



Georgia's Energy Sector Electricity Market Watch

Georgia | Energy
Summary of 2020 and 1Q21
May 21, 2021

Highlights of 2020 and 1Q21

Electricity consumption was down by 4.9% y/y in 2020, caused by lockdowns and related reduction in economic activity due to Covid-19 pandemic. Despite reduced electricity consumption, import of electricity and thermal generation remained flat, needed to fill the winter deficit and compensate the drop in hydro generation caused by bad hydrological conditions.

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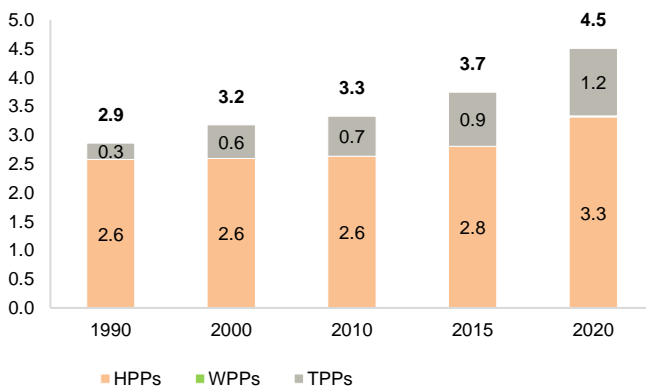
Electricity consumption was up by 3.1% y/y in 1Q21, reflecting gradual recovery in economic activity and last year's low base. Supply mix of 1Q21 was mainly dictated by closure of Enguri HPP for maintenance works for 3 months. Reduced hydro supply was mainly balanced by doubled volume of electricity imports (+93.2% y/y). To satisfy the need of Abkhazian region, traditionally satisfied from Enguri's generation, additional import from Russia through Salkhino interconnection line was made.

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The government subsidized population's utility bills to mitigate the negative impact of Covid-19 during March-May 2020 and November 2020 - February 2021. This support covered those subscribers who consumed less than 200 kWh of electricity and 200 m³ of natural gas in a month. This consumption translates into monthly payment of GEL 37 in case of electricity bill and GEL 100 in case of natural gas. The subsidy covered bills for a total amount of GEL 167.7mn during March-May period and GEL 267.8mn during November-February period.

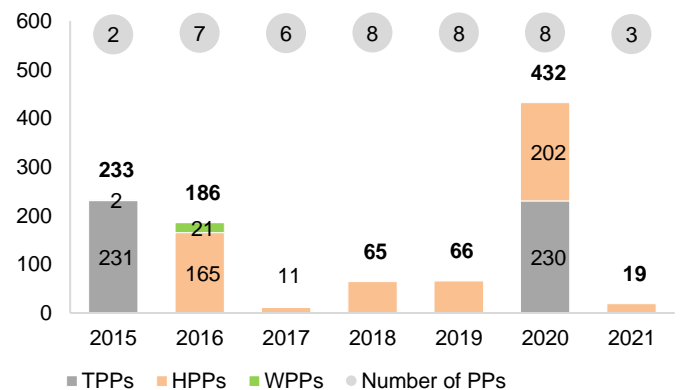
Installed capacity of Georgia increased by 432MW in 2020 and by 19MW in 1Q21 to 4.5GW. Capacity additions of 2020 included 230MW thermal power plant in Gardabani, 178MW Shuakhevi HPP in Adjara region and six small HPPs with total capacity of 23.4MW. In 1Q21, three small HPPs were commissioned. Notably, Shuakhevi HPP was in testing regime from 2017, technical issues were resolved and station started operation from February 2020. The HPPs commissioned in 2020 satisfied 2.2% of electricity demand of 2020, out of which 2.0ppts fell on the Shuakhevi HPP. Total installed capacity of Georgia was 4.5GW by end of 1Q21, including 7 TPPs (1.2GW), 1 wind farm (0.02GW) and 97 HPPs (3.3GW).

