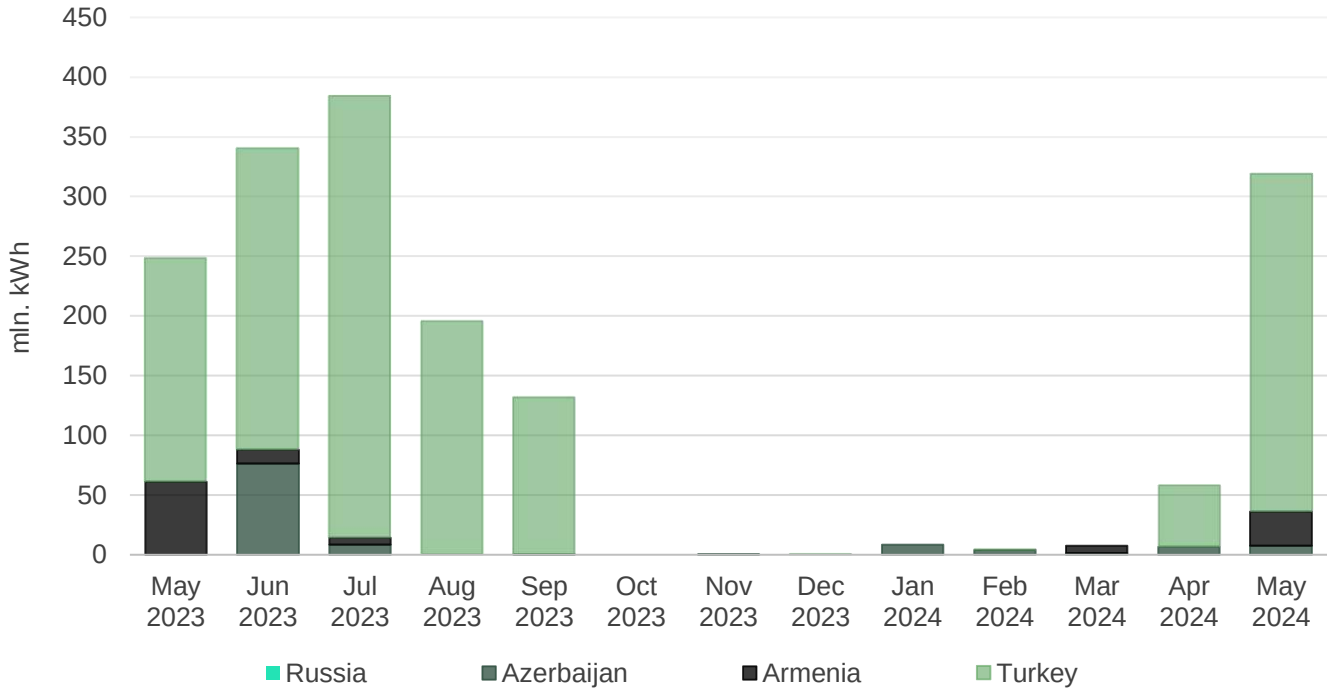
Electricity imports increased by 20.4% in May 2024, compared to April 2024 (Figure 11). Electricity exports increased 5 times in May 2024, compared to April 2024 (Figure 12).

