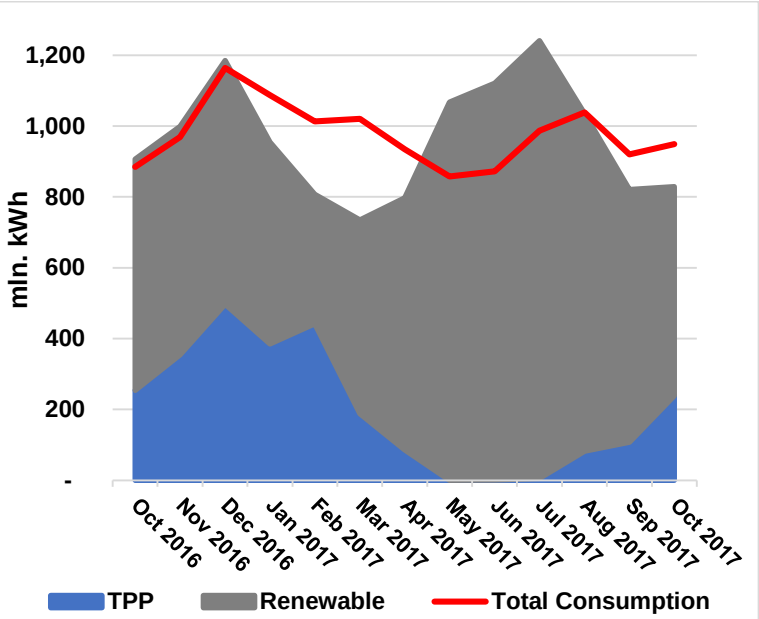
1. Electricity Generation – Consumption – Trade

Figure 1. Electricity Consumption and Generation (mln. kWh)



Source: Electricity System Commercial Operator (ESCO)

In October 2017, Georgian power plants generated 828 mln. KWh of electricity. This corresponds to an 8.7% decrease in total generation in comparison with the previous year (in 2016, total generation in October was 907 mln. kWh). The decline in generation on a yearly basis comes from a decline in thermal power generation and in hydro power generation (more details below).

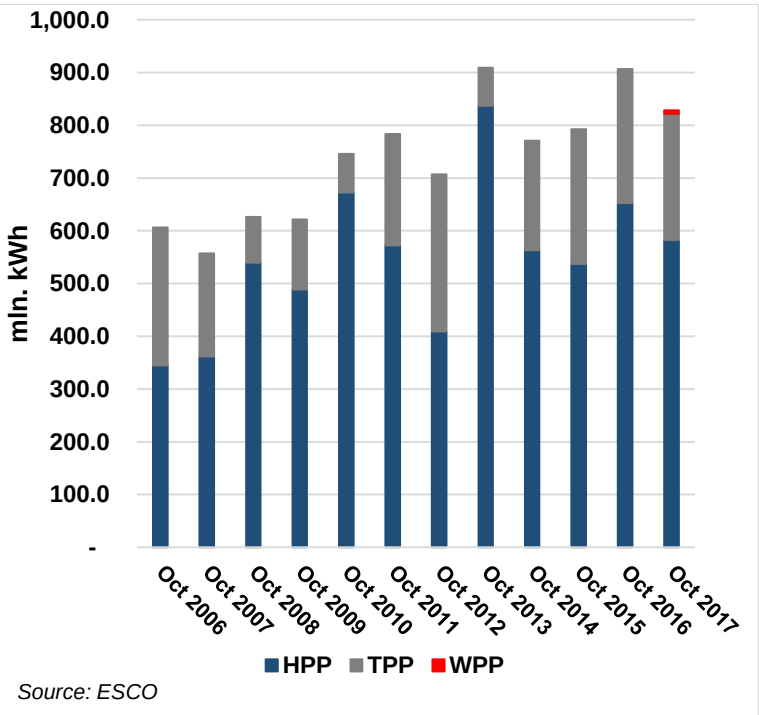
On a monthly basis, generation increased by 0.79% with respect to September 2017 (in September 2016, total generation was 820 mln. kWh).