Figure 1: Installed capacity of Georgia by year, GW



Source: ESCO

Figure 2: Installed capacity additions by year of commissioning, MW



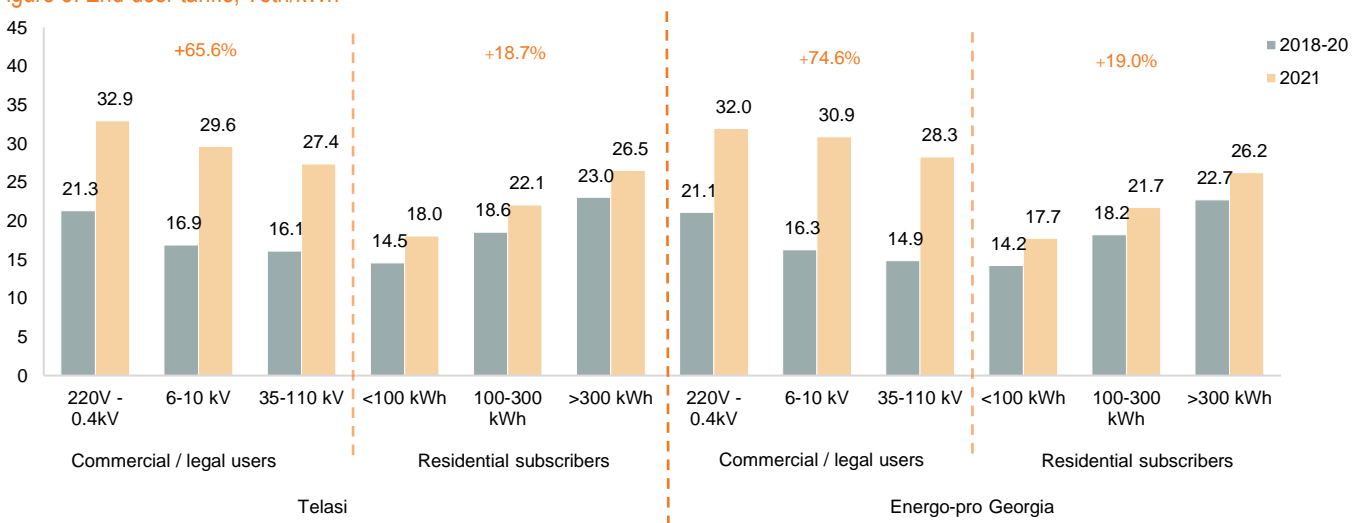
Source: ESCO



GNERC approved new tariffs for all regulated activities from January 2021, including subscribers of Telasi and Energo-pro Georgia. Electricity tariffs for end-users increased on average by 19% for residential consumers and by 70% for commercial subscribers. The rise in tariffs mostly reflect increase of the cost of electricity due to increased share of electricity import and thermal generation and FX effect. Effect of lockdowns was also important factor - as consumption of 2020 was lower than expected, the regulated companies saw significant losses. According to tariff methodology, compensation of this loss had to be considered in tariff of 2021-23.

The end-user tariff is effective till 1 July 2021, due to expected market reforms. Importantly, we do not expect any further growth of the tariff in 2021.

Figure 3: End-user tariffs, Tetri/kWh



Source: GNERC

Other components of end-user tariff also increased. Tariffs for electricity transmission and dispatch were approved for 2021-25 period. As a result, total service fee (transmission, dispatch and ESCO's service fee) increased from 2.102 tetri/kWh in 2020 to 2.739 tetri/kWh in 2021 (+30.3% y/y). Notably, transmission licensee Energo-trans merged with parent company Georgian State Electrosystem, therefore, currently Georgia has only two transmission system operators.

Licensee	2019	2020	2021-23	2024-25
Dispatch fee (GSE)	0.412	0.412	0.388	0.436
Transmission fee (GSE)	1.323	1.013	2.018	2.118
Transmission fee (SakRusEnergo)	0.278	0.278	0.314	0.298
Transmission fee (EnergoTrans)	0.38	0.38		
ESCO service fee	0.019	0.019	0.019	0.019
Total service fees	2.412	2.102	2.739	2.871

Source: GNERC, Galt & Taggart



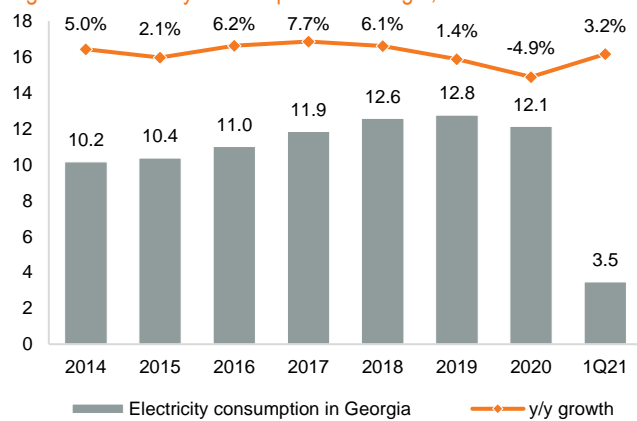
Electricity supply, demand and prices

Domestic consumption

Electricity consumption was down by 4.9% y/y to 12.1TWh in 2020, caused by lockdowns and related reduced economic activity due to Covid-19 pandemic. Importantly, electricity consumption in Mar-21 increased by 16.0% y/y from last year's low base, in line with economic recovery.

