



Georgia's Energy Sector Electricity Market Watch

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Electricity power purchase agreements (PPAs) have been eliminated. The government made changes into Decree 214, regulating the expression of interest process for HPP projects on the Ministry of Energy's list. Currently, the list of potential power plants includes 98 small and medium HPPs with total approximate installed capacity of 1.5 GW. According to the change, these HPPs will no longer receive guaranteed PPAs from ESCO. In addition, the minimum pre-construction bank guarantee will increase from US\$ 5,000 to US\$ 15,000. The winner selection criterion (if several candidates bid for the same project) will be the amount of the bank guarantee the investor submits. Previously, the project was awarded to the bidder with the lowest PPA tariff in their proposal. The change will not affect MoUs that have already been signed. The Ministry of Economy did note that strategically important HPPs, such as those with seasonal regulations, might still receive guaranteed tariffs, as an exception, subject to detailed fiscal risk evaluation by the Ministry of Finance.

Electricity market highlights

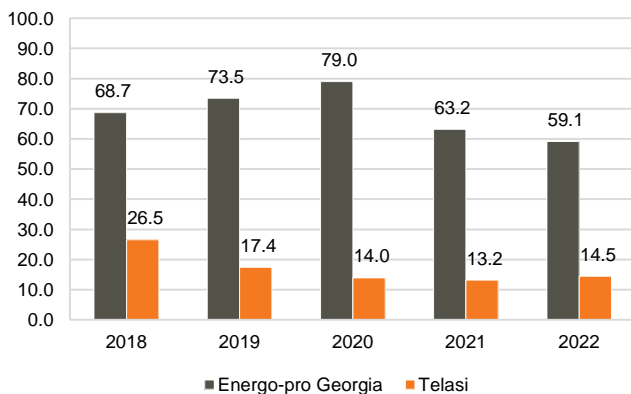
Balancing price of electricity in Georgia, December*	USc 4.8/ kWh
Market clearing price of electricity in Turkey, December*	USc 4.1/ kWh
Average export price for Georgian electricity, December	USc 6.7/ kWh
Average import price for electricity, December**	USc 4.9/ kWh
Guaranteed Capacity Fee, December	USc 0.2/ kWh
Y/Y change in domestic consumption in kWh, 12M17	7.7%
Y/Y change in exports in kWh, 12M17	22.7%
Y/Y change in exports to Turkey in kWh, 12M17	-3.4%

*Average exchange rates in December GEL/US\$ = 2.6125; TRY/US\$ = 3.8477

** Exports were negligible in December (0.003GWh)

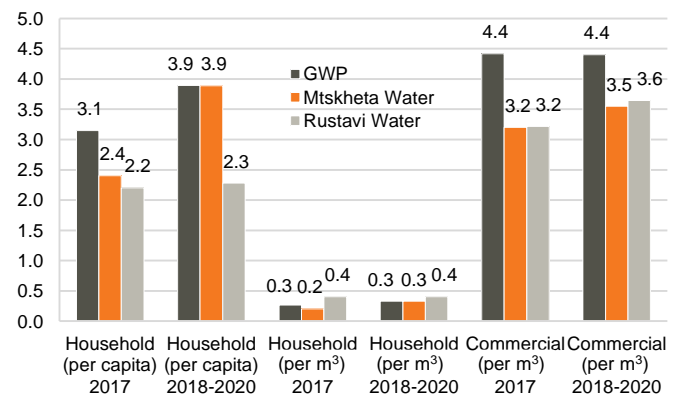
Telasi and Energo-Pro are going to invest GEL 85.6mn and GEL 343.5mn, respectively, in grid rehabilitation over 2018-2022. Prior to setting new tariffs for distribution companies, GNERC approved not only the investment plans to be considered during tariff calculation (GEL 66.2mn and GEL 278.4mn, respectively, for 2017-2019), but also the grid development plan for the next five years. That plan includes the addition of new subscribers, rehabilitation of amortized transmission lines, construction of new substations, increase in transmission capacities, etc. Users currently connected to the 35-110kV transmission grid will be obligated to register as direct consumers in May 2018. Subsequently, they will no longer be subscribers of Telasi or Energo-Pro and will purchase electricity directly from suppliers at prices negotiated with the suppliers on a monthly basis. Direct consumers will pay all service fees to the respective service providers (2.393 tetri/kWh) and the guaranteed capacity fee to ESCO. This change will roughly double direct consumption.

