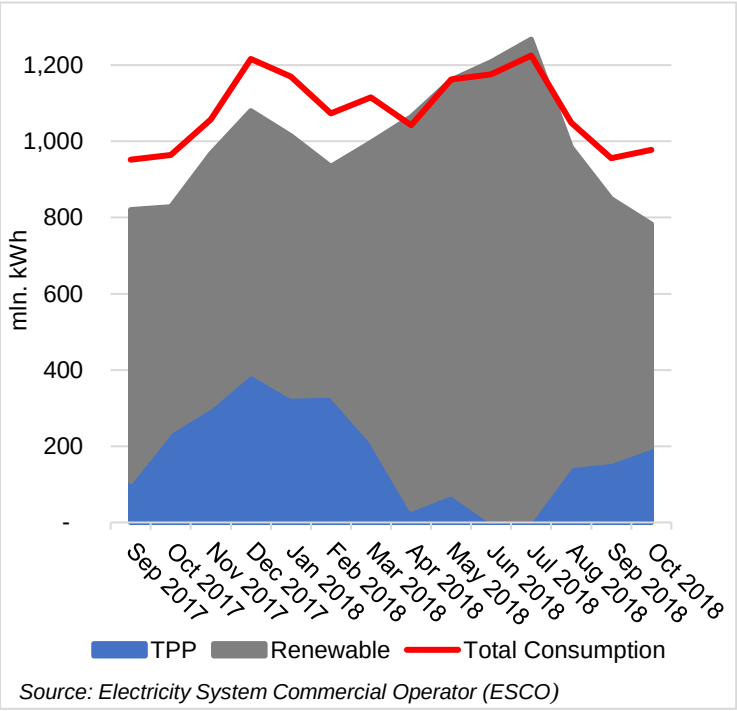
1. Electricity Generation – Consumption – Trade

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



Source: Electricity System Commercial Operator (ESCO)

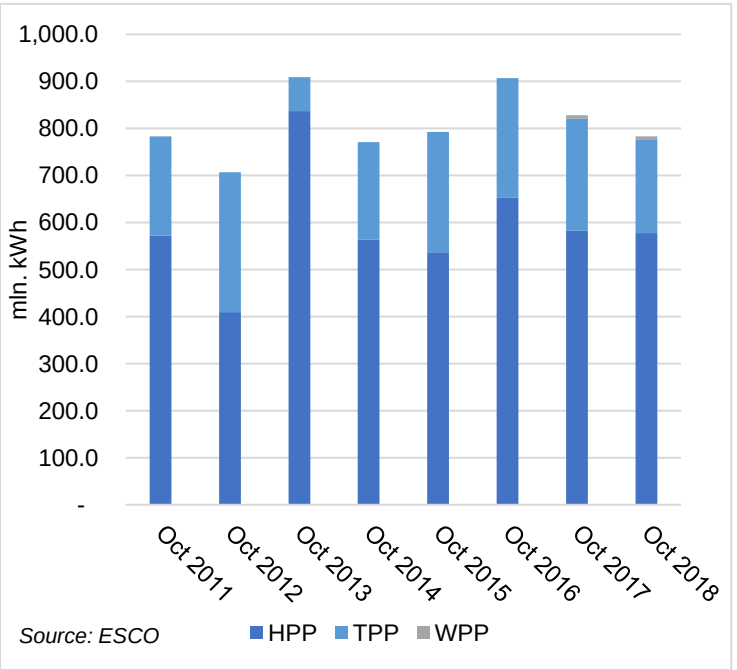
In October 2018, Georgian power plants generated 783 mln. kWh of electricity. This represents a 5% decrease in total generation, compared to the previous year (in 2017, total generation in October was 828 mln. kWh). The decrease in generation on a yearly basis comes from and decrease in hydropower (-1%) and thermal power generation (-17%), more than offsetting the increase in WPP generation (+4%).

On a monthly basis, generation decreased by 8% (in September 2018, total generation was 849 mln. kWh). The monthly decline in total generation was the result of a reduction in electricity produced by renewable sources (down to 585 mln. kWh -15%with respect to September 2018), offsetting the increase in thermal power generation (198 mln. kWh +23% with respect to September 2018).

Consumption of electricity on the local market was 978 mln. kWh (+3% compared to October 2017, and +2% with respect to September 2018). In October 2018, total consumption exceeded generation by 195 mln, which is 20% of the total consumption and 25% of the amount generated (compared to 106 mln. kWh and 13% deficit of total generation for September 2018).