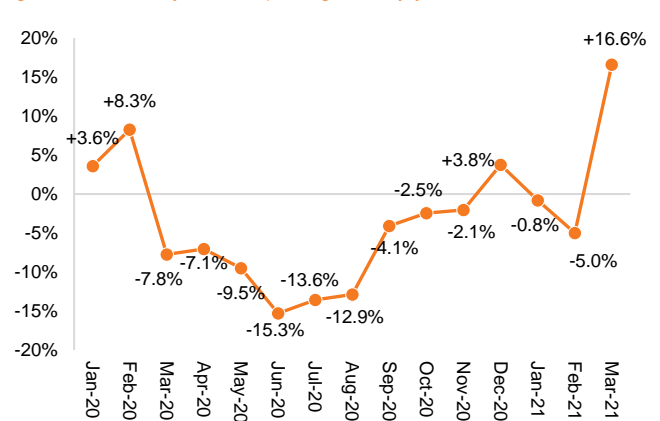
Notably, Abkhazian region's electricity consumption increased by 23.9% y/y in 2020 and by 18.6% y/y in 1Q21. Electricity consumption of the rest of the Georgia (without Abkhazian region) decreased by 10.0% y/y in 2020 and by 1.4% y/y in 1Q21.

Figure 4: Electricity consumption in Georgia, TWh



Source: ESCO

Figure 5: Electricity consumption growth, y/y



Source: ESCO

Electricity consumption dynamics of certain consumer groups in 2020 are explained by legislative changes. In May 2019, all companies with average monthly consumption over 5GWh were mandatory registered as direct consumers. This resulted in reduced electricity consumption of distribution licensees and increased consumption of direct consumers group from May 2019. The effect of this legislative change was seen during Jan-Apr of 2020 as well.

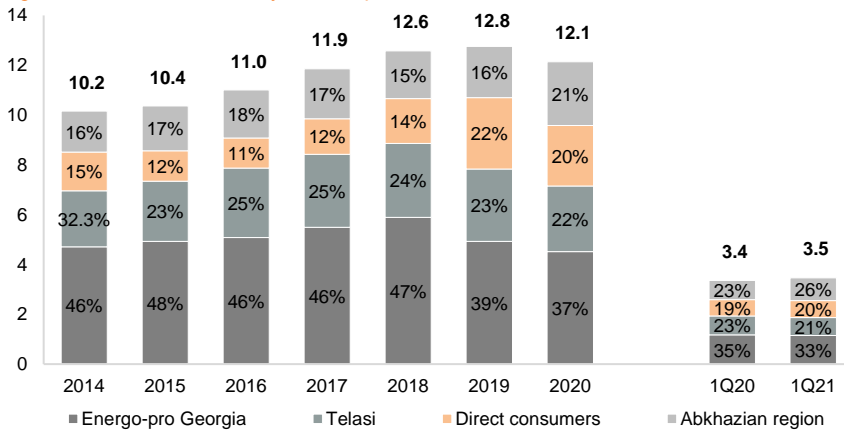
Electricity consumption of direct consumers decreased by 14.9% y/y in 2020 and increased by 4.6% y/y in 1Q21. The group's consumption accounted to 20% of total electricity consumption in 2020 and in 1Q21. The factors impacting electricity consumption of this group were several:

- Addition of new companies to the group in May-19, due to legislative changes mentioned above.
- Reduced activity of certain companies operating in crypto-currency business. Total consumption of BFDC Georgia, Block power, IT-lab and Geo maintenance decreased by c. 80% from 0.8TWh in 2019 to 0.1TWh in 2020. As a result, their share in overall electricity consumption decreased from 6.2% in 2019 to 1.1% in 2020.
- Georgian Manganese, the largest direct consumer, electricity consumption was down by 8.0% y/y in 2020. The share of Georgian Manganese in overall consumption of Georgia was 8.3% in 2020. In 1Q20, consumption of Georgian manganese increased by 9.7% y/y, maintaining 8.0% share in overall consumption.

Consumption of distribution licensee was down by 8.8% y/y in 2020 and by 3.4% y/y in 1Q21, while growth in Mar-21 was quite significant +10.1% y/y.