Figure 1: Investment plans of distribution companies, GEL mn



Source: GNERC

Figure 2: Monthly water supply tariffs, GEL



Source: GNERC

*tariffs include VAT of 18%

Tariffs for water supply companies – GWP, Rustavi Water, and Mtskheta Water – increased by 22.0%, on average. GNERC set the tariffs according to the methodology adopted in 2017, replicating the "incentive-based" methodology used for other utility businesses in Georgia. The tariffs are set to ensure an adequate return on the GEL 124.1mn to be invested by these companies over 2018-2020. Notably, the weighted average cost of capital (WACC), used as the pre-determined return on the regulatory asset base (RAB), is set at 15.99% for water supply activities. The new tariffs will be in effect for 2018-2020.

Electricity consumption is expected to increase by 7.1% in 2018. According to the electricity (capacity) forecast of 2018, approved by the Ministry of Economy, the growth in consumption will be met by higher import (+30.8% y/y) and hydro generation (+7.3% y/y). Import sources will be determined during the year according to available commercial contracts. Thermal generation is expected to decrease 4.5% y/y in 2018. According to the forecast, only three small HPPs, with expected generation of 8.9GWh, will be added to the supply side in 2018. HPPs that were commissioned in 2017 will be the main source of the increase in hydro generation. Export of electricity is also expected to increase (+17.5% y/y). Export companies and directions will be determined through the auctions held by GSE during the year.

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Electricity Consumption, Exports, and Generation – 2017 Summary

Domestic consumption increased 7.7% y/y in 2017 and reached 11.9TWh. Consumption by distribution companies increased 7.1% y/y and accounted for 71.1% of domestic consumption. Telasi subscriber usage (+5.2% y/y) accounted for a third of distributor demand, while Energo-Pro Georgia and former Kakheti Energy Distribution Corporation (+8.1% y/y) accounted for the rest. Electricity usage of eligible consumers increased 18.1% y/y, despite the fact that two companies (Rustavi Steel Corporation and Georgian Railway) gave up this status in 2017. Consumption of the Abkhazian region increased 3.9% y/y and accounted for 16.9% of domestic consumption. Exports increased 22.7% y/y and reached 0.7TWh in 2017. Electricity transit through Georgia declined considerably (-70.1% y/y) to 254.0GWh, of which 80.7% went from Azerbaijan to Turkey, 16.6% from Russia to Armenia, and the rest from Russia to Turkey.

Domestic generation remained relatively constant (-0.4% y/y) in 2017. Deregulated HPPs posted a 20.3% y/y increase, due to the addition of new HPPs to the group, and accounted for 12.0% of total supply to the grid. Enguri/Vardnili generation increased 1.3% y/y, despite the temporary closure for tunnel works in February, and accounted for 32.7% of total electricity supply. 46.1% of Enguri/Vardnili electricity was used to supply the Abkhazian region. Generation by other regulated HPPs (26.0% of total supply), down 11.4% y/y, was the main drag on hydro output (-1.3% y/y) in 2017. Hydro generation did increase 6.7% y/y May through August, which was the main driver of export growth in 2017 (+22.7% y/y). The 20.6MW wind power plant generated 0.09TWh of electricity in its first full year of operation and accounted for 0.7% of total supply to the grid.

Figure 3: Electricity supply, consumption, and export, TWh

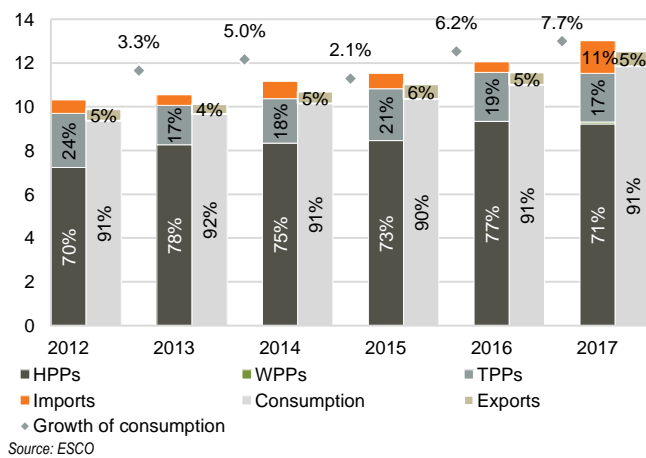
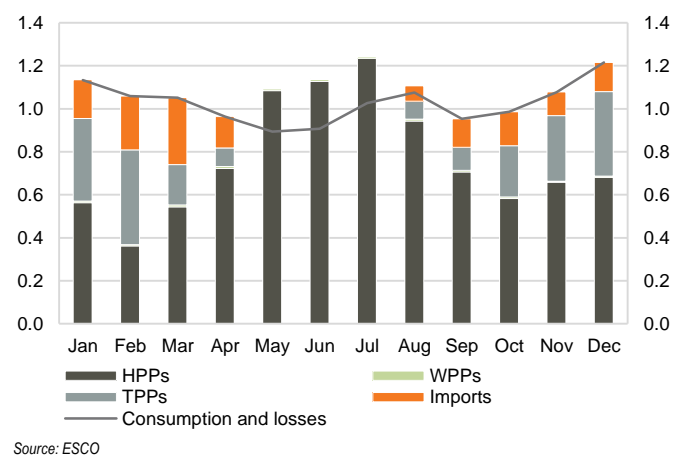