Figure 11 **- Imports by Month**



Source: ESCO

Figure 12 **- Exports by Month**

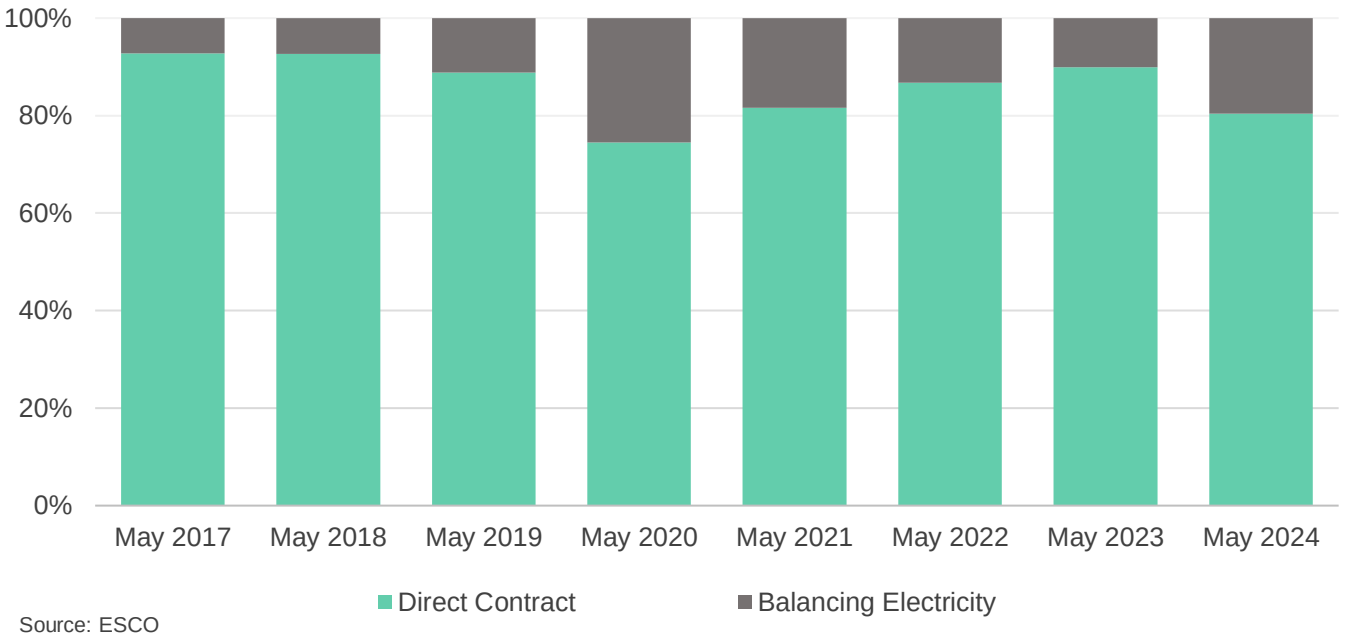


Source: ESCO

2. Market Operations

In May 2024, 80% of the electricity sold on/from the local market was sold through direct contracts. The remaining 20% was sold as balancing electricity (Figure 13).

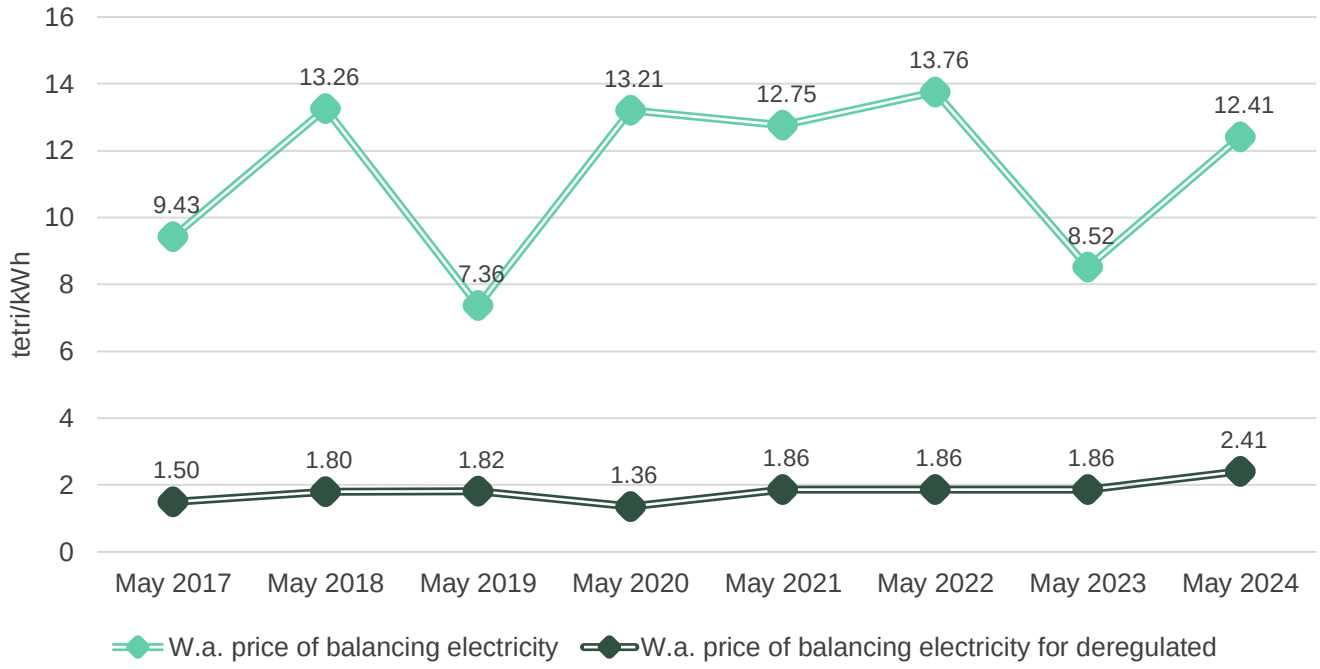
Figure 13 - Electricity Purchased / Sold Shares of Direct Contracts and Balancing Electricity