Following the traditional seasonal pattern, the share of electricity produced by renewable sources declined to 71% of total generation (590 mln kWh), while that of thermal power generation increased, accounting for 29% of total generation (239 mln. kWh).

Consumption of electricity on the local market was 949 mln. kWh (+7% compared to October 2016 and +3% with respect to September 2017). The gap between consumption and generation increased to 121 mln. kWh (15% of the amount generated in October), up from 100 mln. kWh in September.

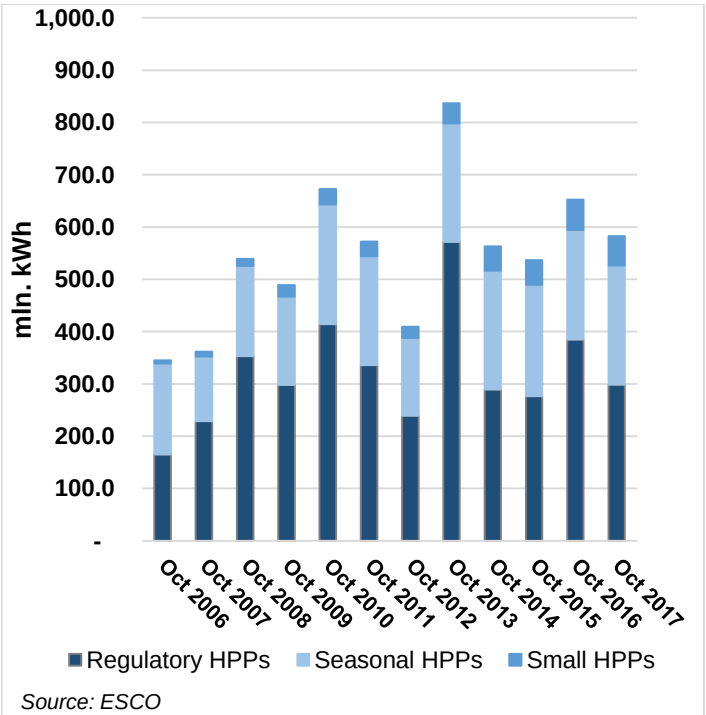
Among different sources of electricity, hydropower remained dominant. Specifically, in October 2017, hydropower (HPP) generation amounted to 583 mln. kWh (70% of total), wind power (WPP) was 6.9 mln. kWh (1% of total), and thermal power (TPP) was 239 mln. kWh (29% of total) (Figure 2). In hydropower generation, large (regulatory) HPPs produced 51% (298 mln. kWh) of electricity, while seasonal and small HPPs produced 39% (228 mln. kWh) and 10% (56 mln. kWh), respectively (Figure 3).

Figure 2. Electricity Generation by Sources (mln. kWh)



Source: ESCO

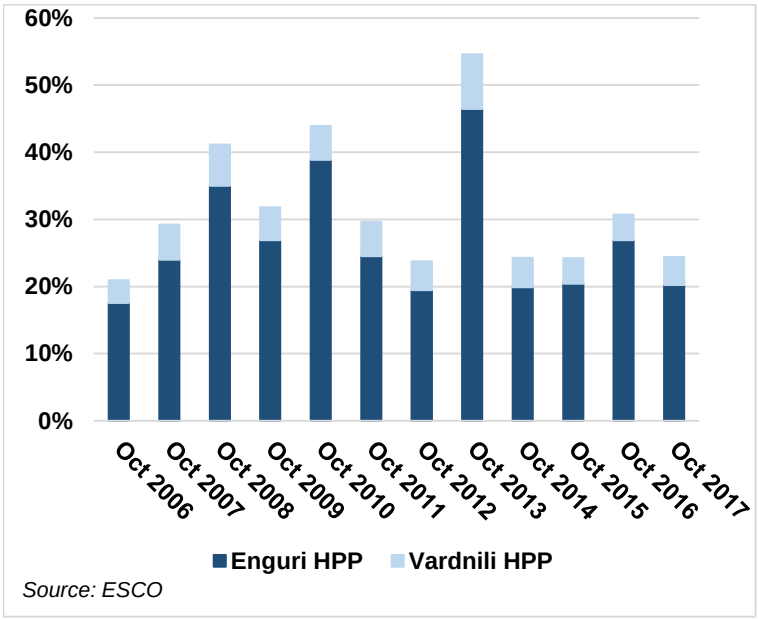
Figure 3. HPP generation by type (mln. kWh)



