

Georgia's Energy Sector Electricity Market Watch – 1H24

Georgia | Energy Summary of 1H24 July 31, 2024

Key Highlights of 1H24

Domestic electricity consumption increased by 2.6% y/y in 1H24. The growth was driven by increased demand from retail (+4.9% y/y) and direct (+4.9% y/y) consumers. There is a decreasing trend of consumption in the region of Abkhazia (-5.6% y/y). Notably, the increase in direct consumption is the result of the revived activities in crypto-mining and metallurgy.

Local generation increased by 3.9% y/y, while the volume of imports decreased by 23.9% y/y in 1H24. This is the result of the growing hydro generation (+13.5% y/y), supported by abundant rainfall. As hydro generation increased, TPP generation decreased by 26.3% y/y in 1H24 and amounted to 15.9% of the total generation. The exports stood at 757 GWh, increasing by a negligible 0.1% y/y.

Other market news:

- Winner projects of the second capacity auction for renewable energy were announced (page 2)
- On July 1, 2024, the Georgian Energy Exchange (GENEX) started operating (page 3)
- On July 23, the first transaction took place on the Georgian Energy Exchange (page 3)

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Second Capacity Auction

The winning projects of the second capacity auction for renewable energy were announced. 63 projects are winners, including 32 hydro run-of-river (183.2 MW), 8 hydro with reservoir 1-4 h. (53.0 MW), 6 hydro with reservoir 4-8 h. (130.6 MW), 10 solar (239.8 MW) and 7 wind power plants (204.2 MW). Among the auction winners, CFD prices ranged 4.68 - 7.74 USc per kWh. The lowest price was recorded for the solar power plant project, and the highest for the 4–8-hour hydro with reservoir plant.

The auction winners will secure contract for difference (CFD) agreements with the government and ESCO, offering compensation based on the day-ahead market price and CFD price difference.

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



Table 1: Results of second capacity auction

	Hydro R-o-R	Hydro Res. (1-4 h.)	Hydro Res. (4-8 h.)	Wind	Sun	Total
Number of projects	32	8	6	7	10	63
Total capacity, MW	183.2	53.0	130.6	204.2	239.8	810.7
Max tariff	6.5	7.5	7.735	5.98	5.43	7.74
Min tariff	5.89	7.49	7	5.5	4.68	4.68

Source: Ministry of Economy



As mentioned in the <u>previous review</u>, **no more renewable energy capacity auctions will be announced**, although 3 auctions were initially planned. According to the Ministry of Economy, the process of reviewing projects will be simplified, and signing of the memorandum of understanding (MoU) with the government will be required to start a project with no need of auction. Under the initiative, the median tariff acquired in the 2nd auction will serve as the benchmark price obtained under competitive conditions, with the terms of the MoU being structured around it.

Energy Exchange

On July 1, 2024, after being postponed for six times, the Georgian Energy Exchange (GENEX) started operating. The market will become fully functional after a phased implementation. At this stage, trading is voluntary and the imbalance system does not apply. Initially, four participants were registered on the exchange, which later increased to 13. Nevertheless, during the first three weeks, no deal was made on the exchange. As the market participants explained, the prices offered by the buyer and the seller were slowly approaching each other. This is understandable, since the first transaction on the stock exchange can be perceived as a kind of benchmark for prices in the short term.

On July 23, the first transaction took place on the exchange. 1,009 MWh electricity was sold for the consumption of July 24. The average price per MWh was GEL 126.43 (US\$ 44.56), equivalent to 12.64 Tetri (4.5 USc) per kWh. The parties to the deal are not public on the exchange, although the company itself announced that the selling party in the first historic trade was EP Georgia Generation. As of July 30, 2024, there was a total of 11,500 MWh electricity traded on the exchange. The average price per MWh is still GEL 126.43. According to market participants, it is likely that this price will increase in the next trading sessions.



Electricity supply, demand and prices

Supply: In 1H24, the total volume of electricity supplied to the grid amounted to 7.8 TWh. A 6.1 TWh (77.7%) was generated by HPPs, 1.2 TWh (15.9%) by TPPs, 0.04 TWh (0.5%) by WPPs, and 0.5 TWh (5.9%) was imported.

Demand: Of the 7.8 TWh delivered to the grid, local consumption at the wholesale level stood at 6.7 TWh (86.5%), 0.8 TWh (9.7%) was exported, and 0.3 TWh (3.8%) was lost during transmission in high voltage grid.

Electricity consumption

In 1H24, domestic electricity consumption increased by 2.6% y/y. The increase was the result of increased demand from retail (+4.9% y/y) and direct (+4.9% y/y) consumers, while consumption in the Abkhazia region decreased by 5.6% y/y. The increase in direct consumption is explained by the revival of the crypto-mining and metallurgy sectors, supported by increased prices for these products. According to metallurgic companies, the prices have not yet increased enough for factories to work at full capacity. Consequently, the potential for consumption growth is high, depending on metal price dynamics.