Figure 4: Monthly distribution of supply/demand in 2017, TWh



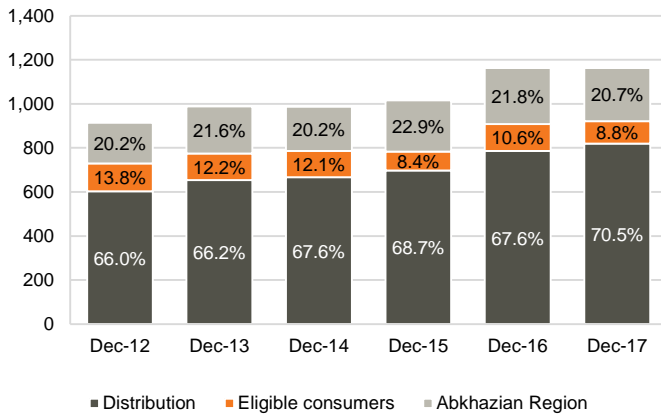
Growth in demand was met by electricity imports from Azerbaijan (61.3%), Russia (30.2%), and Armenia (8.5%). Electricity import in 2017 increased 3.1 times y/y from the low base in 2016 (-31.5% y/y) to 1.5TWh, or 11.5% of total electricity supplied to the grid. The reasons behind the dramatic increase were consumption growth in 2017 and lower hydro generation in the winter (-7.5% y/y), mainly due to Enguri's maintenance works. Electricity import was chosen over additional generation by certain TPPs due to the flexibility of import, technical constraints, the insignificant difference in prices, and the necessity to have some thermal capacity reserved for system security. Total supply of electricity, comprised of domestic generation (11.5TWh) and import (1.5TWh), reached 13.0TWh (+8.1% y/y) in 2017. 91.0% of total supply was consumed by domestic consumers, 5.3% was exported, and 3.7% was used by power plants or lost during transmission.



Electricity Consumption, Exports, and Generation- December 2017

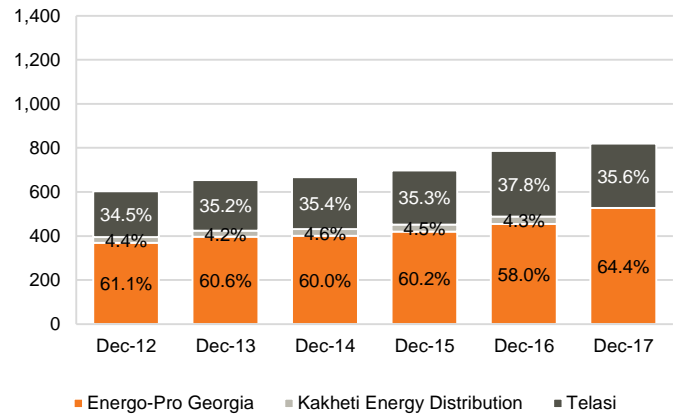
Domestic electricity consumption was flat in December 2017. Consumption by distribution licensees increased 4.3% y/y, while the Abkhazian region and eligible consumers posted 5.0% y/y and 17.0% y/y declines, respectively. Consumption by Energo-Pro Georgia subscribers, including former Kakheti Energy Distribution subscribers, increased 8.0% y/y, while Telasi consumption was down 1.8% y/y, albeit from a high base in December 2016 (+20.5% y/y). Electricity usage by Georgian Manganese, the largest eligible consumer, was down 16.4% y/y from a very high base in December 2016 (+71.7% y/y). Electricity transit through Georgia was down 60.8% y/y in December 2017 to 52.7GWh, 87.4% of which went from Azerbaijan to Turkey and the rest from Russia to Turkey. Electricity exports were negligible in December 2017.

