



# Georgia's Energy Sector Electricity Market Watch - 1H23

Georgia | Energy  
July 27, 2023

## Key Highlights of 1H23

- Electricity consumption in Georgia reduced by 10.1% y/y in 1H23, after a decade of unprecedented growth (excluding year of Covid-19). This decrease was mainly driven by reduced consumption in the Abkhazian region and direct consumers such as data mining and metallurgical companies. The decline started in 2H22 and is expected to continue over the course of 2023
- Electricity import volume and price were unexpectedly low. The sole consumer of such electricity was Abkhazian region, receiving electricity from Russia at special price (USc 0.1/kWh). The rest of Georgia replaced commercial imports with comparatively cheap thermal generation, enabled by the availability of social gas, making thermal generation in Georgia cost-effective compared to global standards.
- Georgia became net exporter of electricity in 1H23. Increased prices in Turkey surged demand for electricity exports and therefore export revenues. The changes in supply and demand made the 21.4% y/y growth in export volume possible. Although export price dropped by 19.6% y/y, export revenues were still high at US\$ 53.3mn (-2.4% y/y). As electricity imports were insignificant in value, net export was close to total export value and stood at US\$ 51.6mn, which is 2.7x times above the last year's figure.
- **Other news on the market:**
  - The launch of organized markets postponed once again
  - First capacity auction for renewable energy completed with 26 winners
  - The government is looking for an investor for the construction of Gardabani-3 thermal power plant
  - The GNERC fee for regulated activities increased from 0.2% to 0.3% of revenue.

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Details provided on the following pages.



**Market news in detail**

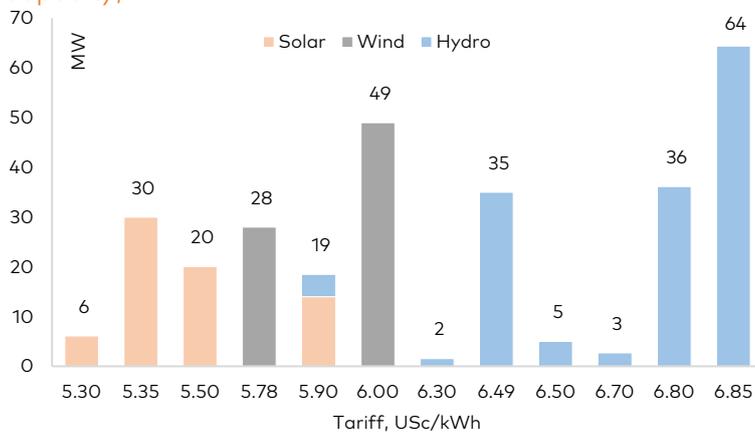
**The launch of organized electricity markets in Georgia postponed**

for the sixth time, now scheduled for June 2024 instead of the originally announced date of July 2021. The reason provided for the postponement remains unchanged - policymakers fear that global price uncertainties could negatively affect the Georgian market. Additional factor was unpreparedness of market participants and key stakeholders, particularly in areas such as ancillary services, balancing market and hourly metering irregularities. While details of the upcoming markets are gradually taking shape and participants are becoming more acquainted with the forthcoming market platforms, several issues still need resolution, such as bidding strategies for Thermal Power Plants (TPPs) and respectable limits for imbalances. The repeated delays in launching the market have significantly undermined overall confidence in organized markets and further intensified investor demand for government support.

**First successful capacity auction for renewable energy ended with 26 winners:**

14 hydropower projects (149.3MW), 10 solar projects (77.0MW), and 2 wind projects (70.1MW). These projects secured contract for difference (CFD) agreements with the government and ESCO, offering compensation based on the day-ahead market price and CFD price difference. Notably, CFD prices varied among winners, ranging from USc 5.3/kWh for a 6.0MW solar plant to USc 6.85/kWh for hydro plants. Delay in day-ahead market commencement raises concerns about CFD reference price. We remain optimistic that the market will start operating prior to the commissioning of these 26 projects; otherwise, ESCO's selling price may serve as reference. Details regarding the auction and CFD principles in our previous report [here](#).