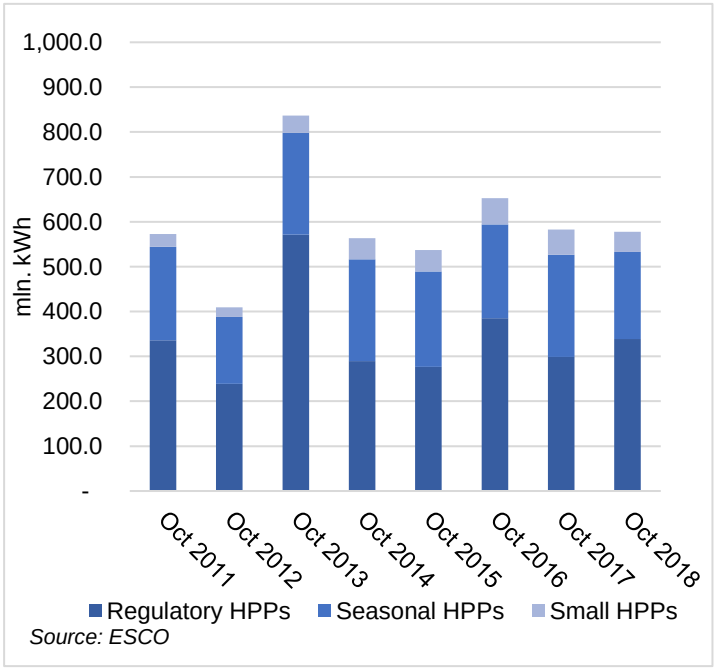
Among the different sources of electricity, hydropower remains dominant. Specifically, in October 2018, hydropower (HPP) generation amounted to 578 mln. kWh (74% of total); wind power (WPP) generation was 7 mln. kWh (1% of total), and thermal power (TPP) generation was 198 mln. kWh (25% of total) (Figure 2). Among hydropower generators, large (regulatory) HPPs produced 59% (339 mln. kWh) of electricity, while seasonal and small HPPs produced 34% (194 mln. kWh) and 8% (45 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 246 mln kWh (31% of total generation), with 203 mln. kWh and 43 mln. kWh, respectively (Figure 4). They also represent around 73% of generation for regulatory HPPs.

Figure 4. Share of Enguri and Vardnili in Total Generation

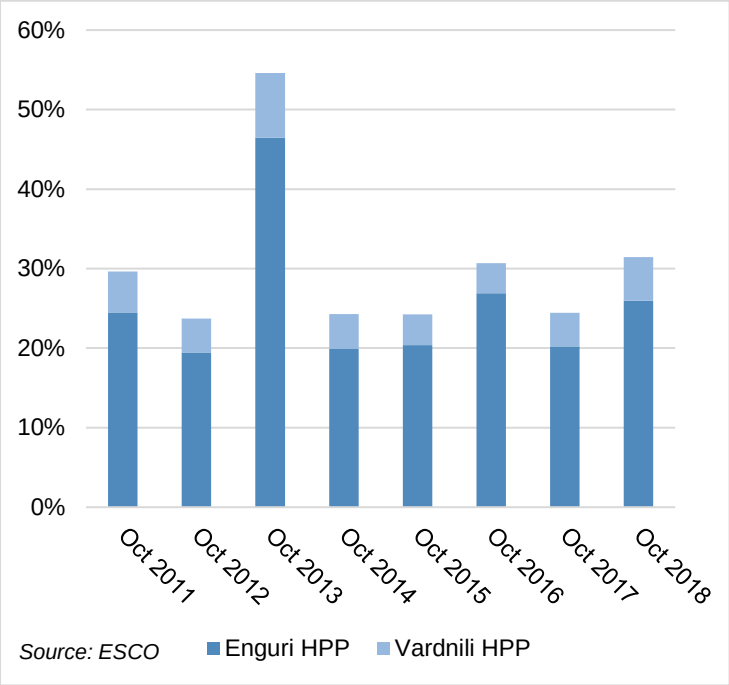
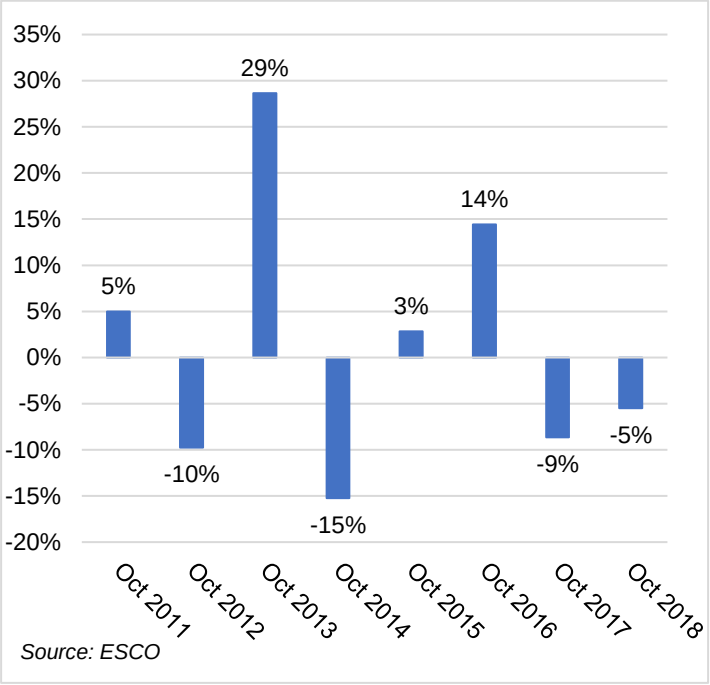