Figure 2: Electricity consumption by consumer groups, TWh

Table 2: Local demand growth breakdown, 1H24

Consumer	Growth rate, y/y	Share in consumption			
Domestic consumption	+2.6%	100.0%			
Abkhazian region	-5.6%	20.3%			
Direct consumers**	+4.9%	22.5%			
Retail consumption*	+4.9%	57.2%			
EPG Supply*	+2.3%	32.9%			
Telmico*	+8.7%	24.3%			

* 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. Criteria for mandatory registration as direct consumer is currently 0.4GWh per month.



Supply of electricity

In 1H24, domestic electricity generation and imports increased by

1.7% y/y. HPPs accounted for 77.7% of the total supply, TPPs for 15.9%, WPPs for 0.5%, and imports for the remaining 5.9%. Notably, out of these four sources, only the generation of hydro power plants has increased annually. The electricity generated by HPPs increased 13.5% y/y and amounted to 6.1 TWh.

In 1H24, the volume of both imports and thermal generation decreased significantly. Import decreased by 23.9% y/y to 0.5 TWh, and thermal generation decreased by 26.3% y/y to 1.2 TWh. The reason for this reduction was increased hydro generation, supported by abundant rainfall. In 1H24 Russia accounted for 91.4% of imported electricity (fully intended for Abkhazia), and the remaining 8.6% came from Azerbaijan.

Figure 3: Electricity generation and imports, TWh



Table 3: Supply growth breakdown, 1H24

Supply source	Annual growth	Share in supply
Total supply	+1.7%	100.0%
Imports	-23.9%	5.9%
Domestic generation	+3.9%	94.1%
TPPs	-26.3%	15.9%
WPPs	-7.9%	0.5%
HPPs	+13.5%	77.7%
Enguri and Vardnili	+17.7%	25.2%
Other regulated HPPs	+13.2%	23.3%
Deregulated HPPs	+10.2%	29.3%

Foreign trade: export and transit

The price of electricity in the Turkey decreased during 2023 and the trend persisted in 1H24. In the 2023 export season of April-June, the average price was 8.8 US cents per kWh, while in 1H24, the average price of electricity in Turkey was 6.5 US cents.





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



Source: EPIAS, EVDS, Galt & Taggart

Source: EPIAS, EVDS, Galt & Taggart

Due to reduced prices in the Turkish market, the attractiveness

weakened. Nevertheless, given that local prices in Turkey are still slightly higher than pre-pandemic level, the transit volumes remain high. In 1H24, 0.4 TWh of electricity was transited through Georgia to Turkey, which came entirely from Azerbaijan.

Figure 6: Electricity transit though Georgia to Turkey, TWh



Source: GNERC, Galt & Taggart

In 1H24, the volume of electricity export amounted to 0.8 TWh (+0.1% y/y). Year-on-year growth is modest, but compared to previous years, export volumes remain high - doubling from 2021 and up 21% compared to 2022. In value terms, income from exports decreased by 31.5% y/y, which is explained by the lower price in the main export market - Turkey. In 1H24, 83.8% (634.6 GWh) of electricity exports went to Turkey, 11.9% (89.8 GWh) to Armenia, and the remaining 4.2% (32 GWh) to Azerbaijan. The average export price was 4.8 US cents, which is a 31.5% decrease compared to the same period last year.



The top 3 exporters were Bookup Solutions, Cross Border Trading and ESCO.







Figure 8: Export value and average price of

Import of electricity

In 1H24, electricity imports decreased by 23.9% y/y. Electricity import to Georgia amounted to 0.5 TWh (5.9% of total demand). Most of the imported electricity, 91.4%, came from Russia, and the remaining 8.6% came from Azerbaijan. Notably, the average import price was 0.7 USc, which is much higher than last year's 0.1 USc, when imports from Russia were made only for the consumption of Abkhazia region at a special price. Electricity imported from Russia this year too was fully intended for the consumption of Abkhazia.



Figure 10: Electricity import by source-countries,



Source: GNERC, Galt & Taggart

Source: GNERC, Geostat, Galt & Taggart



Trade balance

Positive trade balance in volume terms maintained in 1H24.

Maintaining the export volume at a high level, while the decrease in the need for imports, increased the positive trade balance this year to 0.3 TWh. In value terms, there was a US\$ 33.3mn trade deficit, down by 36.3% y/y.



Source: GNERC, GeoStat, Galt & Taggart

Figure 12: Trade deficit, US\$ mn



Source: GNERC, GeoStat, Galt & Taggart



Balancing electricity prices in Georgia

Balancing electricity volume was 1.9 TWh (+46.1% y/y) in 1H24, which is 24.7% of the total supply. The remaining volume of electricity was traded through bilateral contracts. The volume of balancing electricity is mainly the result of the growth of balancing energy, the share of which reached 20.6% in 1H24. This increase, as mentioned in the <u>previous review</u>, is the result of increased purchases of energy generated by Mtkvari Energy and Tbilsres by ESCO in the first quarter. Meanwhile, the share of imports in the balancing electricity is still small - in 1H24 its volume was only 39.3 GWh, which ESCO bought entirely from Azerbaijan.

