



Georgia's Energy Sector Electricity Market Watch

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Annual forecast for 2018 electricity balance revised

The 2018 electricity balance forecast was approved by Ministry of Economy and Sustainable Development in December 2017. The document outlines the generation and consumption plans for each market participant. The updated annual forecast of 2018 electricity balance was issued on May 16, 2018.

Main modifications are related to export and import amounts, hydro generation and 4M figures (forecasted replaced by actuals). According to the modified annual forecast for 2018:

- Electricity consumption expected to reach 12.7TWh (growth revised down to 6.9% y/y from 7.1% y/y in previous edition)
- Import expected to reach 1.3TWh, which is 12.4% y/y reduction compared to initial forecast of 30.8% y/y increase
- Export planned at 0.5TWh. GSE should define the exporter companies and export directions by the public auctions. So far, the most popular direction within exporters remains Turkey and Armenia is second most popular market.

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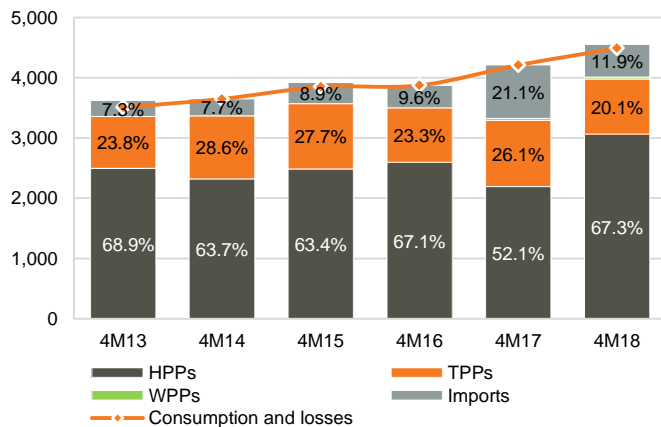
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Electricity supply and demand in 4M18

Electricity consumption increased by 6.7% y/y to 4.3TWh in 4M18. The increase was mainly driven by the 8.4% y/y growth in consumption of distribution licensees due to addition of new commercial subscribers (Energopro's consumption was up by 9.7% y/y and Telasi's was up by 6.1% y/y). Consumption by Eligible consumers and Abkhazian region was down respectively by 8.5% y/y and 5.0% y/y in 4M18.

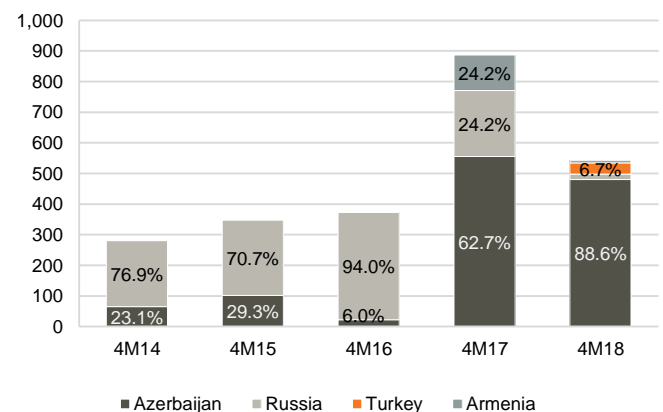
Domestic generation was up by 20.6% y/y in 4M18, mainly driven by 39.8% y/y increase in **hydro generation**. This dramatic increase in hydro generation can be explained by last year's low base and by the good hydrological conditions.

Figure 1: Electricity supply and consumption, 4M18, GWh



Source: GNERC

Figure 2: Electricity imports, 4M18, GWh



Source: GNERC



Surplus in hydro Generation (19.5% over the planned level) in 4M18 reduced **thermal** generation (-16.8% y/y) and **imports** (-38.9% y/y), both being significantly below the planned levels (17.8% and 40.6% respectively).