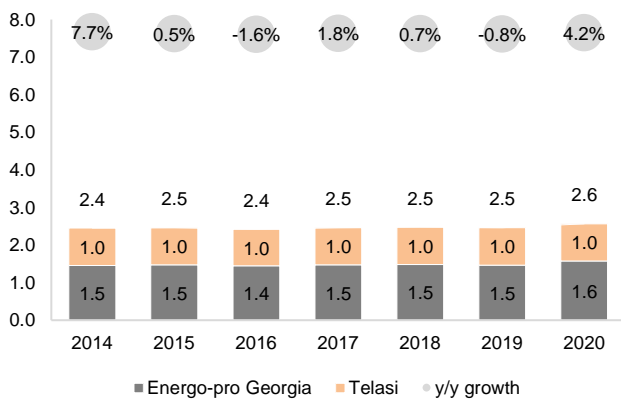
Figure 6: Domestic electricity consumption, TWh



Source: ESCO

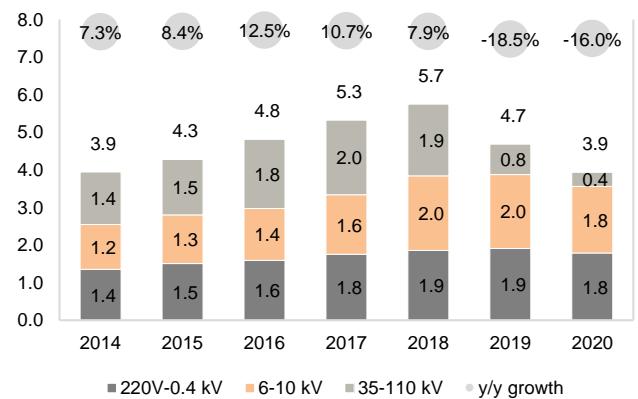
Residential electricity consumption increased by 4.2% y/y in 2020. The work-from-home approach recommended by epidemiologists and commonly used practice in Georgia since Mar-20, resulted in increased level of electricity consumption by residential sector. Importantly, the growth of residential sector's electricity consumption in 2020 was higher than last 5-years average growth rate of 0.1%. Interestingly, electricity consumption of residential subscribers of Energo-pro Georgia increased by 7.4% y/y, while Telasi subscriber's consumption decreased by mere 0.4% y/y, showing the migration of population from Tbilisi to suburbs during the pandemic.

Figure 7: Electricity consumption of residential consumers, TWh



Source: GNERC, Galt & Taggart

Figure 8: Electricity consumption of non-residential subscribers of distribution licensees, TWh



Source: GNERC, Galt & Taggart

Note: Consumption of 35-110 volt subscribers decreased in 2019 and 2020 due to legislative changes, obliging certain subscribers of distribution licensees to register as direct consumers.

Electricity consumption of non-residential subscribers of distribution licensees decreased by 16.0% y/y in 2020. Due to legislative changes, subscribers of 35-110kV distribution grid became direct consumers in 2019 and 2020 and resulted in dramatic decrease in share of this category in Telasi and Energo-pro Georgia's consumption mix. Slowdown in consumption (-8.2% y/y) of subscribers of other voltage levels (220V-0.4kV-6kV-10kV) was mostly attributable to the lockdowns and related decreased economic activity due to Covid-19 pandemic.

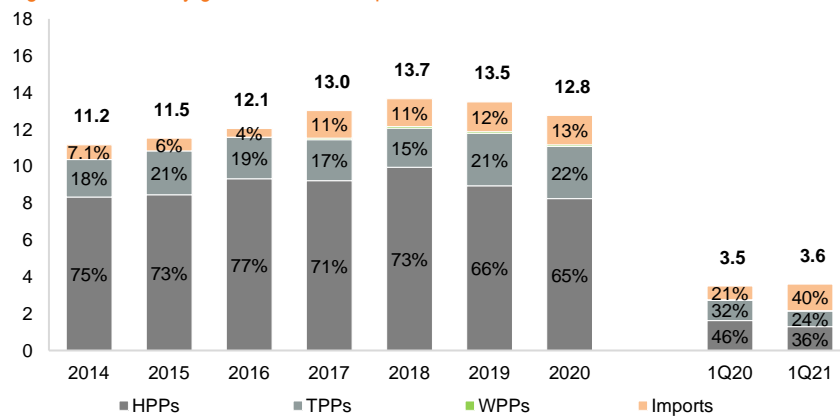


Electricity supply

Two-third (64.6%) of electricity demand was met by hydro generation, 0.7% by wind generation, 22.1% by thermal generation and 12.6% was imported in 2020. Despite the 4.9% y/y decrease in overall electricity consumption in 2020, import of electricity and thermal generation remained flat, needed to fill the winter deficit and compensate the drop in hydro generation caused by bad hydrological conditions.

