



# Georgia's Energy Sector Electricity Market Watch

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Monthly Bulletin  
September 29, 2017

**Georgia's net import of electricity in 2017 is expected to come in at 1,007.4GWh.** By comparison, Georgia was a net exporter of electricity in 2016, albeit with only 80.1GWh of net export. Electricity export was up 22.6% y/y to 684.7GWh in 8M17, while imports more than doubled to 962.3GWh. Based on the updated annual forecast, electricity import in 2017 is expected to reach a historical high of 1,692.0GWh (+253.3% y/y), with net import of 1,007.4GWh.

**Turkey remains the main export market, with a 41.4% share in total exports in 8M17.** Exports to Turkey were down 3.6% y/y from an already low base in 8M16 (-15.9% y/y), largely due to lower average prices on the Turkish market. The top exporters to Turkey were Georgian Urban Energy (42.5% of total), owner of the 86.5MW Paravani HPP; Energy Solutions (25.6%), exporting electricity purchased from Enguri in July 2017; and Adjar Energy 2007 (14.9%), owner of the 47.5MW Khelvachauri HPP. ESCO also exported 26.1 GWh (9.2% of total) to Turkey, in exchange for electricity imports from Azerbaijan in 2012.

**Electricity exports to Armenia and Russia posted significant growth.** Export to Armenia was up 23.3% y/y in 8M17, from an already high base in 8M16 (+57.4% y/y), and accounted for 20.1% of total electricity exports. The two exporters to Armenia were GIEC (44.0%) and ESCO (56.0%), which exported electricity in exchange for the electricity imported from Armenia during Feb-Apr 2017. Electricity export to Russia was up 77.5% y/y in 8M17 and accounted for 38.3% of total exports, with ESCO being the sole exporter. The reason behind the increase in export to Russia was an unexpected surplus of generation in June and July and inflexibility of other markets to import additional electricity on short notice. Overall, ESCO accounted for over half (53.6%) of the electricity exports in 8M17.

**TPP tariffs were revised downward for the rest of 2017.** The reductions varied from 6.9% for Mtkvari Energy (down to 11.358 tetri/kWh) to 25.4% for GPower (down to 10.537 tetri/kWh). The reason behind the reductions, as stated by GNERC, is the difference between planned and actual data, including exchange rates. While changes in US\$ terms were insignificant for Mtkvari Energy and Gardabani CCGT, the tariff for Blocks 3 and 4, owned by Georgian International Energy Corporation Ltd (GIEC), was lowered 13.6% in US\$ terms and 23.0% in GEL terms. The guaranteed capacity fees, received by TPPs for the number of days they are under operation or on standby, remain unchanged.

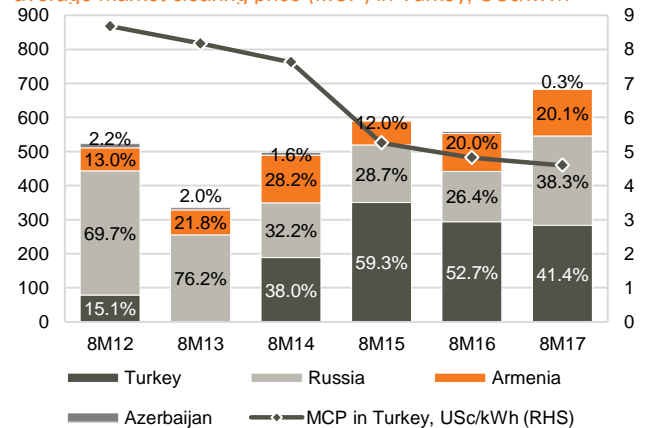
**Georgia's overall energy security was rated 3.7 out of 5,** according to a study conducted by World Experience for Georgia, a non-profit organization specializing in energy security, economic sustainability, and environmental issues. The study, which was conducted using the MOSES methodology, analyzed the security level for each primary energy source (natural gas, oil products, hydropower, coal, biomass, etc.) in terms of import dependency, resilience, and other risks. The highest risk category (E) was assigned to natural gas, due to the highest import dependency (99.7% in 2016) and lack of reservoir capacity. The lowest risk category (A) was assigned to hydropower, taking into consideration variability, risks, and resilience associated with hydro supply.