Figure 5: Domestic electricity consumption and export, GWh



Source: ESCO

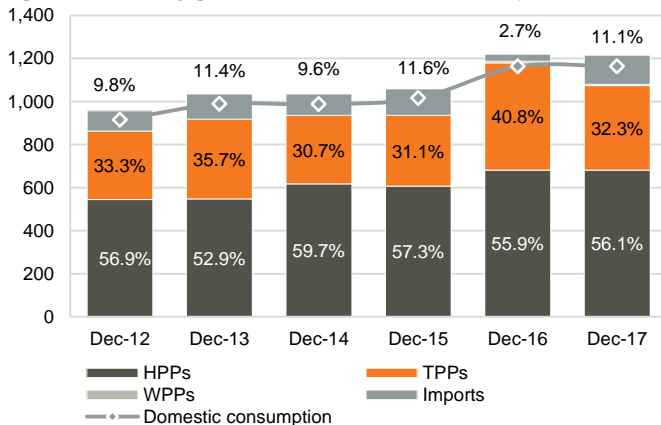
Figure 6: Consumption of distribution companies, GWh



Source: ESCO

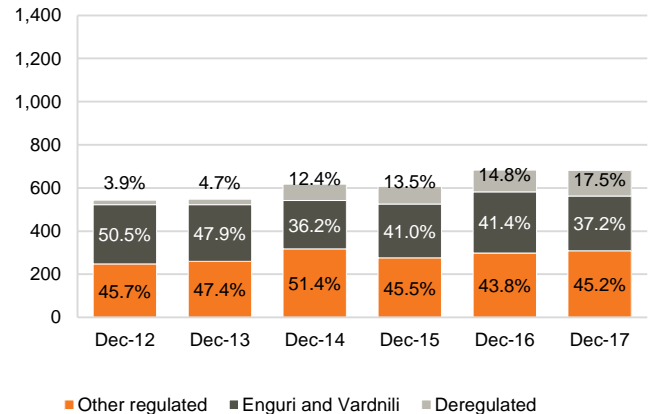
Electricity generated by domestic sources decreased 8.9% y/y in December 2017 and the shortfall was met with imports. Hydro generation was flat, while thermal generation declined 20.9% y/y, which was 3.7% below the planned level. Wind generation reached 5.8GWh and contributed 0.5% of total supply. Enguri/Vardnili generation was down 10.2% y/y, while generation of other regulated and deregulated HPPs increased 3.3% y/y and 18.5% y/y, respectively. Electricity import increased 4.0 times y/y (+9.6% compared to December 2015) to 134.7GWh, or 11.1% of total electricity supplied to the grid in December 2017. Notably, electricity import was only 6.2% above the planned level. 81.8% of imported electricity came from Russia, while the rest came from Azerbaijan (13.9%) and Armenia (4.3%). The guaranteed capacity fee was down 30.6% y/y and 72.1% m/m to USc 0.17/kWh, as guaranteed capacity days were restricted to fit their annual limits.

Figure 7: Electricity generation and domestic consumption, GWh



Source: ESCO

Figure 8: Hydro generation, GWh



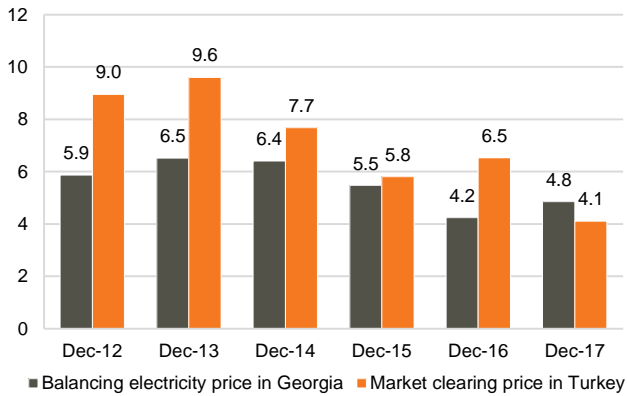
Source: ESCO



Electricity Prices in Georgia and Turkey

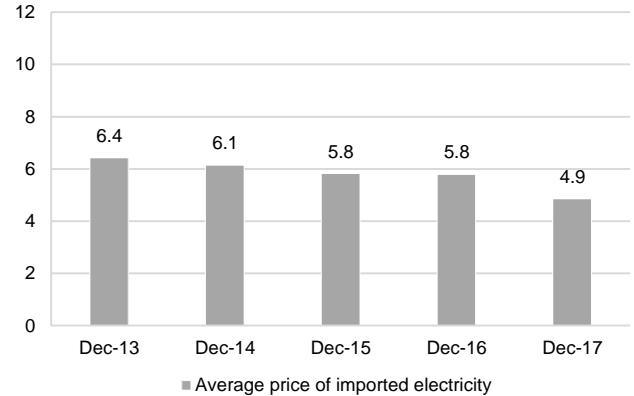
Average import price was down 16.1% y/y to USc 4.9/kWh. However, the high share of imports in the electricity supply mix resulted in an increase in the wholesale electricity price to USc 4.8/kWh (+13.3% y/y). Electricity traded at the wholesale price through the market operator accounted for 19.7% of total electricity supplied to the grid in December 2017, with the rest traded through bilateral contracts. Average monthly market clearing price in Turkey decreased 37.1% y/y to USc 4.1/kWh in December 2017.