Source: ESCO

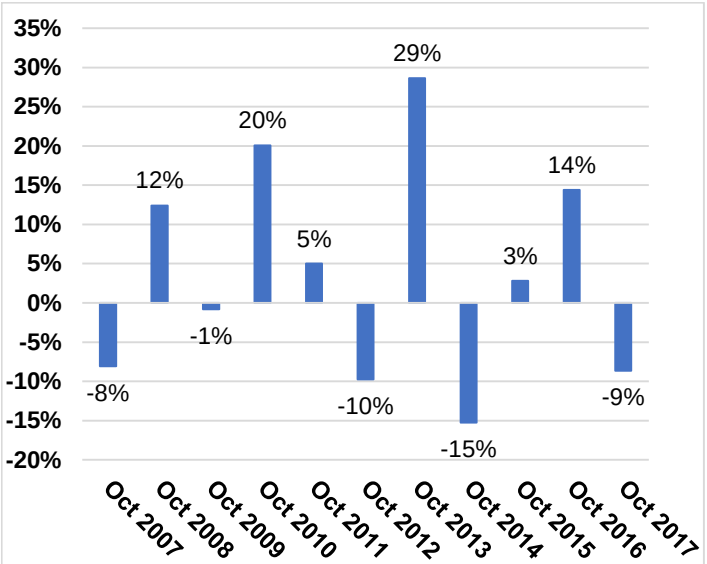
Among the large HPPs, Enguri and Vardnili generated the largest amounts of power, producing 167 mln. kWh and 35 mln. kWh, respectively – 24% of total generation (Figure 4). They also represent around 68% of generation for regulatory HPPs. Overall power generation decreased by 9% (Figure 5) compared to October 2016, due to a 10% decrease in HPPs, accompanied by a 6% decrease in TPP generation.

Figure 4. Share of Enguri and Vardnili in total generation (mln. kWh)



Source: ESCO

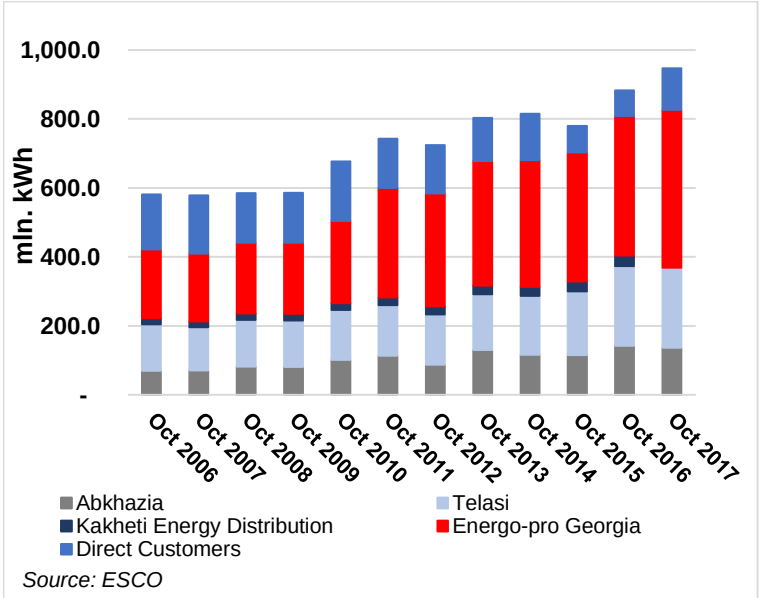
Figure 5. Growth of generation (%, y/y)