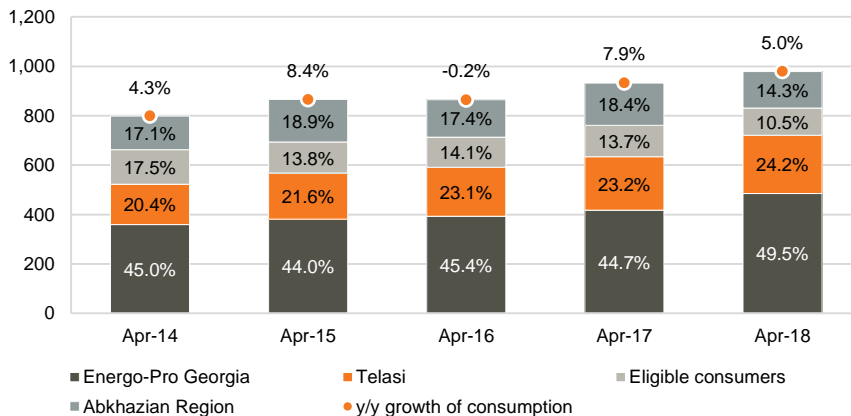
Electricity imports stood at 0.5TWh (US\$ 27.9mn) in 4M18. The 88.6% of total imports came from Azerbaijan, while the rest came from Turkey (6.7%) and Russia (3.3%).

Unexpected surplus in hydro generation also resulted in unexpectedly early **exports** of electricity. Export of electricity started in second half of April and reached 61.7GWh (US\$ 1.8mn) in 4M18.

Electricity Consumption, Exports, Generation and Imports - April 2018

Domestic electricity consumption increased 5.0% y/y to 1.0TWh in April 2018. The main contributors to the overall consumption growth were distribution licensees (+13.8% y/y), driven by addition of new commercial subscribers. Consumption by Abkhazian region and eligible consumers was down by 13.2% y/y and 14.5% y/y respectively, contributing negatively (-4.4ppts) to the overall growth of consumption.

Figure 3: Domestic electricity consumption, GWh



Source: ESCO

Note: Kakheti Energy Distribution was purchased by Energo-Pro Georgia in August, 2017

2018 export season started a bit earlier than usual - in second half of April, due to unexpected increase in hydro generation. Electricity exports reached 61.7GWh in April, 5.7% of total electricity supply. The largest exporter was Enguri HPP exporting electricity to Armenia (59.7% of total exports). The rest of surplus electricity was exported by ESCO to Russia (38.0% of exports) and Azerbaijan (2.3% of exports). There was no electricity transit in April 2018.

Table 1: Demand growth breakdown, Apr-18

Consumer	Growth rate, y/y	Share in consumption
Domestic consumption	+5.0%	100.0%
Abkhazian region	-13.2%	15.2%
Eligible consumers	-14.5%	11.2%
Distribution	+13.8%	73.7%
Energo-Pro Georgia	+16.1%	49.5%
Telasi	+9.4%	24.2%



Electricity generated by domestic sources increased by 30.2% y/y to 1.1TWh in April 2018, 25.2% above the planned level.

Hydro generation showed significant increase (+41.1% y/y) in April 2018, 21.9% the planned level:

- **Enguri/Vardnili** generation more than doubled increasing by 135.4% y/y. This significant increase can be explained by good hydrological conditions and last year's low base (-13.8%). Notably, in April 2018, Abkhazian region consumed only 35.7% of electricity generated from Enguri/Vardnili, for comparison this share equaled 96.9% in April 2017.
- Generation of **other regulated and deregulated HPPs** also increased by 6.0% y/y and 17.0% y/y, respectively, due to high water flow and addition of new HPPs (Dariali and Khelvachauri) to the group of deregulated HPPs.

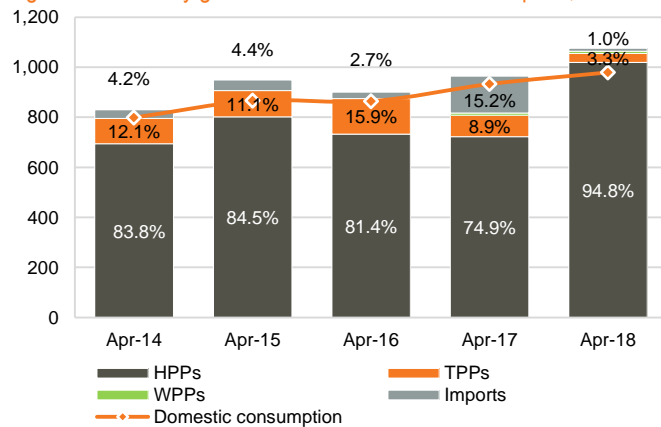
The surplus in hydro generation reduced **thermal generation** (-58.6% y/y) and **imports** (-92.3% y/y). Electricity imports almost halved (-92.3% y/y) to 11.2 GWh in April 2018 and accounted for only 1.0% of total supply. Most of the imported electricity came from Russia (87.3% of total), while the rest came from Azerbaijan.