Figure 5. Growth of Generation (%, y/y)



Total electricity consumption in Georgia came from: **Energo-Pro Georgia** (48% - 465 mln. kWh), **Telasi** (22% - 219.8 mln. kWh), **Abkhazia** (13% - 122 mln. kWh), and **direct customer**s (17% - 170 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption was 3% in October 2018, compared to October 2017 (Figure 7). Annual demand increased from Energo-Pro Georgia by 2% and from direct consumers by 40%, while it decreased from Telasi by 6% and from Abkhazia by 10%.

Figure 6. Electricity Consumption by Type of Customer (mln. kWh)[1]

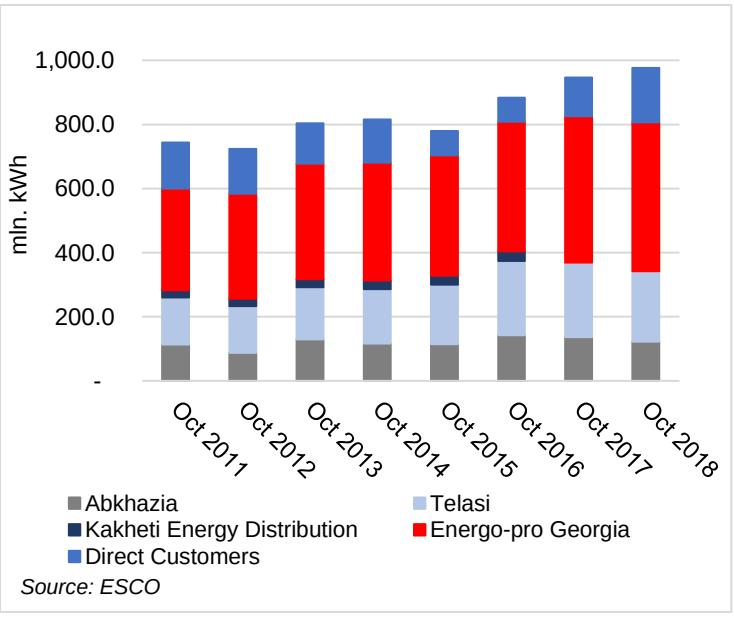
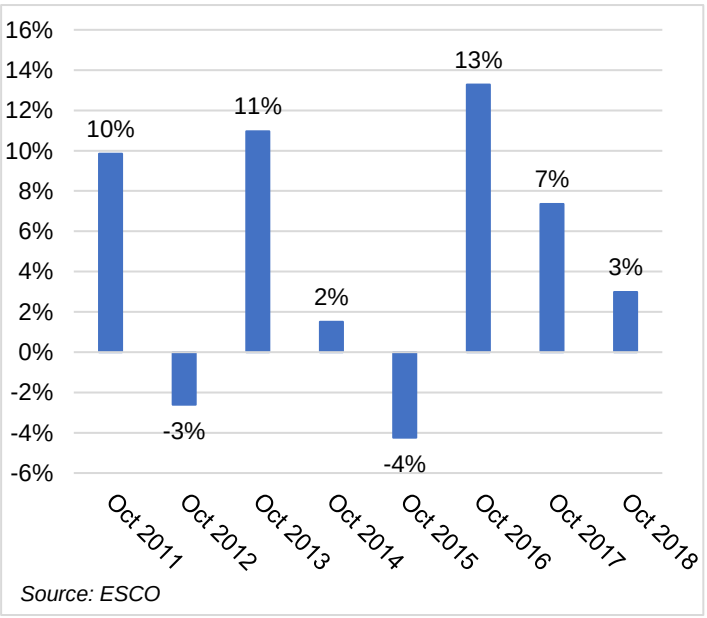