Source: ESCO

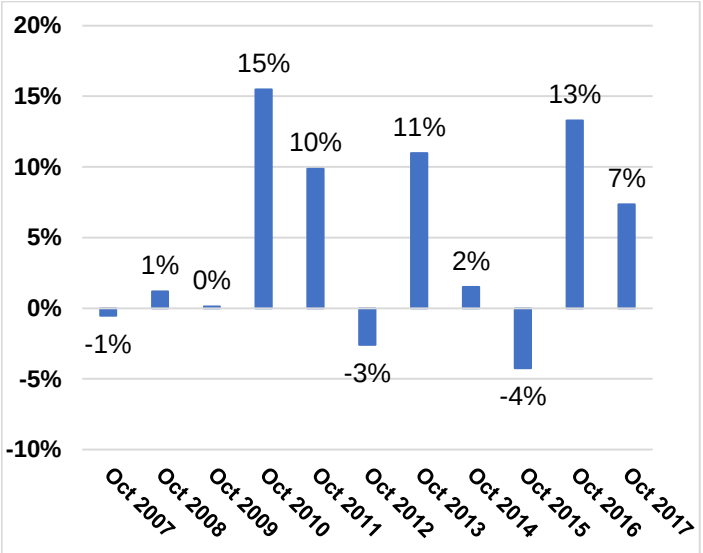
Total electricity consumption for Georgia came from: **Energo-Pro Georgia** (48% - 457 mln. kWh), **Telasi** (25% - 233 mln. kWh), **Abkhazia** (14% – 136 mln. kWh), and **direct customer**s – 13% (121 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption reached 7% in October 2017 (Figure 7). Demand from Energo-Pro Georgia increased by 13%, from Telasi by 1%, and from direct customers by 61% (a large increase caused primarily by consumption of "Georgian Manganese"). Demand from Abkhazia decreased by 0.5%.

Figure 6. Electricity Consumption by Type of Customer (mln. kWh)



Source: ESCO

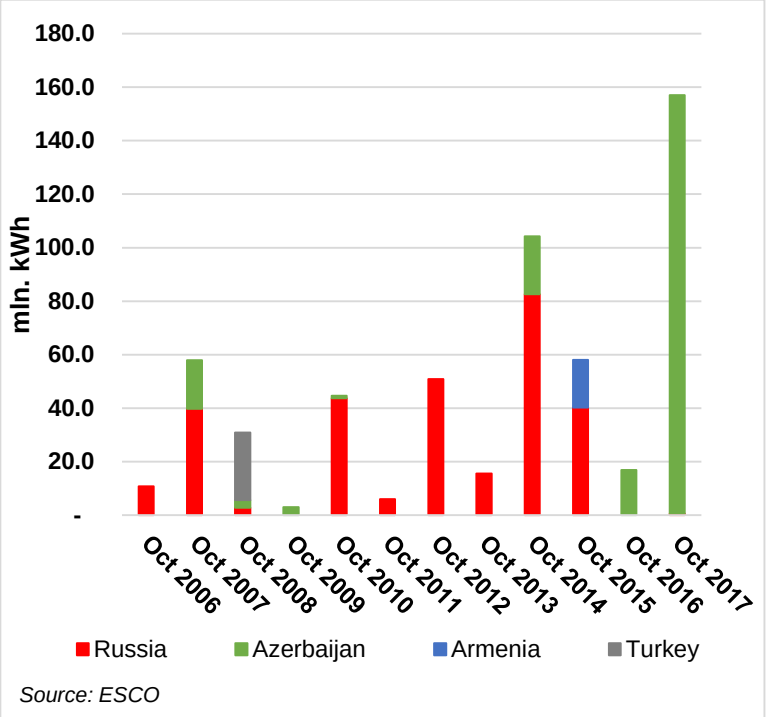
Figure 7. Electricity consumption growth (%, y/y)