Source: ESCO

In May 2024, the weighted average price of balancing electricity was 12.4 tetri/kWh, which corresponds to an annual increase of 45.7% compared to May 2023. As for the weighted average price for deregulated (small) HPPs, it was 2.41 tetri/kWh, which corresponds to an annual increase of 29.9% compared to May 2023 (Figure 14).

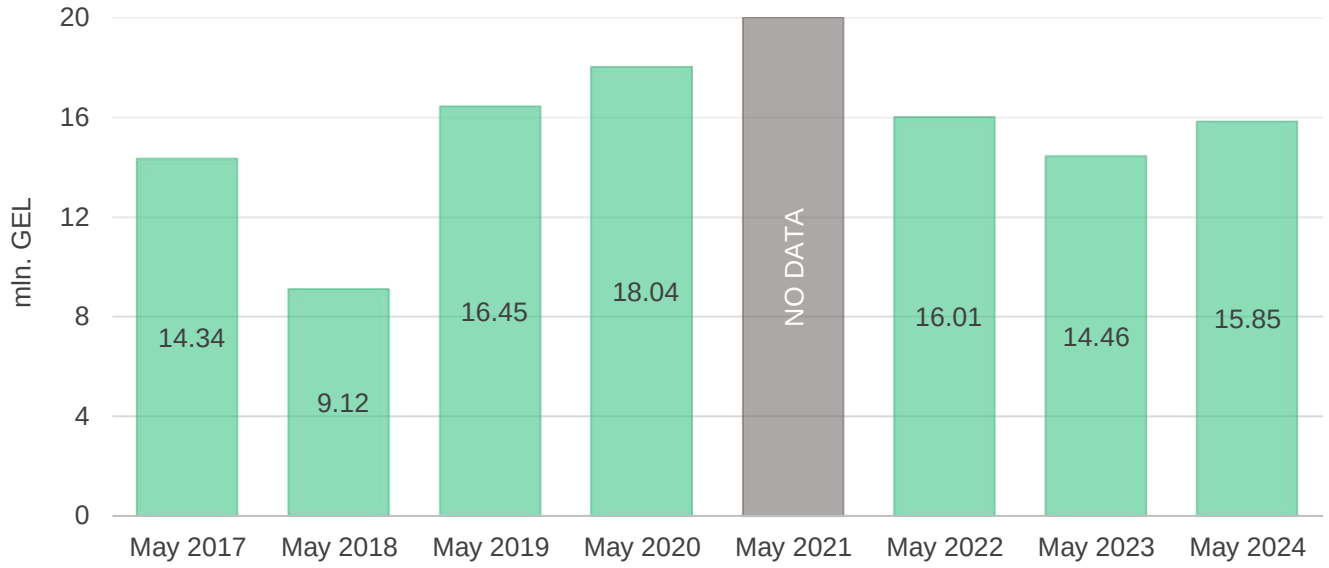
Figure 14 - Balancing Electricity Prices Weighted Average



Source: ESCO

Guaranteed capacity payments in May 2024 were roughly 15.85 mln. GEL, which represents a 9.6% increase compared to May 2023 (Figure 15).