Weighted average wholesale price of balancing electricity increased by 11.3% y/y to 5.5 US cents per kWh in 1H24. On a monthly basis, the price of balancing electricity fluctuated within 4.6-5.9 US cents per kWh. Most of the balancing electricity (77.4%) was purchased by ESCO under a power purchase agreement (PPA), of which 69.1 percentage points were from HPPs, 28.3 percentage points from Gardabani N2 thermal plant, and the remaining 2.6 pp from wind farm. Imports accounted for only 2.0% of the balancing electricity in 1H24.



Figure 13: Balancing electricity volume and prices

Figure 14: Composition of ESCO's balancing

Source: ESCO, Galt & Taggart

electricity volume

^{100%} 2.0% 5.0% 20.6% 27.2% 33.2% 80% 1.4% 3.6% 67.0% 60% 45.8% 55.5% 40% 54.7% 20% 27.2% 25.6% 21.9% 84% 0% 6M21 6M22 6M23 6M24

TPPs with PPA Renewables with PPA Balancing Energy Import



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Table 4: Electricity Balance in 1H24, GWh

	Aug-23	Sep- 23	Oct-23	Nov-23	Dec- 23	2023	Jan-24	Feb- 24	Mar-24	Apr-24	May- 24	Jun-24	1H24
Domestic consumption, total	1,211	937	987	1,032	1,218	13,053	1,277	1,146	1,180	993	1,047	1,096	6,738
% change y/y	+1%	-11%	-8.3%	-8.2%	-3.3%	-7.9%	-0.4%	+1.7%	+5.8%	-4.2%	+1.8%	+11.8%	+2.6%
Of which:													
- Abkhazian Region	199	167	199	222	288	2,703	326	251	261	179	191	160	1,368
% change y/y	-3%	-9%	-7%	-8.7%	-2.9%	-10.8%	+1.5%	-1.5%	+3.6%	-26.7%	-11.1%	-1.5%	-5.6%
- Eligible consumers	257	182	204	202	229	2,779	225	233	244	243	282	290	1,517
% change y/y	-13%	-36%	-30%	-26.6%	-11.2%	-25.4%	-14.7%	+5.0%	+1.4%	+3.9%	+13.8%	+22.0 %	+4.9%
- Retail consumption	755	588	584	608	701	7,571	726	662	676	571	573	645	3,853
% change y/y	+7%	+1%	+2%	+0.4%	-0.6%	+2.2%	+4.1%	+1.8%	+8.4%	+2.3%	+1.4%	+11.4%	+4.9%
Of which:													
- Energo-Pro Georgia + EP Georgia Supply*	453	356	349	357	402	4,477	417	373	386	333	340	368	2,217
% change y/y	+5%	+2%	+2%	+0.7%	-5.3%	+1.4%	-3.1%	+1.1%	+5.7%	+0.6%	+1.3%	+9.2%	+2.3%
-Telasi + Telmico*	301	232	235	251	299	3,094	309	289	290	238	234	277	1,636
% change y/y	+12%	+1%	+4%	-0.0%	+6.4%	+3.2%	+15.7 %	+2.6%	+12.2%	+4.8%	+1.4%	+14.5 %	+8.7%
Domestic Generation, total	1,462	1,118	1,043	1,003	1,166	14,396	1,175	1,022	1,130	1,085	1,411	1,511	7,334
% change y/y	+4%	-6%	+1%	-11%	+5%	+1.1%	+6%	+3%	+11%	-13%	+6%	+10%	+3.9%
Of which:													
- TPPs	162	302	429	364	378	3,446	428	342	395	74	-	0	1,239
% change y/y	-32%	-5%	+179%	-27%	-45%	+1.7%	-41%	-47%	+90%	-25%	-100%	-87%	-26.3%
- WPPs	7	8	7	6	6	86	5	6	8	8	7	5	39
% change y/y	-29%	+10%	-11%	-13%	-16%	-1.6%	-33%	-2%	+20%	-10%	-14%	-1%	-7.9%
- HPPs	1,293	808	608	633	782	10,863	742	674	727	1,004	1,404	1,506	6,056
% change y/y	12%	-7%	-30%	1%	88%	+0.9%	98.1%	98.9%	-10%	-12.1%	6.6%	11%	+13.5%
Imports	-	-	0	81	108	790	160	173	105.52	7	8	4.10	457
% change y/y	N/A	N/A	-100%	+46%	-50%	-48.5%	-35.2%	-17%	-27.7%	NM	N/A	NM	-23.9%
Exports	196	132	ο	0	ο	1,468	8	4	8	58	319	360	757
% change y/y	+40.1%	+41.0 %	N/A	N/A	N/A	+51.2%	N/A	+206 %	N/A	-65%	+29%	+6%	+0.1%
Trade balance	196	132	(0)	(80)	(108)	679	(152)	(169)	(98)	51	311	355	300
Transit	240	300	251	193	243	3,444	44	45	63	15	-	30	391
% change y/y	-32%	-24%	-28%	-62%	-53%	+9.0%	-92%	-88%	-86%	-85%	N/A	N/A	-73.9%

Source: 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. Note: N/A= not available; NM= not meaningful



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