Source: ESCO

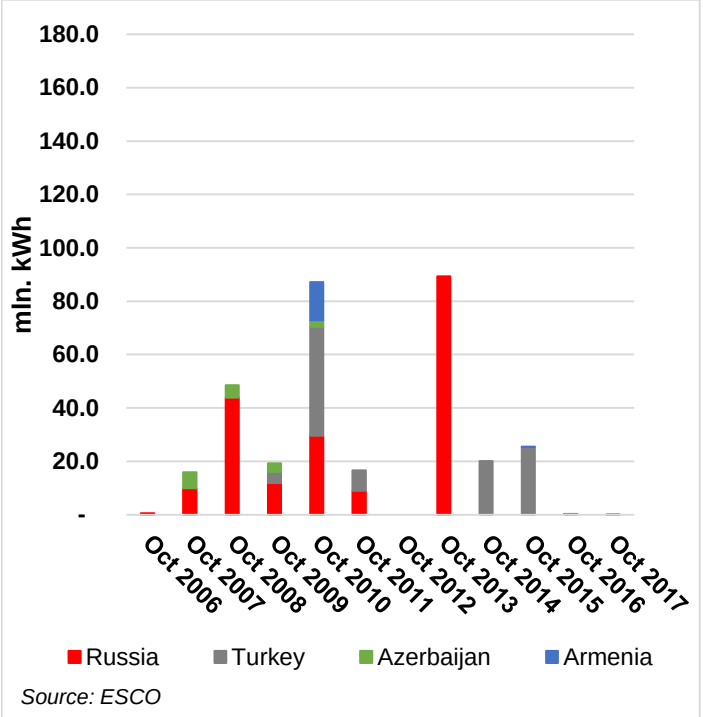
In October 2017, Georgia imported 157 mln. kWh of electricity (5.2 ¢/kWh – 13 tetri/kWh). 99.6% of this electricity was imported from Azerbaijan, and 0.04% from Russia (Figure 8). The imports were the largest over past several years. One reason for this is that imports were cheaper than local generation, as was evident from the weighted average price of balancing electricity and the average price of imported electricity (Figure 12, Figure 14).
Similar to the last month, October 2017 did not show an increase in exports, primarily due to the seasonal pattern of electricity generation in the country. Exports from Georgia were below 1 mln. kWh (7.5 ¢/kWh – 18.8 tetri/kWh) to Armenia (Figure 9).