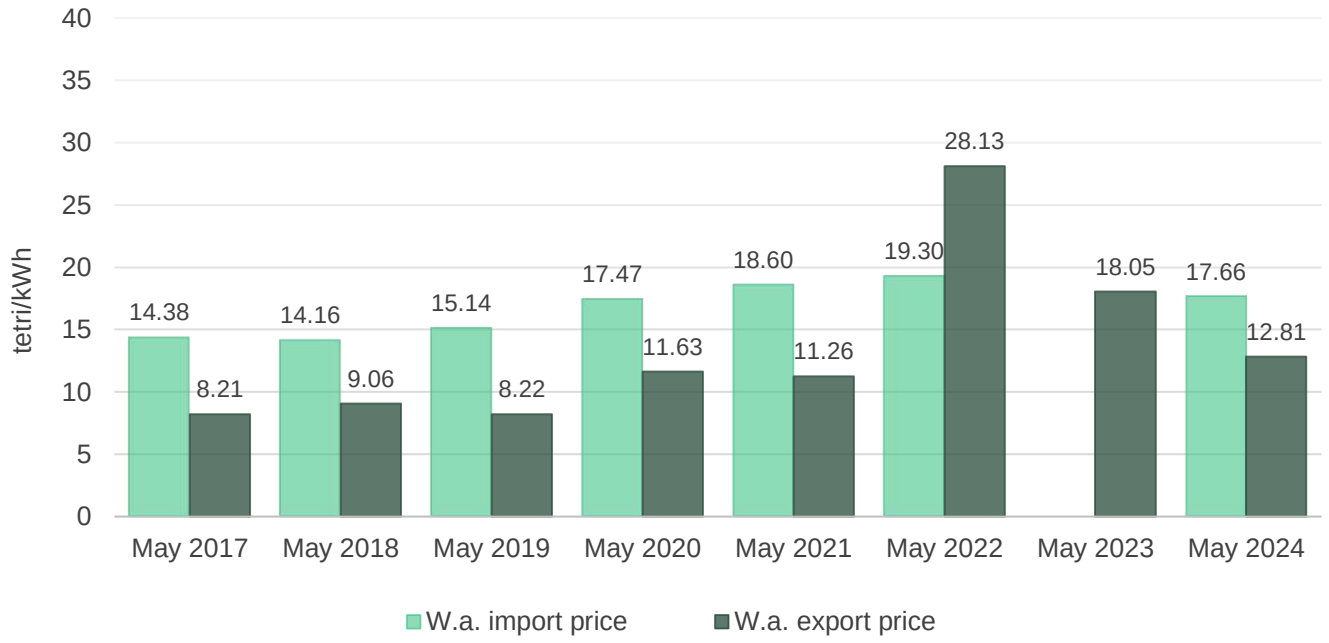
Figure 15 - Cost of Guaranteed Capacity



Source: ESCO

The electricity import prices in May 2024 were 6.50 ¢, or 17.66 tetri per kWh (Figure 16). (there was no import in May 2023). In April 2024, electricity import prices were 6.50 ¢, or 17.40 tetri per kWh (Figure 16). The monthly change in prices was insignificant in USD and in GEL. The electricity export prices in May 2024 were 4.72 ¢, or 12.81 tetri per kWh. (Figure 16). This corresponds to an annual decrease in price by 33.8% in USD and by 29% in GEL (prices were 7.12 ¢, or 18.05 tetri per kWh in May 2023). In April 2024, electricity export prices were 4.72 ¢, or 12.65 tetri per kWh (Figure 16). The monthly change in prices was insignificant in USD and in GEL.