## Electricity market highlights

Balancing price of electricity in Georgia, August*	USc 4.7/ kWh
Market clearing price of electricity in Turkey, August*	USc 5.1/ kWh
Average export price for Georgian electricity, August	USc 0.6/ kWh
Average import price for electricity, August**	USc 4.9/ kWh
Guaranteed Capacity Fee, August	USc 0.6/ kWh
Y/Y change in domestic consumption in kWh, 8M17	8.2%
Y/Y change in exports in kWh, 8M17	22.6%
Y/Y change in exports to Turkey in kWh, 8M17	-3.6%

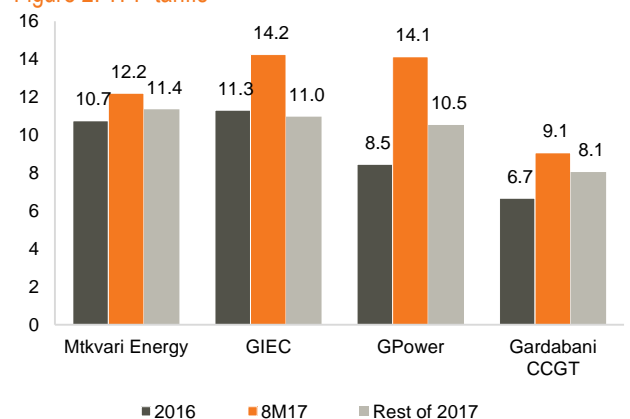
\*Average exchange rates in August GEL/US\$ = 2.3971; TRY/US\$ = 3.5125

Figure 1: Electricity exports by destination, GWh, and average market clearing price (MCP) in Turkey, USc/kWh



Source: ESCO, EPIAS

Figure 2: TPP tariffs



Source: GNERC

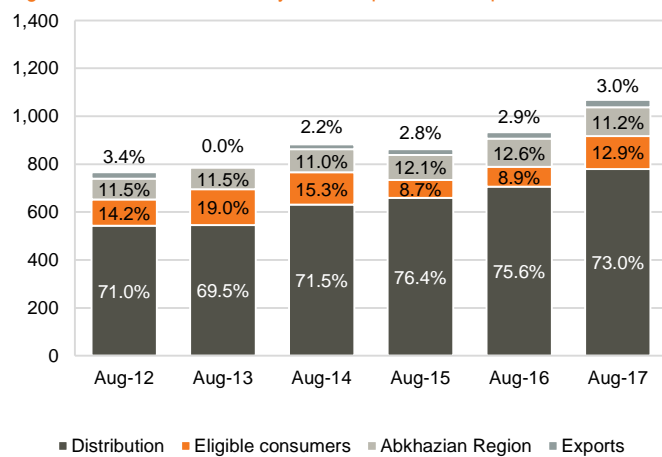


### Electricity Consumption, Exports, and Generation

**Domestic consumption increased 14.4% y/y in August 2017.** Consumption by eligible consumers, up 66.0% y/y, was a key driver, with Georgian Manganese doubling its consumption (+102.4% y/y) to 114.9GWh, a historic maximum for the company. Consumption of distribution companies, up 10.5%, also played a significant role in overall growth. Consumption was up 8.6% y/y by Telasi, 11.7% y/y by Energo-Pro, and 8.7% y/y by Kakheti Energy Distribution. The Abkhazian region's electricity usage was up 1.7% y/y and accounted for 11.2% of domestic consumption.