Figure 1: Winners of capacity auction by tariff and capacity, MW



Source: MoESD, Galt & Taggart

Table 1: Results of first capacity of auction

Project type	Hydro	Solar	Wind	Total
Number of projects	14.0	10.0	2.0	<b>26</b>
Total capacity, MW	149.3	70.1	77.0	<b>297</b>
Max tariff, USc/kWh	6.9	5.85	6.0	<b>6.85</b>
Min tariff, USc/kWh	5.9	5.3	5.8	<b>5.3</b>

Source: MoESD, Galt & Taggart



**The government of Georgia is seeking an investor for the construction of 350-430MW Gardabani-3 thermal power plant.**

The project, with an estimated installed capacity of 350-430MW and a minimum efficiency requirement of 56%, is being offered to interested investors. The fee for project rights is US\$ 2.45mn. While the tender documentation outlines the minimum technical characteristics, investors have the flexibility to propose their own solutions. To participate in the tender, interested investors must submit their proposals by the end of August 2023. The proposal should include proof of financial stability, relevant experience, a technical and financial implementation plan, and a financing strategy. The selected investor will be granted access to essential resources, including land, natural gas, cooling water, and the transmission grid, as well as the prestigious status of a guaranteed capacity supplier. This status entitles the project to receive a daily guaranteed capacity fee from the Georgian Energy and Water Supply Regulatory Commission (GNERC), providing additional revenue on top of the generated electricity tariff. Furthermore, GNERC's methodology ensures a normalized return on any initial and future investments made in the project.

**The Georgian Energy and Water Regulatory Commission (GNERC) fee for regulated activities increased from 0.2% to 0.3% of revenue**

effective from January 1, 2023. This fee is applicable to various participants in the energy market, including licensed companies in electricity, natural gas, and water sectors, as well as power generating enterprises, suppliers, importers, and exporters of electricity. GNERC utilizes the funds collected from this fee to cover administrative expenses and salaries without generating any profit for itself. In 2022, GNERC's revenue from this fee amounted to GEL 15.6mn, up 18.3% y/y. The majority of 2022 revenue came from participants in the natural gas sector (50%), followed by the electricity market participants (45%), and water supply licensees (5%). This revenue collection mechanism allows GNERC to maintain its autonomy and financial independence while supporting its regulatory activities in the energy and water sectors.



### Electricity supply, demand and prices

**Supply:** In 1H23, electricity supplied to the grid reached 7.7TWh, out of which 5.3TWh (69.7%) was hydro generation, 1.7TWh (21.9%) thermal generation, 0.04TWh (0.6%) wind generation and 0.6TWh (7.8%) of electricity was imported.

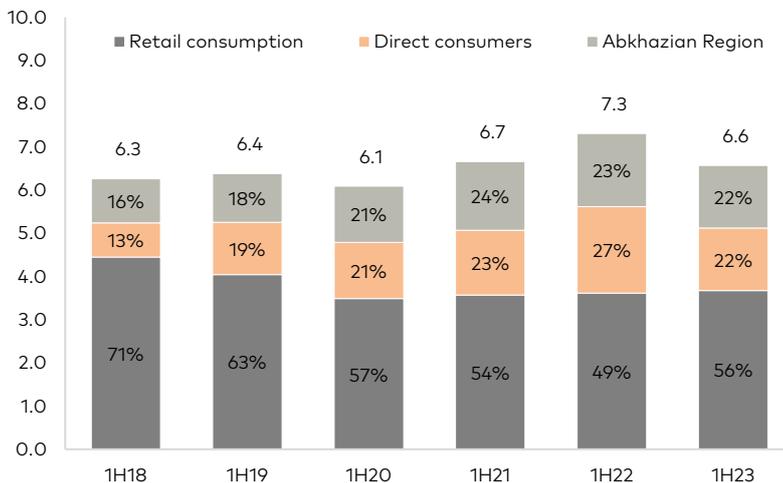
**Demand:** Out of these 7.7TWh of electricity supplied to the grid in 1H23, the majority, 6.6TWh (85.7%) was consumed locally at wholesale level, 0.8TWh (9.9%) was exported and 0.3TWh (4.4%) lost in transmission.

### Electricity consumption

#### Electricity consumption in Georgia dropped by 10.1% y/y in 1H23.

This decline was driven by significant drop in consumption of Abkhazian region (-14.2% y/y) and direct consumers (-27.9% y/y). Within direct consumers, the consumption decrease was significant for data mining companies, manganese producers, and metallurgical companies. These companies reduced their electricity usage due to lower production levels, likely influenced by declining demand and prices for their final products. Remarkably, this downward trend started a year ago and is expected to continue throughout 2023.