Table 2: Supply growth breakdown, Apr-18

Supply source	Growth rate, y/y	Share in supply
Total Supply	+11.5%	100.0%
Imports	-92.3%	1.0%
Domestic generation	+30.2%	99.0%
TPPs	-58.6%	3.3%
WPPs	-0.5%	0.9%
HPPs	+41.1%	94.8%
Enguri and Vardnili	+135.4%	38.7%
Other regulated HPPs	+6.0%	31.3%
Deregulated HPPs	+17.0%	24.8%

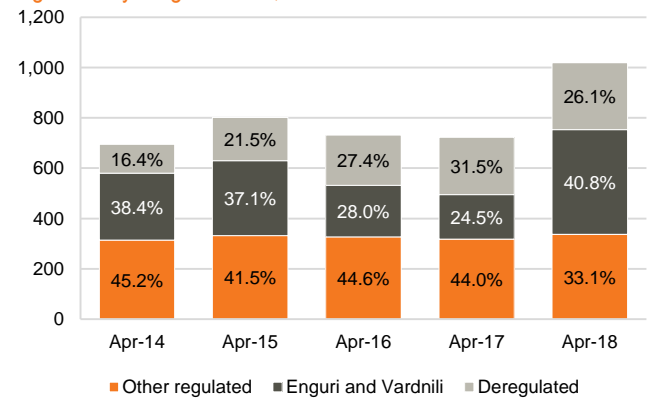
Source: ESCO

Figure 4: Electricity generation and domestic consumption, GWh



Source: ESCO

Figure 5: Hydro generation, GWh



Source: ESCO

The **guaranteed capacity fee** was down 7.8% y/y to USc 0.73/kWh in April 2018, due to increase in consumption, which serves as a base for guaranteed capacity fee calculation. Guaranteed capacity was provided by all five sources for entire month, with only Gardabani CCGT operating for the first decade of the month, while other thermal power plants being mostly on standby.



Electricity Prices in Georgia and Turkey

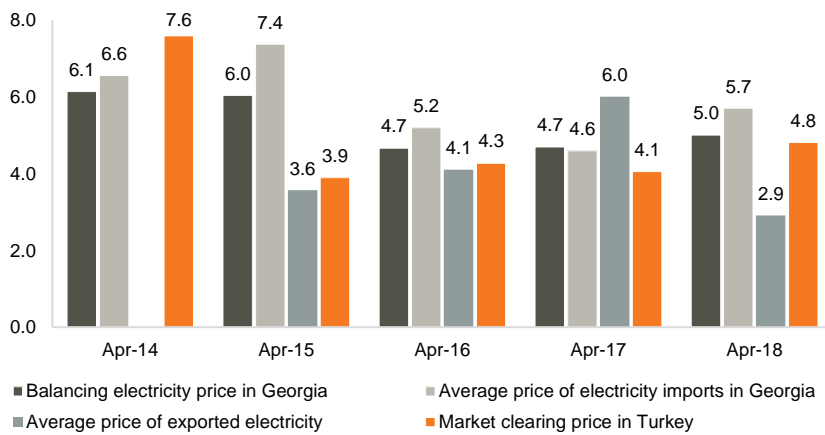
Average import price increased by 24.2% y/y and reached USc 5.7/kWh in April 2018, from USc 4.6/kWh in April 2017. This growth can be explained by last year's low base, when there was a subsidized electricity import from Russia via Salkhino line to satisfy the excess needs of Abkhazian region.

Despite higher import price, the **wholesale market price** increased only by 5.0% y/y to USc 5.0/kWh, due to low electricity imports. Electricity traded at the wholesale price through the market operator was 17.7% of total electricity supplied to the grid, down from 26.0% in April 2017.