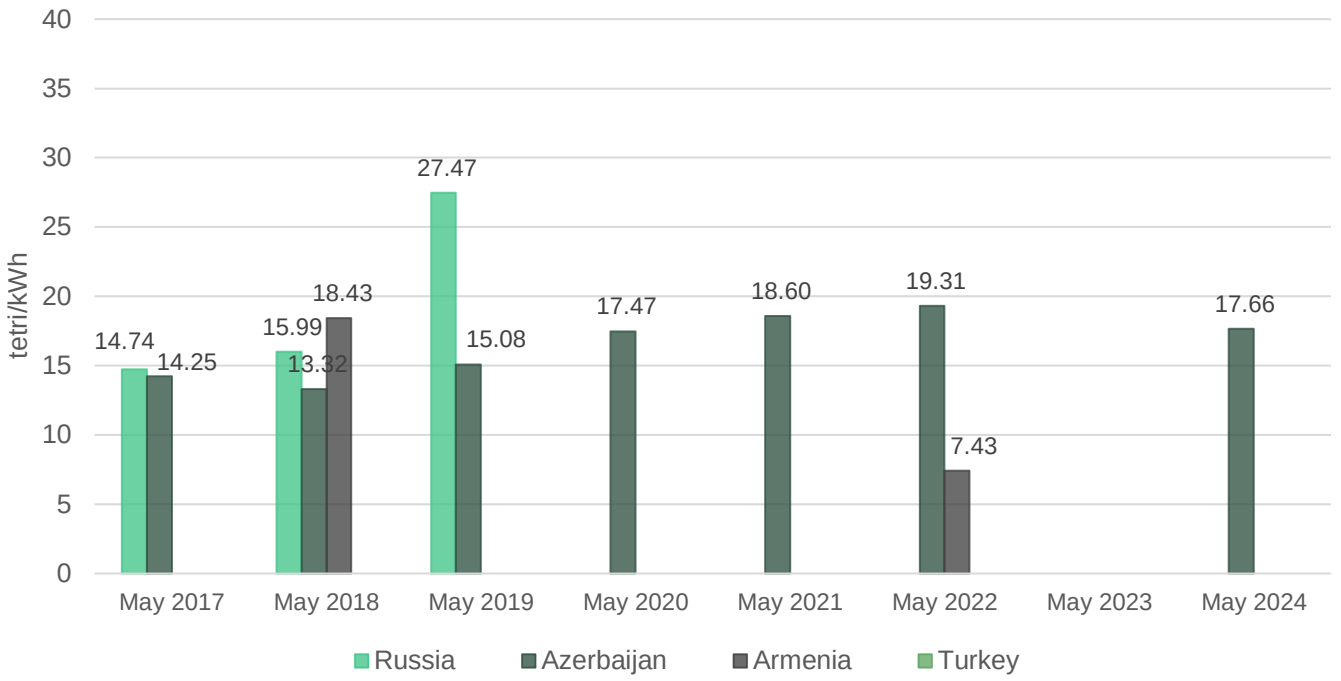
Figure 16 - Prices Import/Export



Source: ESCO

In May 2024, the electricity import price from Azerbaijan stood at 6.50 ¢ or 17.66 tetri (Figure 17).