Figure 2: Electricity consumption by consumer groups, TWh



Source: ESCO, GNERC, Galt & Taggart

\* EPG Supply used to be Energo-pro Georgia and Telmico used to be Telasi prior Jun-21. The name and functions changed in line with ongoing energy reform's unbundling requirement.

\*\* Consumption of direct consumers increased in 2021 and 2022 mostly due to reallocation of certain consumers from retail to wholesale market in "direct consumers" category, enforced by legislative changes.

Table 2: Local demand growth breakdown, 1H23

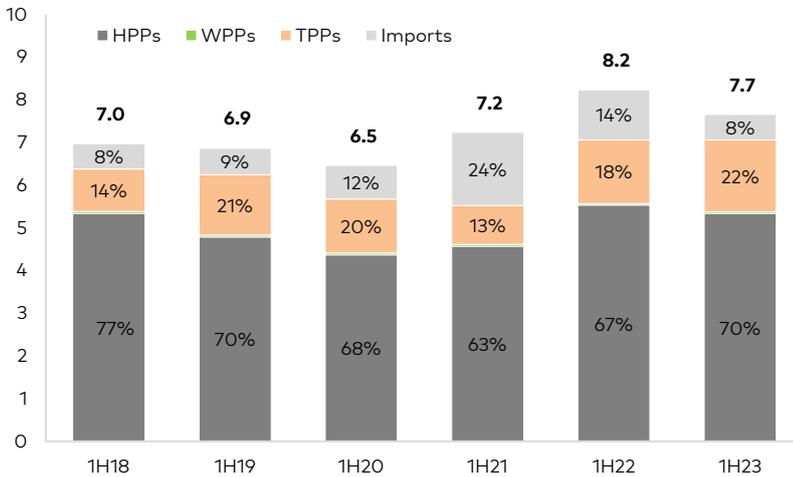
Consumer	Growth rate, y/y	Share in consumption
<b>Domestic consumption</b>	<b>-10.1%</b>	<b>100.0%</b>
Abkhazian region	-14.2%	22.1%
Direct consumers**	-27.9%	22.0%
Retail consumption*	+1.7%	55.9%
EPG Supply*	+1.7%	33.0%
Telmico*	+1.7%	22.9%



**Supply of electricity**

**Decreased electricity consumption resulted in lower electricity imports. Hydro generation met 69.7% of total electricity demand in 1H23, despite a 3.6% drop in total output.** The decline in hydro generation was primarily due to a 14.0% y/y decrease in the generation of the Enguri and Vardnili cascade. **Wind generation** accounted for only 0.6% of the grid's supply. **Thermal generation** (21.9%) and direct imports (7.8%) covered the remaining 29.8% of the demand. The import share was unexpectedly low this year, for comparison share of electricity imports in the first half of the each year during 2019-21 was 16.7% on average.

Figure 3: Electricity generation and imports, TWh



Source: GNERC, Galt & Taggart

Note: in 2021 Enguri was under maintenance and had no generation in Feb and Mar, decreasing overall HPP output

**Thermal generation increased by 12.8% y/y, while electricity imports decreased by 48.9% y/y in 1H23.** This shift from import to thermal generation happened due to the cost difference: the price of commercial import was in the range of USc 7.0-7.5/kWh, whereas price of thermal generation ranged between USc 3.4 and USc 5.4/kWh depending on TPP. Notably, the thermal generation prices were unaffected by global price spikes due to the availability of "social gas," a cheap gas supplied to Georgia for transit via the South-Caucasus Pipeline from Azerbaijan to Turkey. Moreover, this supply mix facilitated start of electricity exports earlier this year from April. This "social gas" is limited and used for residential use and by thermal power plants. These boundaries also limit the volume and period of electricity exports.