Figure 9: Electricity prices in Georgia and Turkey, USc/kWh



*There were no exports to Turkey in December 2017.
Source: ESCO, EPIAS

Figure 10: Average price of electricity imports, USc/kWh



*Exports are negligible in December. Dec-12 import price not meaningful.
Source: ESCO, GeoStat



Table 1: Electricity Balance (GWh)

	2016	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	2017
Domestic consumption	11,007	1,085	1,012	1,019	933	856	870	985	1,037	918	947	1,032	1,163	11,856
<i>y/y growth rate</i>	6.2%	7%	13%	8%	8%	1%	3%	10%	14%	16%	7%	7%	0%	7.7%
Abkhazian region	1,927	252	234	205	171	132	102	113	119	101	136	194	241	2,002
<i>y/y growth rate</i>	7.2%	7%	20%	7%	14%	8%	1%	3%	2%	-8%	-4%	-1%	-5%	3.9%
Eligible consumers	1,209	107	113	129	128	95	131	136	138	122	121	107	102	1,427
<i>y/y growth rate</i>	-1.0%	18%	25%	12%	5%	-27%	6%	21%	66%	91%	62%	32%	-17%	18.1%
Distribution companies	7,872	726	666	685	634	629	637	736	780	695	690	732	819	8,427
<i>y/y growth rate</i>	7.2%	6%	9%	8%	7%	6%	3%	9%	10%	13%	4%	6%	4%	7.1%
Energo-Pro Georgia	4,740	413	381	410	390	393	399	463	484	456	457	481	528	5,254
<i>y/y growth rate</i>	3%	3%	10%	9%	6%	6%	4%	11%	12%	22%	13%	10%	8%	8%
Telasi	2,789	281	256	246	216	209	211	240	261	239	233	251	292	2,935
<i>y/y growth rate</i>	15%	11%	8%	8%	9%	7%	0%	5%	9%	12%	1%	-1%	-2%	5%
Kakheti Energy Distr.	343	32	28	29	27	27	28	33	35	-	-	-	-	239
<i>y/y growth rate</i>	2%	8%	5%	7%	8%	6%	6%	14%	9%	-	-	-	-	-
Domestic generation	11,574	955	809	741	817	1,093	1,138	1,247	1,035	821	828	968	1,080	11,531
<i>y/y growth rate</i>	7%	-1%	0%	-12%	-7%	2%	4%	18%	8%	3%	-9%	-3%	-9%	0%
HPPs	9,329	564	362	544	722	1,085	1,128	1,234	944	706	583	658	682	9,211
<i>y/y growth rate</i>	10%	-10%	-33%	-22%	-1%	1%	3%	16%	6%	10%	-11%	2%	0%	-1%
TPPs	2,235	385	442	188	86	0	1	5	83	107	239	304	393	2,233
<i>y/y growth rate</i>	-6%	14%	62%	26%	-40%	N/A	-76%	321%	31%	-32%	-6%	-14%	-21%	0%
WPPs	9	7	6	9	9	8	9	7	8	7	7	5	6	88
<i>y/y growth rate</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	178%	-19%	N/A
Imports	479	179	250	311	147	2	0	1	73	133	157	110	135	1,497
<i>y/y growth rate</i>	-32%	92%	106%	134%	493%	-41%	-100%	-78%	597%	449%	832%	766%	302%	213%
Exports	559	1	0	0	0	200	230	222	32	0	0	1	0	686
<i>y/y growth rate</i>	-15%	N/A	N/A	N/A	N/A	5%	9%	71%	16%	N/A	N/A	N/A	N/A	23%
Net export/import	80	(178)	(250)	(311)	(146)	199	230	221	(41)	(133)	(157)	(109)	(135)	(811)
Transit	850	10	16	4	5	4	-	-	93	32	15	23	53	254
<i>y/y growth rate</i>	N/A	N/A	-49%	-84%	-90%	N/A	N/A	N/A	-33%	-69%	-89%	-83%	-61%	-70%

Source: ESCO



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