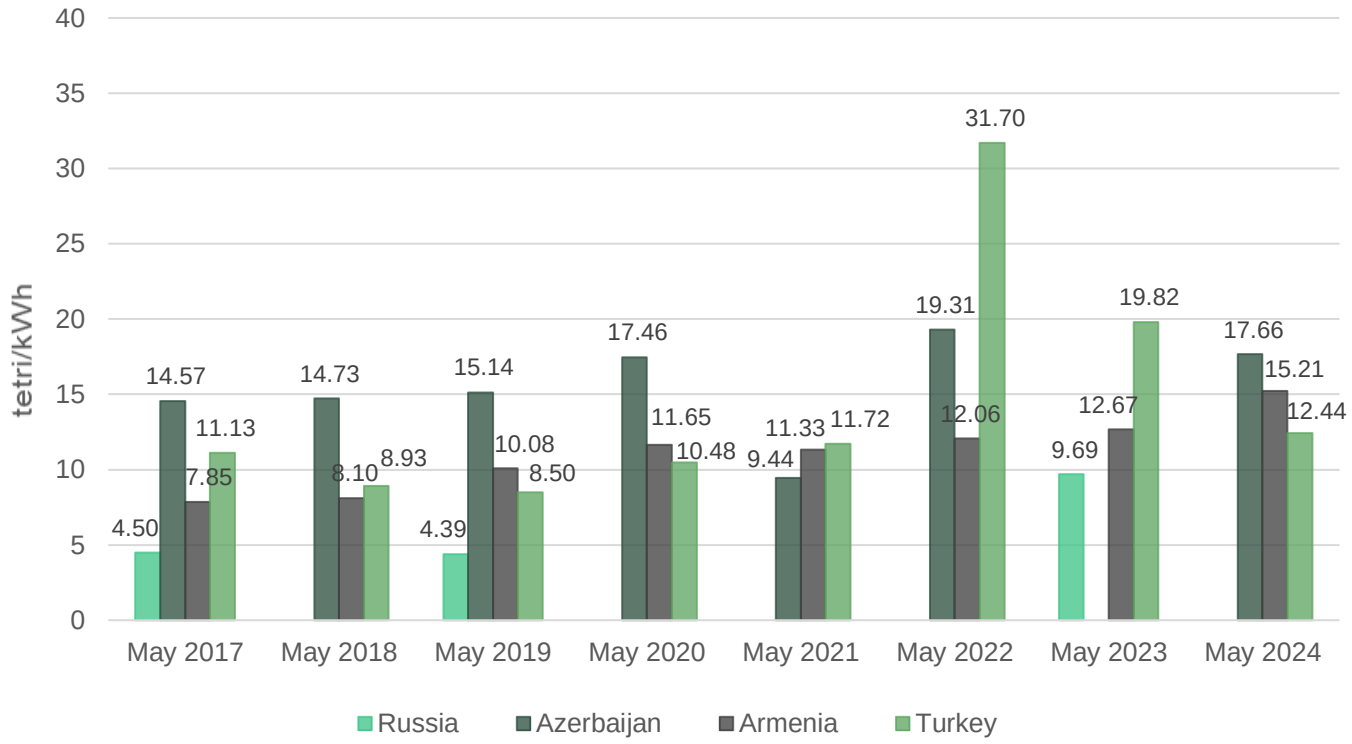
Figure 17 - Import Prices by Countries



Source: ESCO/Geostat

In May 2024, the electricity export price from Azerbaijan stood at 6.50 ¢ or 17.66 tetri, from Armenia at 5.60 ¢ or 15.21 tetri and from Turkey at 4.58 ¢ or 12.44 tetri (Figure 18).