Table 3: Supply growth breakdown, 1H23

Supply source	Annual growth	Share in supply
<b>Total supply</b>	<b>-7.0%</b>	<b>100.0%</b>
Imports	-48.9%	7.8%
Domestic generation	0.0%	92.2%
TPPs	+12.8%	21.9%
WPPs	+7.7%	0.6%
HPPs	-3.6%	69.7%
Enguri and Vardnili	-14.0%	21.8%
Other regulated HPPs	+1.1%	20.9%
Deregulated HPPs	+2.9%	27.0%

Source: GNERC, Galt & Taggart



**Foreign trade: Export and transit**

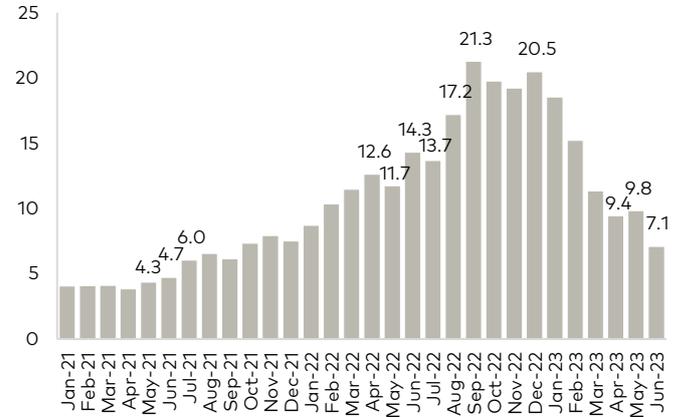
**Price of electricity in Turkey retreated this year, but still above compared to pandemic levels.** Average monthly market clearing price (MCP) in Turkey was USc 8.8/kWh over April-June 2023, while average price during 2022 export season (Apr-Sep) was USc 15.1/kWh. The main drivers of Turkish electricity price dynamics are the global price of natural gas, as Turkey heavily relies on gas-fired thermal power plants.

**Figure 4: Average annual Market Clearing Prices in Turkey, USc/kWh**



Source: EPIAS, EVDS, Galt & Taggart

**Figure 5: Average monthly Market Clearing Prices in Turkey, USc/kWh**



Source: EPIAS, EVDS, Galt & Taggart

The elevated prices on Turkish market continues driving demand for electricity **export and transit**. In 1H23, Turkey received 2.1TWh of electricity from Georgia, with 0.8TWh being exported from Georgian producers (+17.3% y/y) and 1.5TWh (up by 2.1x times) being transited through Georgia from neighbouring countries, with 79.5% originating from Azerbaijan, 10.9% from Russia, and 9.7% from Armenia.

**Export of electricity witnessed substantial growth in both volume and value terms**, reaching 0.8TWh (+21.4% y/y) and US\$ 52.3mn (-2.4% y/y), respectively. The growth in export volume is due to the early start of the export season in April, facilitated by a decrease in local consumption and an increase in thermal generation. The average export price of electricity from Georgia was USc 6.9/kWh, down by 19.6% y/y.

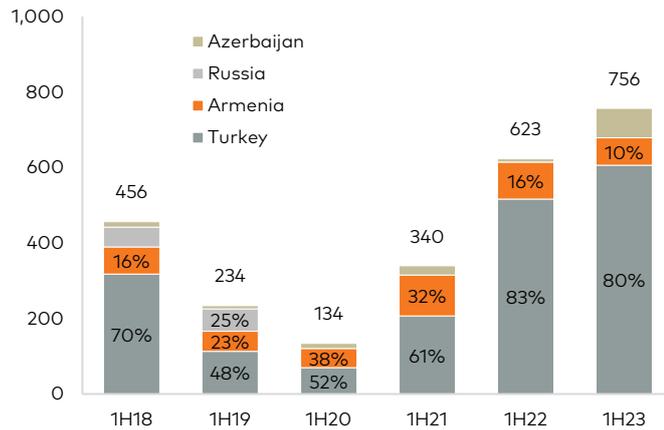
The top-3 exporters to Turkey were Bookup Solution, Lux Energy Trading and Adjaristskali Georgia.

The forecasted annual balance of electricity, adopted in April 2023 by the Ministry of Economy and Sustainable Development, suggests that electricity exports will continue until the end of July.