Supply mix of 1Q21 was mainly dictated by 3-months closure of Enguri HPP for maintenance works. Enguri HPP was on scheduled maintenance from January 20, 2021 to April 27, 2021. This was planned maintenance financed by the World Bank to rehabilitate 9km tunnel and some parts of powerhouse building to increase the efficiency of the HPP. The Enguri's maintenance closure resulted in 20.3% y/y drop of hydro generation in 1Q21. Reduced hydro supply was mainly balanced by doubled volume of electricity imports (+93.2% y/y). To satisfy the need of Abkhazian region, traditionally met by Enguri's generation, additional import from Russia through Salkhino interconnection line was made.

Figure 9: Electricity generation and imports, TWh



Source: ESCO

Table 3: Supply growth breakdown, 2019

Supply source	Growth in 2020, y/y	Growth in 1Q21, y/y
Total Supply	-5.3%	+3.0%
Imports	-1.0%	+93.2%
Domestic generation	-5.9%	-21.4%
TPPs	-0.7%	-23.0%
WPPs	+7.3%	-15.4%
HPPs	-7.7%	-20.3%
Enguri and Vardnili	-17.4%	-65.5%
Other regulated HPPs	-11.3%	+9.6%
Deregulated HPPs	+13.1%	-7.3%

Source: ESCO

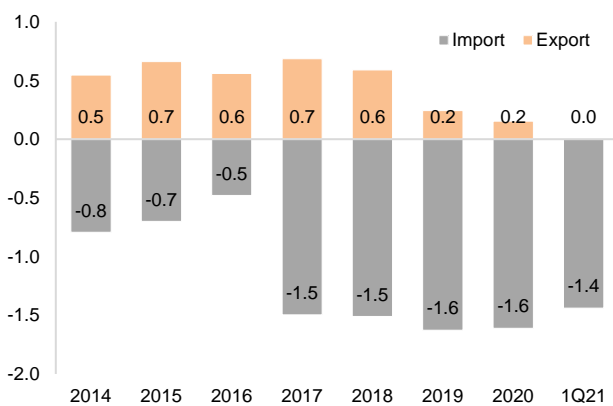
Note: Generation of the group of deregulated HPPs increased mainly on back of commissioning of Shuakhevi HPP (178MW) in 1Q20



Foreign trade of electricity

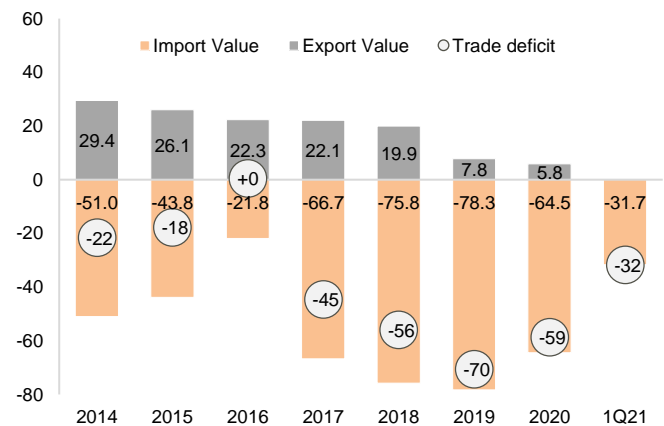
Georgia remained a net importer of electricity in 2020 with trade deficit down by 16.8% y/y to US\$ 58.7mn in value terms and up by 5.3% y/y to 1.4TWh in volume terms. In 2020, Georgia imported 1.6TWh (-1.0% y/y) electricity and exported mere 0.2TWh (-36.8% y/y), resulting in a net import of 1.4TWh (+5.3% y/y). The reduction of trade deficit in value terms is explained by the comparatively low cost of electricity imports via Salkhino line for the Abkhazian region (22.8% of total imports), decreasing the total cost of imports. Revenue from exports was also down (by 25.4% y/y to US\$ 5.8mn) in line with the reduction of electricity exports.

Figure 10: Foreign trade of electricity, TWh



Source: ESCO, Geostat, Galt & Taggart

Figure 11: Trade deficit, US\$ mn



Source: ESCO, Geostat, Galt & Taggart

Electricity imports reached 1.6TWh in 2020, satisfying 12.6% of total demand.