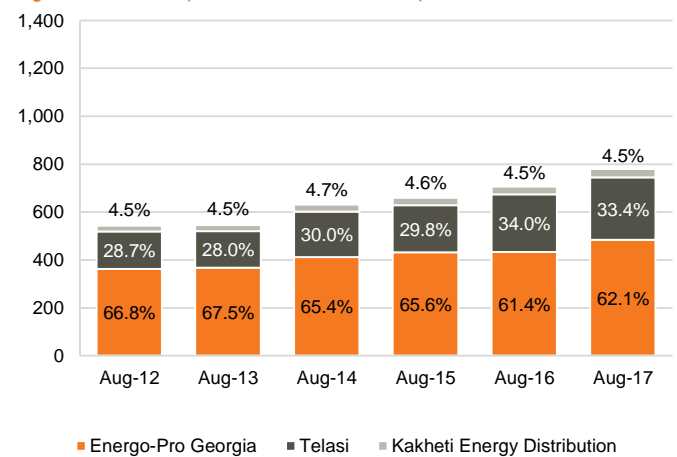
**Electricity exports increased 15.9% y/y to 31.6GWh in August 2017 and 22.6% y/y to 684.7GWh in 8M17.** 63.9% of exported electricity in August 2017 went to Armenia. ESCO was the sole exporter, exporting electricity in exchange for the electricity imported from Armenia during Feb-Apr 2017. The remaining 35.8% of exported electricity went to Turkey (-58.4% y/y). ESCO was responsible for the lion's share (96.4%) of exports to Turkey as well, exporting electricity in exchange for electricity imports from Azerbaijan in 2012. Bakhvi Hydro Power accounted for the remainder. Electricity transit through Georgia decreased 33.1% y/y to 92.8GWh in August 2017. 68.5% of electricity transit went from Azerbaijan to Turkey, with the rest directed from Russia to Armenia. Simultaneous transit in these directions first took place in February 2016 and will continue in September 2017.

Figure 3: Domestic electricity consumption and export, GWh



Source: ESCO

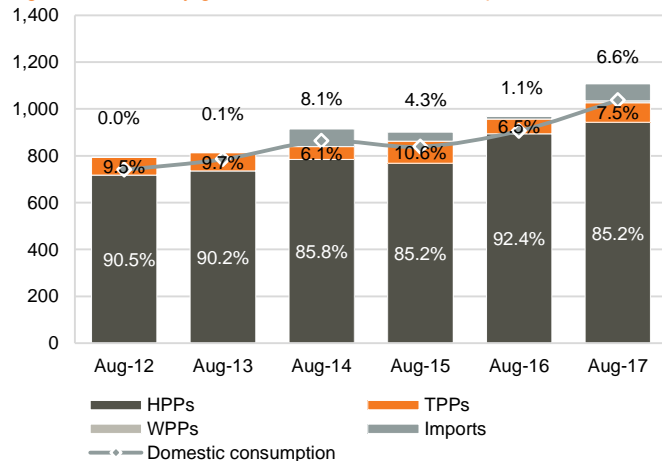
Figure 4: Consumption of distribution companies, GWh



Source: ESCO

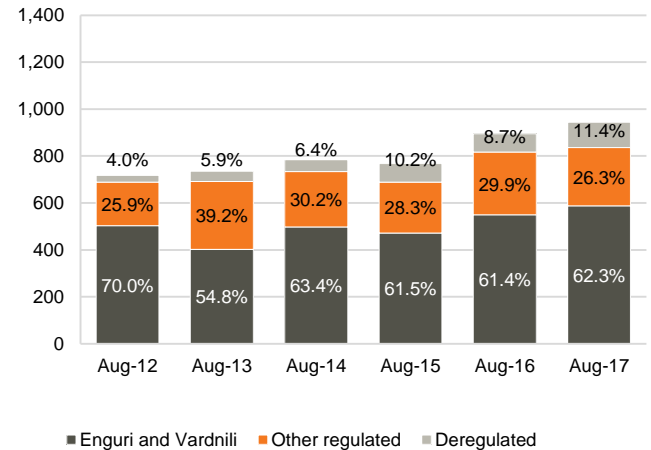
**Electricity import accounted for 6.6% of total electricity supplied to the grid in August 2017.** Domestic generation increased 8.1% y/y, with HPP generation up 5.5% y/y (85.2% of total). Thermal generation increased 31.3% y/y (7.5% of total) from the low base in 2016 (-33.9% y/y), while the new wind power plant accounted for 0.8% of total electricity supply. 2.3% of total electricity supply was exported. Deregulated HPPs posted a significant increase in generation (+37.6% y/y), due to the addition of Dariali HPP (108.0MW) and Khelvachauri HPP (47.5MW). The commissioning of Shuakhevi HPP (178.7MW) in late August 2017 will result in higher growth in this category in the coming months. Generation by Enguri/Vardnili was up 7.1% y/y and accounted for more than half (53.1%) of total supply in August 2017. However, generation was down 7.1% y/y by other regulated HPPs. Electricity imports spiked to 72.9GWh in August 2017, with 68.9% coming from Azerbaijan and the rest from Russia. The GC fee was down 31.3% y/y to USc 0.6/kWh, as Mtkvari Energy and Block 4 were under maintenance for almost the entire month.