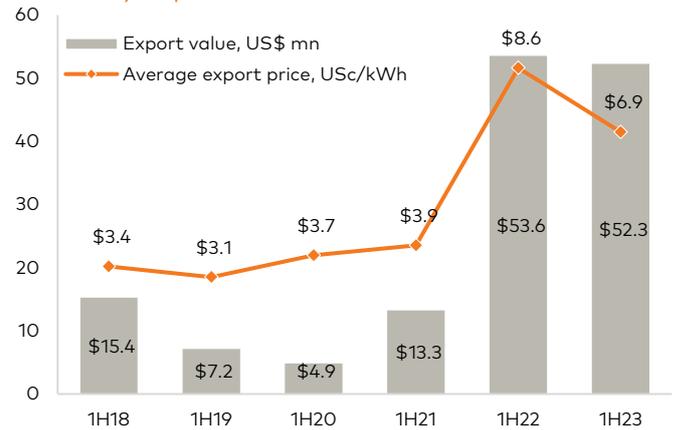
Considering the downward trend in local demand and the elevated prices in the Turkish market, we expected the exports will persist until the end of Sept-23, supported by thermal generation.

Figure 6: Electricity exports by destination, GWh



Source: ESCO, GSE

Figure 7: Export value and average price of electricity exports

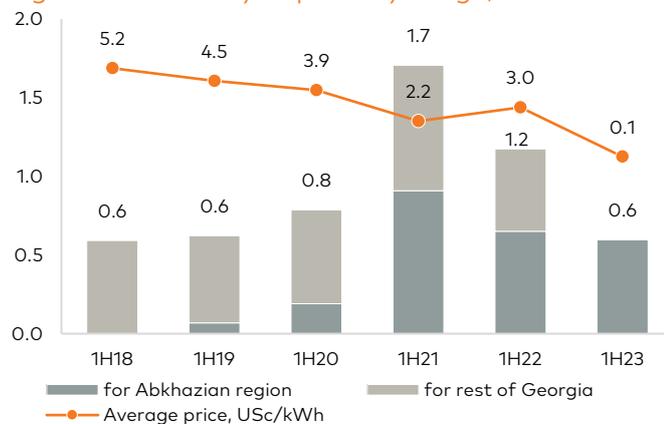


Source: Geostat, ESCO, GSE, Galt & Taggart

### Import of electricity

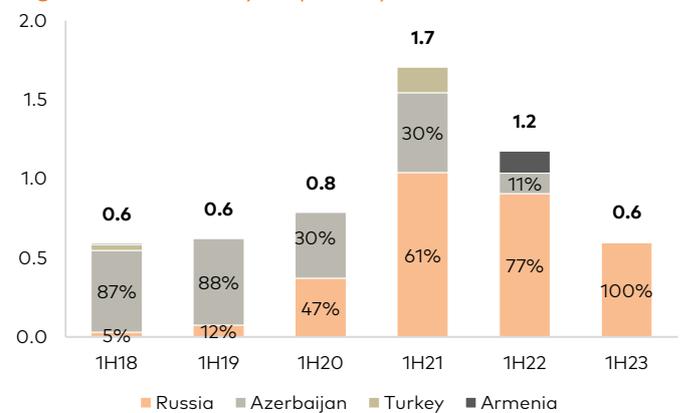
**Russia was the exclusive provider of electricity imports and the sole consumer of such energy was Abkhazian region in 1H23.** Georgia imported 0.6TWh of electricity (7.8% of total demand). The Abkhazian region receives a "special" price from Russia, resulting in an average import price of USc 0.1/kWh in 1H23. Notably, 98% of this electricity was sold by direct contract and was not included in ESCO's balancing electricity volume. There was no commercial import of electricity for rest of Georgia.