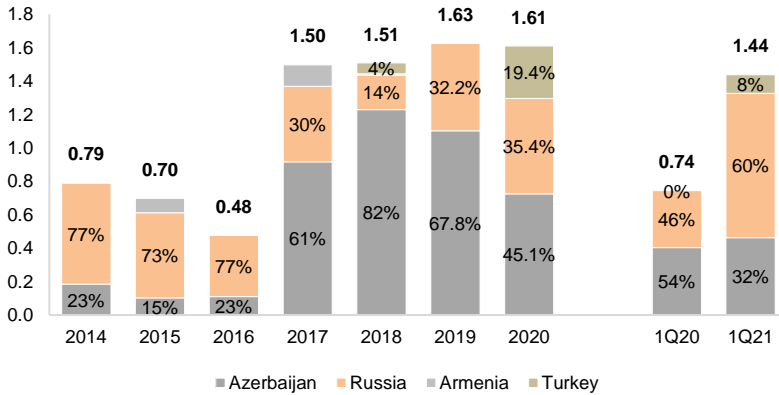
Despite the drop in electricity consumption, the import of electricity remained flat (-1.0% y/y) as hydro generation was down by 7.7% y/y in 2020 due to bad hydrological conditions. Import increased by 39.6% y/y in 1Q20, before the start of the pandemic and decreased by 20.8% y/y in the April-December period. Additionally, c. 1/5 of electricity imports was for the Abkhazian region, as Enguri's generation was not enough to satisfy the increased demand of the region in 1Q20.

In 2020, 45.1% of imported electricity came from Azerbaijan, 35.4% from Russia and 19.5% from Turkey. Turkey was historically seen as export market, but in line with decreased market prices, import from this direction became feasible.

Trade deficit widened by 9.2% y/y to US\$ 31.7mn in 1Q21. Electricity imports almost doubled (+93.3% y/y) in 1Q21, mainly because of imports for Abkhazian region from Russia through Salkhino interconnection line. Half of total electricity imports and 85% of imports from Russia were directed to Abkhazian region.



Figure 12: Electricity imports, TWh

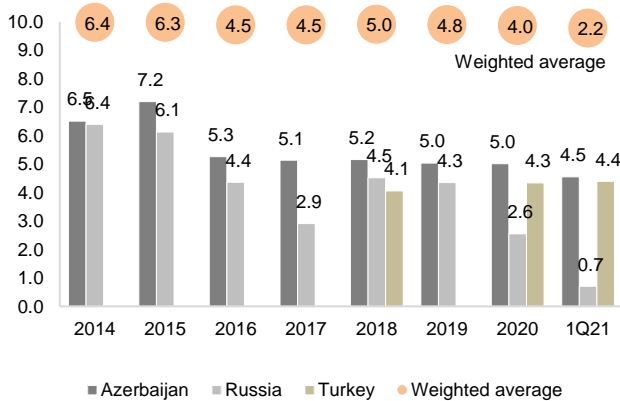


Source: ESCO

Price of imported electricity varied in a range between USc 4.3/kWh to USc 5.2/kWh over 2020. The price of imported electricity from Azerbaijan was significantly down from Nov-20, from USc 5.2.kWh in 1H20 to USc 4.4/kWh in 1Q21. One of the reasons behind Azeri import price decrease was competition from Turkish market. Turkish importers offered price in a range of USc 4.3-4.5 /kWh since Sep-20.

Average import price from Russia is highly impacted by the imports for Abkhazian region through Salkhino line. This import is made at "special" price (below USc 0.5/kWh), while the price of commercial import from Russia varied between USc 4.5-5.3/kWh in 2020. High share of Abkhazian region's import decreased weighted average price of Russian import, as well as total weighted average price of imported electricity.

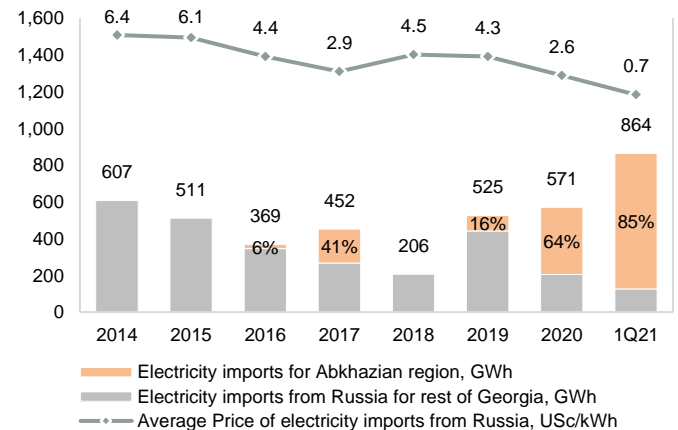
Figure 13: Average import prices by import source, USc/kWh



Source: ESCO, Geostat, Galt & Taggart

Note: import from Russia includes both commercial import and import for Abkhazian region (<0.5USc). High share of Abkhazian region's import decreased weighted average price of Russian import, as well as total weighted average price of electricity imports.