Figure 8. **Import (mln. kWh)**



Source: ESCO

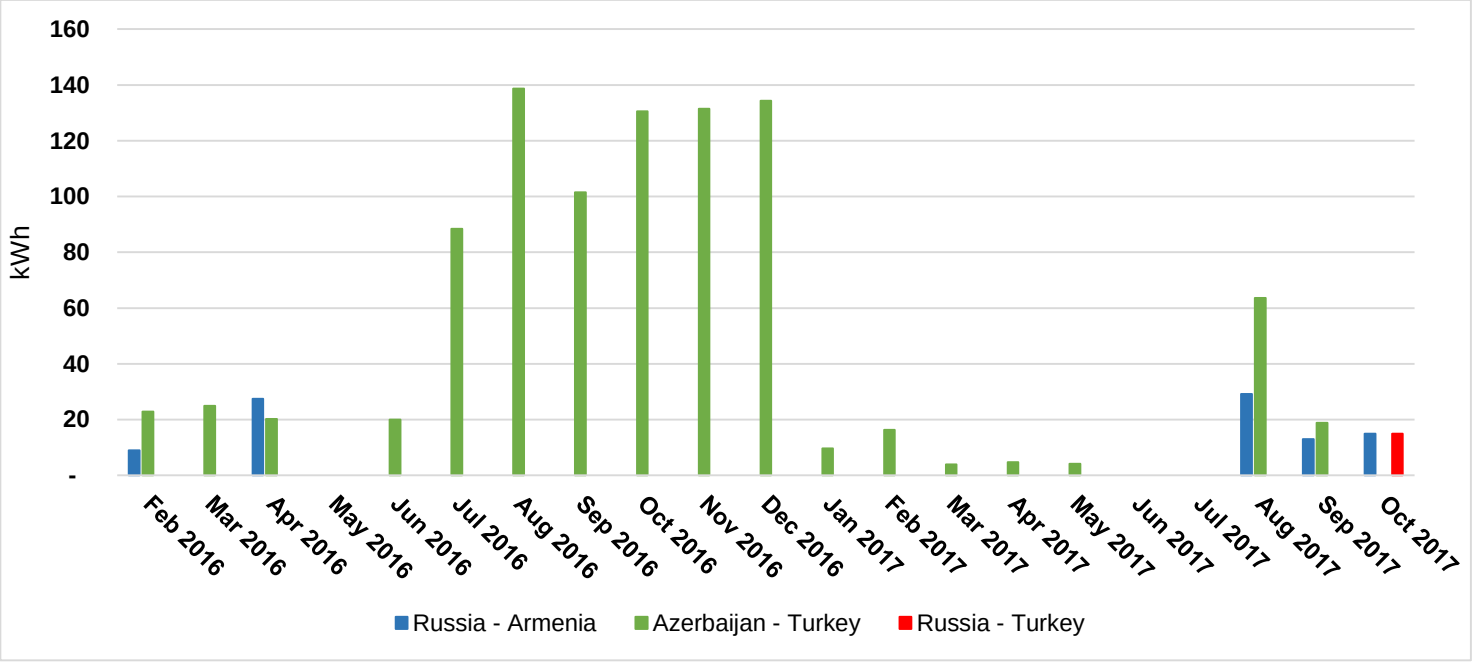
Figure 9. **Export (mln. kWh)**



Source: ESCO

Transit in October 2017 amounted to 15 mln. kWh. One hundred percent of this electricity was transited from Russia to Turkey (Figure 10). Georgia seems to be on its way to becoming a trading hub between neighboring electricity markets.

Figure 10. **Electricity transit through Georgia (mln. kWh)**



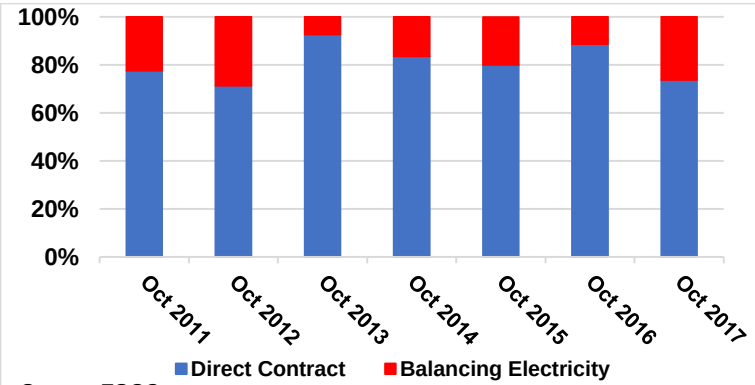
2. Market Operations

In October 2017, 74% (713 mln. kWh) of electricity sold on/from the local market was through direct contracts. The remaining 26% (254 mln. kWh) was sold as balancing electricity. The share of balancing electricity has increased compared to the past two years: 61% of balancing electricity comes from imports that have been highest over the past year, while 39% comes from hydropower plants selling electricity to ESCO under their power purchase agreements (PPAs) **(Figure 11).**

From the total electricity sold on the balancing market, 62% was imports, 1% was supplied by TPPs, 3% by WPP, and 34% by HPPs. Furthermore, among electricity sold with direct contracts, 32% was supplied by TPPs, and 68% by HPPs.