Figure 8: Electricity imports by usage, TWh



Source: GNERC, Galt & Taggart

Figure 9: Electricity import by source-countries



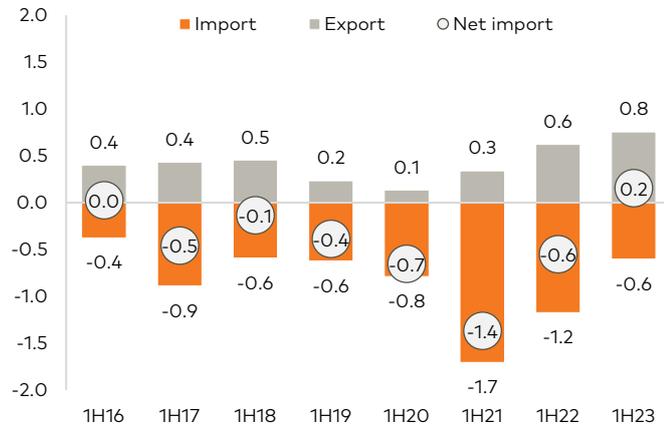
Source: GNERC, Geostat, Galt & Taggart

### Trade balance



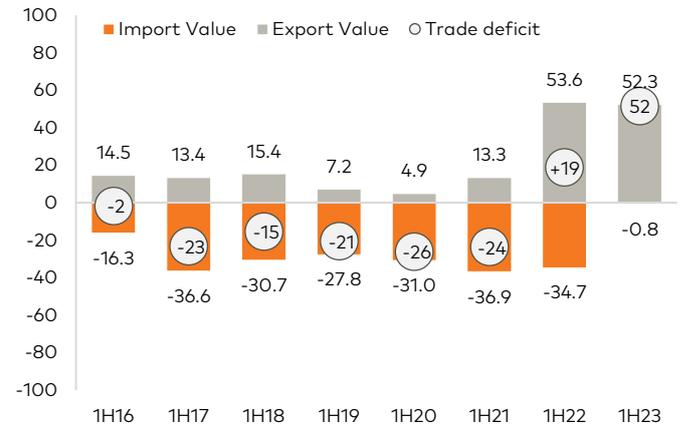
**Trade balance of electricity was positive.** Georgia earned US\$ 52.3mn via electricity exports and spent US\$ 0.8mn on electricity imports, resulting in US\$ 51.6mn of net export. Increased export revenues are attributable to increased prices in key export destination – Turkey. In kWh terms, Georgia became net exporter with 0.2TWh net export in 1H23. According to 2023 forecast by Ministry of Economy and Sustainable Development, the year will end with negative trade balance of 0.6 TWh.

Figure 10: Foreign trade of electricity, TWh



Source: GNERC, Geostat, Galt & Taggart

Figure 11: Trade deficit, US\$ mn



Source: GNERC, Geostat, Galt & Taggart

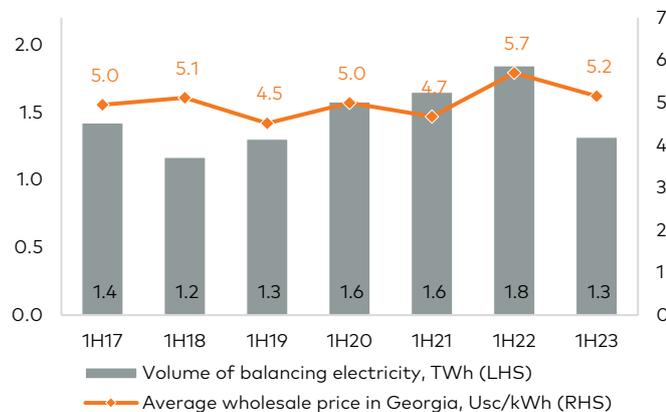


### Balancing electricity prices in Georgia

The volume of electricity traded through ESCO as balancing electricity was 1.3TWh, down by 28.7% y/y. Volume of electricity traded via ESCO was 17.2% of total electricity supplied to the grid. The remaining volume of electricity was traded via bilateral contracts.

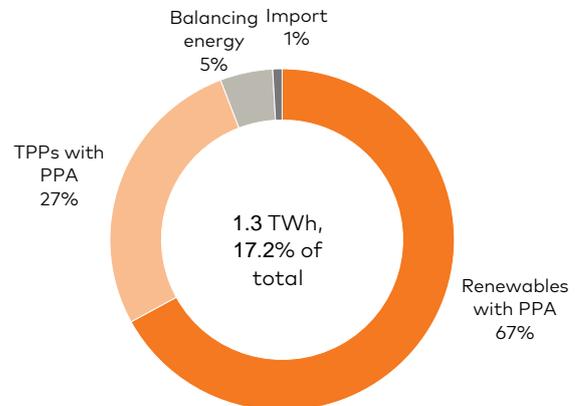
**Weighted average price of balancing electricity price in Georgia decreased by 9.5% y/y to USc 5.2/kWh.** The main reason was drop of import volume. On a monthly basis, the price of balancing electricity fluctuated between USc 3.4 and 5.5 per kWh. The majority of balancing electricity (94.2%) was purchased by ESCO under a Guaranteed Power Purchase Agreement (PPA), out of which 63.8ppts came from HPPs, 27.2ppts from Gardabani-2 TPP and rest from WPP (3.2ppts). Import was a mere 0.9% of the balancing electricity, unlike previous years. The share of electricity purchased by ESCO at balancing electricity prices was 4.9% of total balancing energy.