Figure 14: Electricity import from Russia and average import prices



Source: ESCO, Geostat, Galt & Taggart

Note: import from Russia includes both commercial import and import for Abkhazian region at special price (<0.5USc). High share of Abkhazian region's import decreased weighted average price of Russian import, as well as total weighted average price of electricity imports.



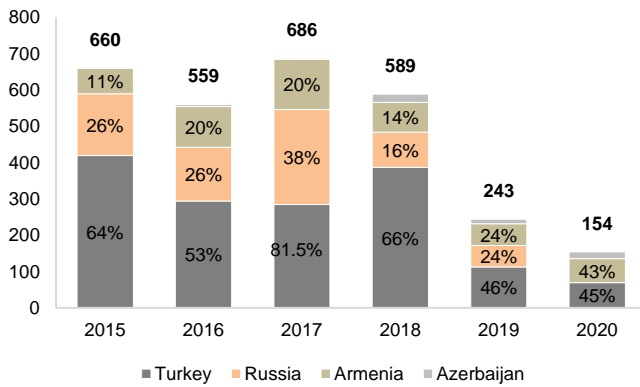
Export of electricity

Electricity exports were down by 36.8% y/y to 153.8GWh in 2020. The main reason behind this reduction was low hydro generation. In 2020, 45.2% of exported electricity was directed to Turkey, 43.2% to Armenia and 11.7% to Azerbaijan. Export to Azerbaijan had no commercial motives, while export to Armenia and Turkey was made by different commercial exporters.

Average price of electricity exports from Georgia increased by 18.1% y/y to USc 3.8/kWh in 2020, due to changed export directions.

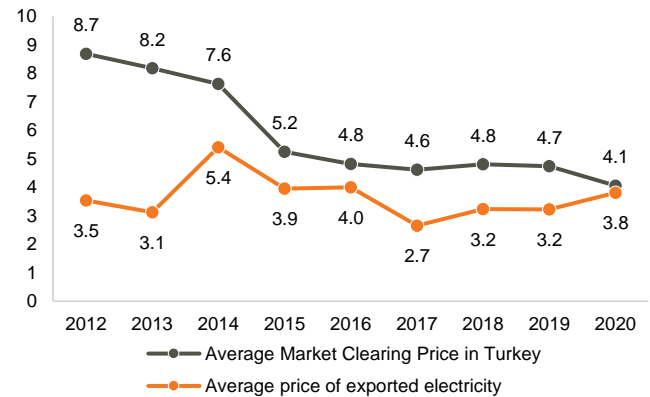
Market prices in Turkey were down by 14.4% y/y to USc 4.1/kWh in 2020.

Figure 15: Electricity exports, TWh



Source: ESCO

Figure 16: Average export prices and average prices in Turkey, USc/kWh

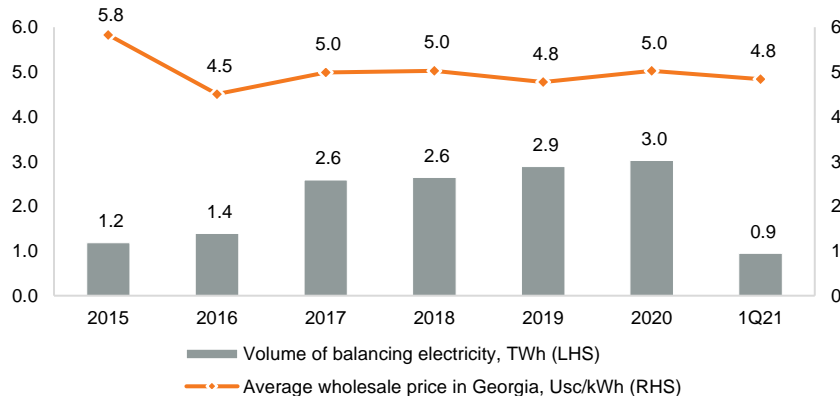


Source: ESCO, Geostat, EPIAS, Galt & Taggart

Electricity Prices in Georgia

Balancing electricity price in Georgia stood at USc 5.0/kWh (+5.1% y/y) in 2020. The monthly prices ranged between USc 4.1/kWh and USc 6.1/kWh in 2020. A 24.2% of total electricity supplied to the grid was traded through the market operator (ESCO), with the rest traded through bilateral contracts. Balancing electricity price mostly derived from import price and guaranteed power purchase agreements (PPA) tariffs, accounted for 34.7% and 53.0% of total balancing electricity, respectively.