Figure 5: Electricity generation, domestic consumption, GWh



Source: ESCO

Figure 6: Hydro generation, GWh



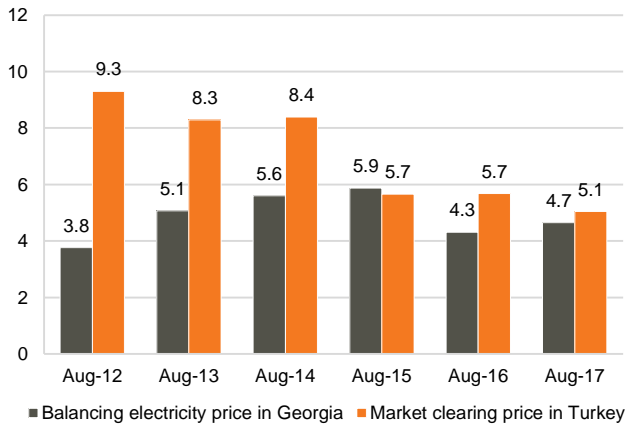
Source: ESCO



### Electricity Prices in Georgia and Turkey

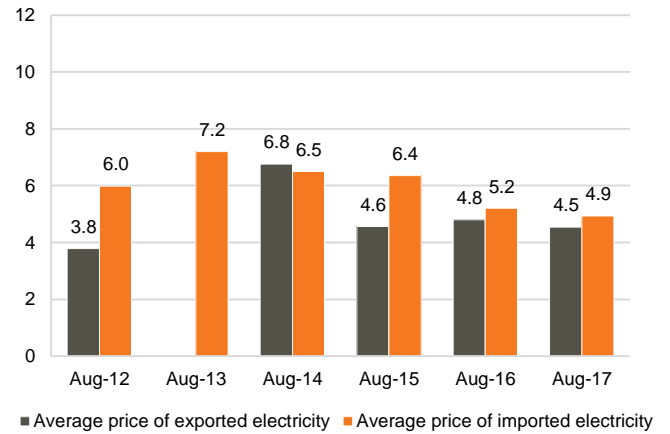
Wholesale market price in Georgia increased 9.0% y/y to USc 4.7/kWh in August 2017, while the Turkish market clearing price decreased 11.1% y/y to USc 5.1/kWh. 16.3% of total electricity supplied to the grid in Georgia was traded through the market operator, with the rest traded through bilateral contracts. Average export price was down 5.5% y/y in August 2017, but up 36.2% m/m from USc 3.3/kWh in July 2017. The monthly increase can be explained by the near-elimination of low-priced exports to Russia, which accounted for 34.4% of total exports in July 2017.