Figure 12: Balancing electricity volume and prices



Source: ESCO

Figure 13: Breakdown of ESCO's balancing electricity volumes in 1H23



Source: ESCO



Table 4: Electricity Balance in 1H23, GWh

	2022	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	1H23
<b>Domestic consumption, total</b>	<b>14,165</b>	<b>1,282</b>	<b>1,127</b>	<b>1,115</b>	<b>1,036</b>	<b>1,062</b>	<b>980</b>	<b>6,568</b>
% change y/y	+3.2%	-6.6%	-6.0%	-17.3%	-10.2%	-7.9%	-9.3%	-10.1%
Of which:								
- Abkhazian Region	<b>3,029</b>	321	255	252	244	215	163	<b>1,449</b>
% change y/y	+2.5%	-10.6%	-15.2%	-23.4%	-7.6%	-14.9%	-11.5%	-14.2%
- Eligible consumers	<b>3,726</b>	264	222	240	234	245	238	<b>1,445</b>
% change y/y	+4.8%	-20.4%	-27.5%	-31.3%	-32.1%	-30.0%	-26.6%	-27.9%
- Retail consumption	<b>7,411</b>	697	651	623	558	602	579	<b>3,674</b>
% change y/y	+2.7%	+2.3%	+9.6%	-7.0%	+2.3%	+9.5%	+1.2%	+1.7%
Of which:								
- Energo-Pro Georgia + EP Georgia Supply*	<b>4,413</b>	430	369	365	331	464	337	<b>2,168</b>
% change y/y	+0.3%	+7.8%	+6.5%	-6.2%	+0.7%	+39.8%	+0.3%	+1.7%
-Telasi + Telmico*	<b>2,998</b>	267	281	258	227	137	242	<b>1,506</b>
% change y/y	+6.3%	-5.6%	+14.0%	-8.2%	+4.8%	-36.7%	+2.5%	+1.7%
<b>Domestic Generation, total</b>	<b>14,244</b>	<b>1,111</b>	<b>987</b>	<b>1,019</b>	<b>1,249</b>	<b>1,325</b>	<b>1,369</b>	<b>7,061</b>
% change y/y	+12.6%	+8%	+11%	-5%	+11%	-9%	-8%	-0.0%
Of which:								
- TPPs	<b>3,388</b>	728	643	208	98	1	2	<b>1,680</b>
% change y/y	+42.4%	+43%	+45%	-58%	+181%	NM	-46%	+12.8%
- WPPs	<b>87</b>	8	6	7	9	8	5	<b>43</b>
% change y/y	+5.0%	+22%	+7%	-2%	+38%	-6%	-9%	+7.7%
- HPPs	<b>10,769</b>	374	339	804	1,142	1,317	1,361	<b>5,337</b>
% change y/y	+5.8%	-27%	-23%	40.9%	5.3%	-9%	-8%	-3.6%
<b>Imports</b>	<b>1,533</b>	<b>247</b>	<b>207</b>	<b>146</b>	<b>0.1</b>	<b>-</b>	<b>0.02</b>	<b>600</b>
% change y/y	-23.6%	-39%	-42%	-55.9%	-100%	-100%	-97.3%	-48.9%
<b>Exports</b>	<b>971</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>166</b>	<b>248</b>	<b>341</b>	<b>756</b>
% change y/y	+148.4%	N/A	N/A	N/A	N/A	-8%	-3%	+21.4%
<b>Trade balance</b>	<b>(562)</b>	<b>(247)</b>	<b>(206)</b>	<b>(146)</b>	<b>166</b>	<b>248</b>	<b>341</b>	<b>156</b>
<b>Transit</b>	<b>3,160</b>	<b>520</b>	<b>370</b>	<b>445</b>	<b>98</b>	<b>65</b>	<b>-</b>	<b>1,498</b>
% change y/y	+178.3%	+181%	+120%	+260%	-29%	N/A	N/A	+111.8%

Source: GNERC, Galt & Taggart  
Note: N/A= not available; NM= not meaningful



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