Figure 17: Electricity prices in Georgia and volume of balancing electricity



Source: ESCO, NBG



Table 4: Electricity Balance, GWh

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	2020	Jan-21	Feb-21	Mar-21	1Q21
Domestic consumption, total	1,190	1,122	1,049	939	890	901	957	961	931	934	1,046	1,217	12,136	1,180	1,066	1,223	3,469
% change y/y	+4%	+8%	-8%	-7%	-10%	-15%	-14%	-13%	-4%	-2.5%	-2.1%	+3.8%	-4.9%	-0.8%	-5.0%	+16.6%	+3.2%
<i>Of which:</i>																	
- Abkhazian Region	273	269	233	221	168	133	145	167	174	201	258	310	2,552	317	277	325	919
% change y/y	+7%	+22%	-4%	+18%	+47%	+24%	+24%	+31%	+52%	+60%	+31%	+23%	+23.9%	+16%	+3%	+39%	+18.6%
- Eligible consumers	225	203	224	223	225	207	165	183	174	181	190	239	2,438	227	209	246	682
% change y/y	+56%	+58%	+45%	+55%	-28%	-36%	-51%	-41%	-40%	-30%	-21%	+5%	-14.9%	+1%	+3%	+10%	+4.6%
- Distribution Companies	692	649	592	495	497	561	646	611	583	552	598	669	7,146	636	580	652	1,868
% change y/y	-8%	-5%	-20%	-27%	-11%	-11%	-1%	-8%	+3%	-4%	-5%	-4%	-8.8%	-8%	-11%	+10%	-3.4%
<i>Of which:</i>																	
- Energo-Pro Georgia	412	388	370	324	328	357	410	402	374	355	375	415	4,512	394	355	397	1,145
% change y/y	-14%	-13%	-24%	-29%	-4%	-6%	+2%	-5%	+4%	-1%	-1%	-0%	-8.5%	-5%	-9%	+7%	-2.2%
- Telasi	279	262	222	170	169	204	236	209	209	197	223	253	2,634	243	225	255	723
% change y/y	+4%	+9%	-12%	-23%	-22%	-19%	-6%	-14%	+1%	-8%	-12%	-9%	-9.2%	-13.2%	-13.9%	+14.8%	-5.3%
Domestic Generation, total	1,031	851	867	944	986	999	1,010	949	877	852	865	930	11,160	808	692	661	2,161
% change y/y	+2%	-9%	-11%	-2%	-15%	-17%	-4%	-7%	+7%	+6%	-5%	-8%	-5.9%	-22%	-19%	-24%	-21.4%
<i>Of which:</i>																	
- TPPs	552	398	153	148	13	0	48	89	234	365	340	479	2,821	341	331	177	850
% change y/y	+37%	-5%	-64%	-6%	NM	NA	NM	-35%	+13%	+71%	-15%	+4%	-0.7%	-38%	-17%	+16%	-23.0%
- WPPs	8	7	9	8	8	7	7	8	8	7	7	7	91	5	6	9	20
% change y/y	+36%	-9%	+7%	+23%	+34%	+21%	-18%	-9%	+15%	+17%	-8%	+4%	+7.3%	-36%	-13%	+1%	-15.4%
- HPPs	471	445	705	787	965	993	955	852	635	480	518	443	8,248	461	355	475	1,291
% change y/y	-22%	-13%	30%	-2%	-16%	-16%	-8%	-3%	5%	-17%	3%	-19%	-7.7%	-2%	-20.3%	-33%	-20.3%
Imports	214	312	218	36	7	0	1	48	92	123	221	339	1,610	414	414	610	1,438
% change y/y	+18%	119%	+4%	-55%	NM	-99%	-99%	-60%	-51%	-37%	+11%	+61%	-1.0%	+93%	+33%	180%	+93%
Exports	0	1	0	6	65	62	15	2	1	1	0	0	154	1	0	8	9
% change y/y	N/A	N/A	N/A	N/A	-52%	-38%	145%	N/A	N/A	-60.0%	N/A	N/A	-36.8%	N/A	N/A	N/A	NM
Trade balance	(214)	(312)	(218)	(30)	59	62	15	(46)	(90)	(122)	(221)	(339)	(1,456)	(413)	(414)	(602)	(1,429)
Transit	26	25	-	-	-	31	20	-	-	-	-	-	102	13	-	-	13
% change y/y	N/A	174%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-25.2%	-52%	N/A	N/A	-75.1%

Source: ESCO

Note: Eligible consumers are commercial entities consuming over 5GWh electricity per month.



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