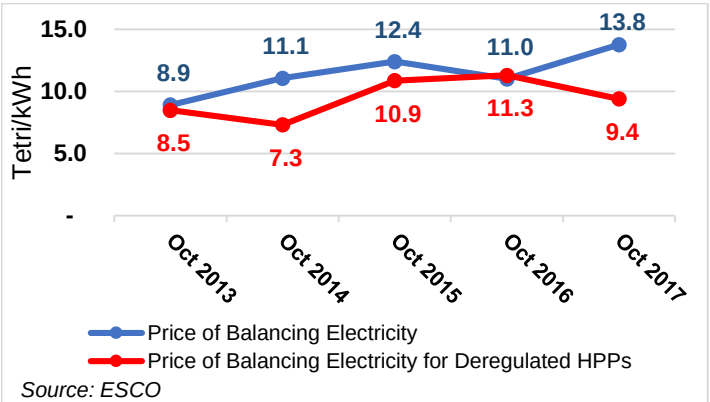
The weighted average price of balancing electricity was 13.8 tetri/kWh in October 2017, which is an annual increase of 25%, with respect to October 2016. As for the weighted average price for deregulated (small) HPPs, it reached 9.4 tetri/kWh **(Figure 12).**

Figure 11. Electricity purchased / sold shares of direct contracts and balancing electricity



Source: ESCO

Figure 12. Balancing electricity prices Weighted Average and Weighted Average price for deregulated HPPs (tetri / kWh)

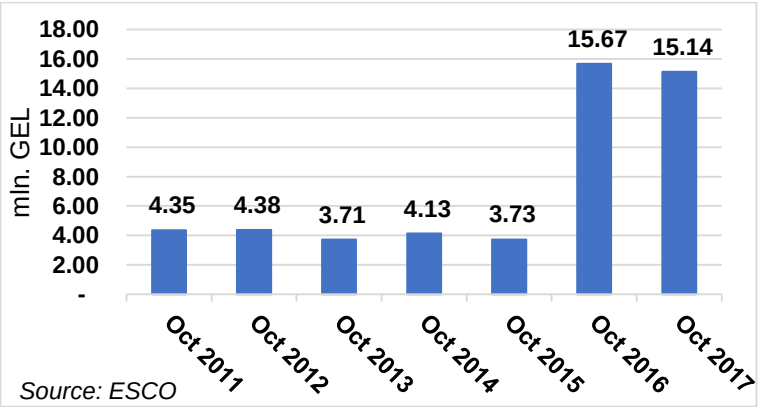


Source: ESCO

Guaranteed capacity payments in October 2017 were roughly 15.14 mln. GEL, a decrease of 4% compared to October 2016 **(Figure 12).** This reduction is due to smaller guaranteed capacity fees (set by the national regulator) paid to several TPPs (see July 2017 Report). The higher cost of guaranteed capacity, compared to earlier years (2011-2015), is primarily caused by payments to the newly built Gardabani TPP, which became operational in November 2015.

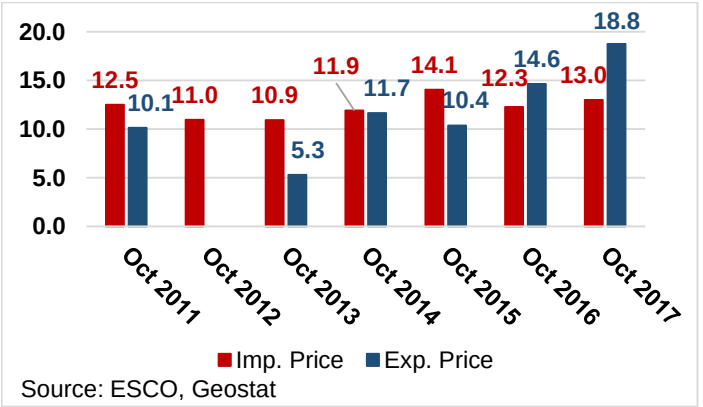
Average electricity import price of in October 2017 remained the same at 5.2 ¢ (13 tetri) per kWh compared to the same month of the previous year. The average electricity price for export reached 7.5 ¢ (18.8 tetri) /kWh, the highest level since 2011 **(Figure 14).**

Figure 13. Cost of Guaranteed Capacity (mln. GEL)



Source: ESCO

Figure 14. Prices Import/Export (tetri/kWh)[1]



Source: ESCO, Geostat

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[1] Data is provided in US cents and is converted to GEL using average monthly exchange rate as reported by National Bank of Georgia