Average price of electricity in Turkey was up 18.8% y/y to USc 4.8/kWh, 3.8% below the wholesale market price in Georgia.

Average export price was USc 2.9/kWh in April 2018. We assume the low average price of export is due to high share (38.0%) of exports to Russia at significantly low price, and the barter of electricity agreed by ESCO in February 2018.

Figure 6: Electricity prices in Georgia and Turkey, USc/kWh



Source: ESCO, GeoStat, EPIAS



Table 3: Electricity Balance (GWh)

	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	2017	Jan-18	Feb-18	Mar-18	Apr-18	4M18
Domestic consumption, total	856	870	985	1,037	918	947	1,032	1,163	11,856	1,168	1,059	1,114	979	4,320
% change y/y	1%	3%	10%	14%	16%	7%	7%	0%	7.7%	8%	5%	9%	5%	6.7%
<i>Of which:</i>														
- Abkhazian Region	132	102	113	119	101	136	194	241	2,002	247	216	207	149	820
% change y/y	8%	1%	3%	2%	-8%	-4%	-1%	-5%	3.9%	-2%	-7%	1%	-13%	-5.0%
- Eligible consumers	95	131	136	138	122	121	107	102	1,427	108	104	115	109	436
% change y/y	-27%	6%	21%	66%	91%	62%	32%	-17%	18.1%	1%	-8%	-11%	-14%	-8.5%
- Distribution Companies	629	637	736	780	695	690	732	819	8,427	812	738	792	721	3,064
% change y/y	6%	3%	9%	10%	13%	4%	6%	4%	7.1%	12%	11%	16%	14%	13.1%
<i>Of which:</i>														
- Energo-Pro Georgia	420	426	496	519	456	457	481	528	5,493	521	476	521	485	2,003
% change y/y	6%	4%	11%	11%	13%	5%	10%	8%	8.1%	17%	16%	19%	16%	17.1%
-Telasi	209	211	240	261	239	233	251	292	2,935	291	262	271	237	1,061
% change y/y	7%	0%	5%	9%	12%	1%	-1%	-2%	5.2%	4%	2%	10%	9%	6.1%
Domestic Generation, total	1,093	1,138	1,247	1,035	821	828	968	1,080	11,531	1,014	934	997	1,064	4,009
% change y/y	2%	4%	18%	8%	3%	-9%	-3%	-9%	-0.4%	6%	15%	35%	30%	20.6%
<i>Of which:</i>														
- HPPs	1,085	1,128	1,234	944	706	583	658	682	9,211	676	594	775	1,019	3,064
% change y/y	1%	3%	16%	6%	10%	-11%	2%	0%	-1.3%	20%	64%	42%	41%	39.8%
- TPPs	0	1	5	83	107	239	304	393	2,233	331	334	215	35	915
% change y/y	N/A	-76%	321%	31%	-32%	-6%	-14%	-21%	-0.1%	-14%	-24%	14%	-59%	-16.8%
- WPPs	8	9	7	8	7	7	5	6	88	7	6	7	9	30
% change y/y	N/A	N/A	N/A	N/A	N/A	N/A	1.7765 7	-19%	NM	10%	7%	-21%	0%	-2.9%
Imports	2	0	1	73	133	157	110	135	1,497	202	168	161	11	542
% change y/y	-41%	-100%	-78%	597%	449%	832%	766%	302%	212.6%	13%	-33%	-48%	-92%	-38.9%
Exports	200	230	222	32	0	0	1	0	686	-	-	-	62	62
% change y/y	5%	9%	71%	16%	N/A	N/A	N/A	N/A	22.7%	N/A	N/A	N/A	N/A	52.442
Net Export/Import	199	230	221	(41)	(133)	(157)	(109)	(135)	(811)	(202)	(168)	(161)	51	(480)
Transit	4	-	-	93	32	15	23	53	254	-	13	-	-	13
% change y/y	N/A	N/A	N/A	-33%	-69%	-89%	-83%	-61%	-70.1%	N/A	-18%	N/A	N/A	-61.3%

Source: ESCO

Note: Energo-pro Georgia includes consumption of Kakheti Energy Distribution before Aug-17



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