Figure 7: Electricity prices in Georgia and Turkey, USc/kWh



Source: ESCO, EPIAS

Figure 6: Average prices of imports and exports, USc/kWh



Source: ESCO, GeoStat



**Table 1: Electricity Balance (GWh)**

	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	2016	8M17
<b>Domestic consumption</b>	<b>789</b>	<b>883</b>	<b>967</b>	<b>1,162</b>	<b>1,085</b>	<b>1,012</b>	<b>1,019</b>	<b>933</b>	<b>856</b>	<b>870</b>	<b>985</b>	<b>1,037</b>	<b>11,007</b>	<b>7,797</b>
<i>y/y growth rate</i>	4%	13%	11%	14%	7%	13%	8%	8%	1%	3%	10%	14%	6%	8%
Abkhazian Region	110	142	196	254	252	234	205	171	132	102	113	119	1,927	1,329
<i>y/y growth rate</i>	17%	24%	10%	9%	7%	20%	7%	14%	8%	1%	3%	2%	7%	9%
Eligible consumers	64	75	81	123	107	113	129	128	95	131	136	138	1,209	976
<i>y/y growth rate</i>	-13%	-2%	-4%	44%	18%	25%	12%	5%	-27%	6%	21%	66%	-1%	13%
Distribution Companies	615	666	690	785	726	666	685	634	629	637	736	780	7,872	5,491
<i>y/y growth rate</i>	4%	13%	14%	13%	6%	9%	8%	7%	6%	3%	9%	10%	7%	13%
Energo-Pro Georgia	375	405	407	455	413	381	410	390	393	399	463	484	4,740	3,332
<i>y/y growth rate</i>	-1%	8%	10%	8%	3%	10%	9%	6%	6%	4%	11%	12%	3%	8%
Telasi	213	231	253	297	281	256	246	216	209	211	240	261	2,789	1,920
<i>y/y growth rate</i>	17%	25%	22%	21%	11%	8%	8%	9%	7%	0%	5%	9%	15%	7%
Kakheti Energy Distr.	28	30	30	33	32	28	29	27	27	28	33	35	343	239
<i>y/y growth rate</i>	2%	5%	6%	6%	8%	5%	7%	8%	6%	6%	14%	9%	2%	8%
<b>Domestic Generation</b>	<b>798</b>	<b>907</b>	<b>998</b>	<b>1,186</b>	<b>955</b>	<b>809</b>	<b>741</b>	<b>817</b>	<b>1,093</b>	<b>1,138</b>	<b>1,247</b>	<b>1,035</b>	<b>11,574</b>	<b>7,835</b>
<i>y/y growth rate</i>	3%	14%	18%	27%	-1%	0%	-12%	-7%	2%	4%	18%	8%	7%	2%
HPPs	640	653	642	682	564	362	544	722	1,085	1,128	1,234	944	9,329	6,582
<i>y/y growth rate</i>	26%	22%	17%	12%	-10%	-33%	-22%	-1%	1%	3%	16%	6%	10%	-2%
TPPs	159	254	354	497	385	442	188	86	0	1	5	83	2,235	1,190
<i>y/y growth rate</i>	-41%	-1%	19%	51%	14%	62%	26%	-40%	N/A	-76%	321%	31%	-6%	22%
WPPs	-	-	2	7	7	6	9	9	8	9	7	8	9	63
<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	N/A	N/A	N/A
Imports	24	17	13	33	179	250	311	147	2	0	1	73	479	962
<i>y/y growth rate</i>	-47%	-71%	-85%	-73%	92%	106%	134%	493%	-41%	-100%	-78%	597%	-32%	146%
Exports	0	0	0	0	1	0	0	0	200	230	222	32	559	685
<i>y/y growth rate</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5%	9%	71%	16%	-15%	0.23
<b>Net Export/Import</b>	<b>(24)</b>	<b>(17)</b>	<b>(13)</b>	<b>(33)</b>	<b>(178)</b>	<b>(250)</b>	<b>(311)</b>	<b>(146)</b>	<b>199</b>	<b>230</b>	<b>221</b>	<b>(41)</b>	<b>80</b>	<b>(278)</b>
Transit	101	131	131	134	10	16	4	5	4	-	-	93	850	132
<i>y/y growth rate</i>	N/A	N/A	N/A	N/A	N/A	-49%	-84%	-90%	N/A	N/A	N/A	-33%	N/A	-63%

Source: ESCO



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