Figure 18 - Export Prices by Countries

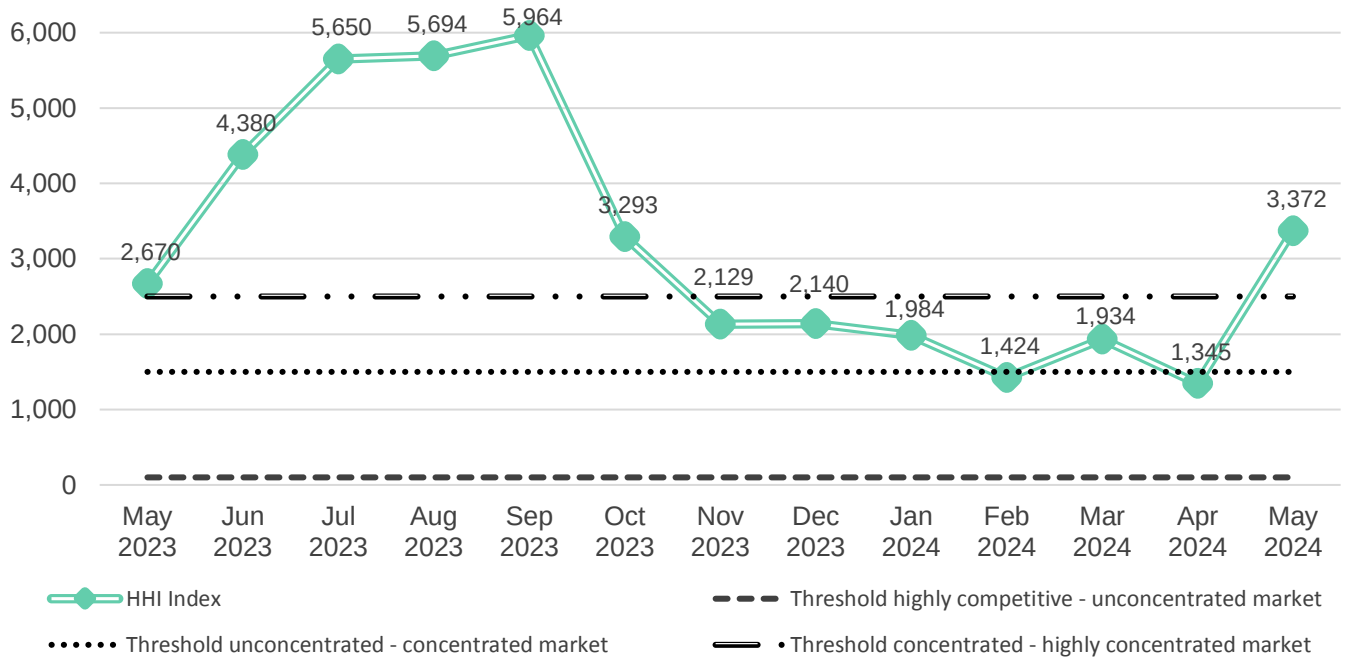


Source: ESCO/Geostat

3. Market Concentration

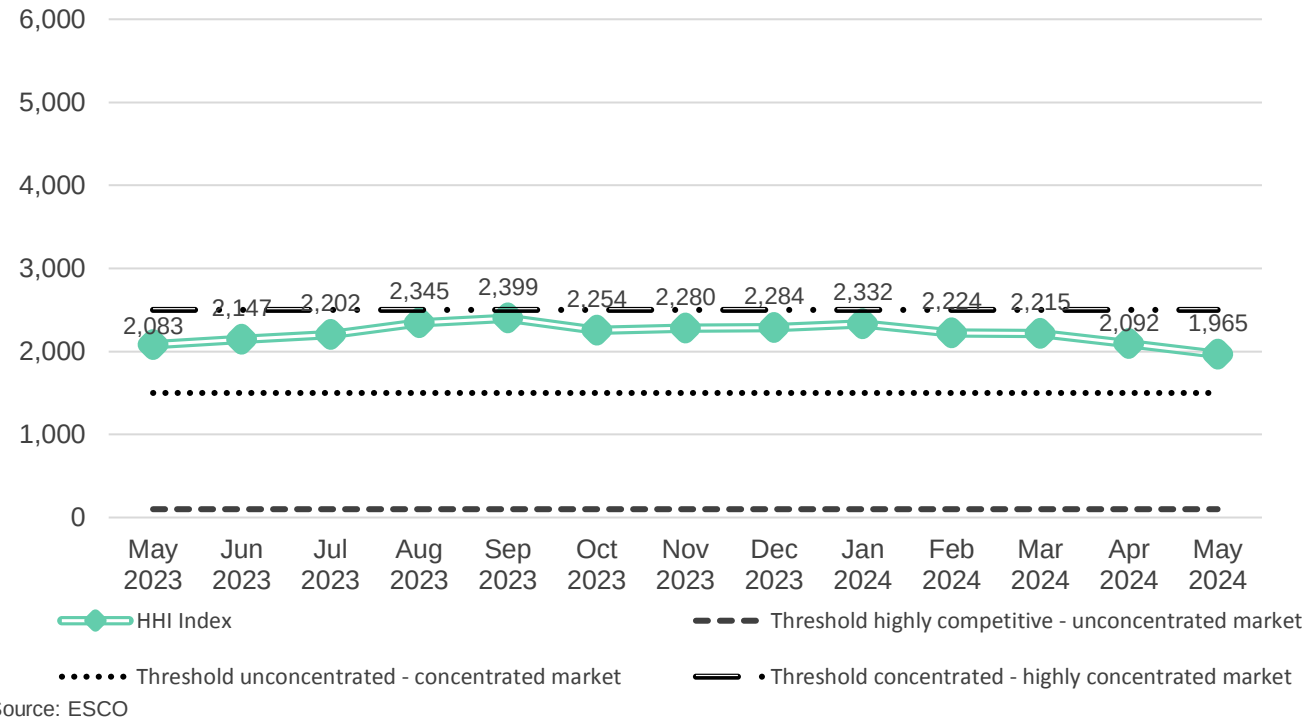
In conclusion, we utilize the Hirschman-Herfindahl (HHI) market concentration index to evaluate how competitive the generation and consumption segments of the market have been over the year. In May 2024, Georgian electricity generation market index rose above the threshold of highly concentrated market with an HHI value of 3,372 (Figure 19). This is higher than the level in May 2023 (with an HHI value of 2,670), and higher than the level in April 2024 (the HHI was 1,345). As for the consumption segment, in May 2024, the HHI consumption index remained below the threshold for a highly concentrated market, with an HHI value of 1,965 (below the level in May 2023 – 2,083 and below the level in April 2024 – 2,092). In fact, September 2020 was the last month when the index value was above the level of a highly concentrated market, which indicates that the market is becoming increasingly competitive (Figure 20).

Figure 19 - Hirschman-Herfindahl Index for Power Generation



Source: ESCO

Figure 20 - Hirschman-Herfindahl Index for Power Consumption



Source: ESCO