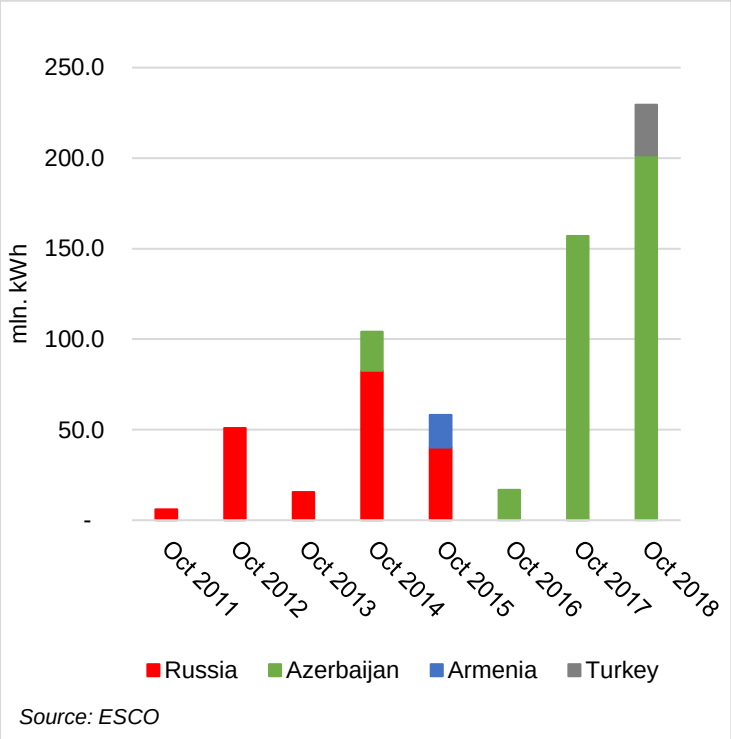
Figure 7. Electricity Consumption Growth (%, y/y)



[1] In August, 2017 Energo-Pro Georgia became an owner of Kakheti Energy Distribution.

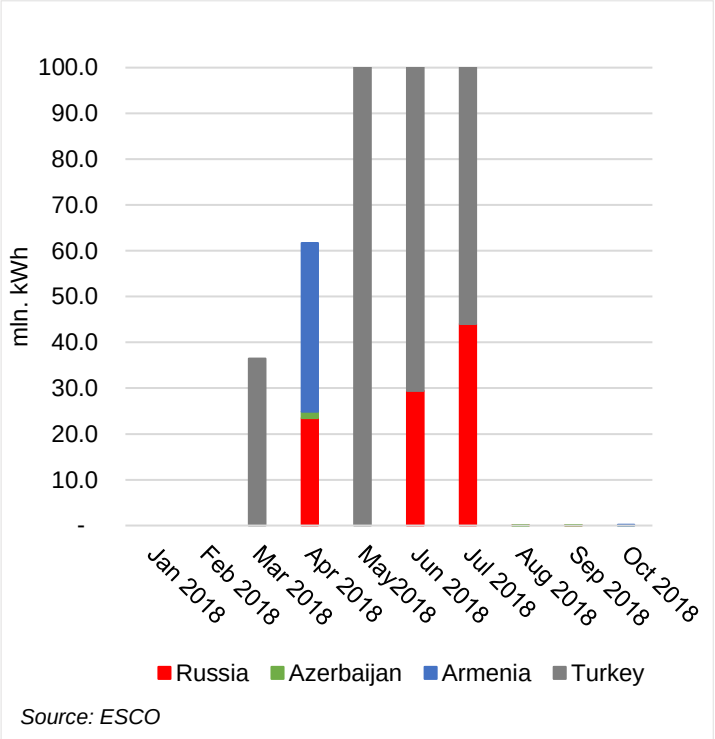
In October 2018, Georgia imported 230 mln. kWh of electricity (5.1¢ - 13.49 tetri). 88% of this electricity was imported from Azerbaijan, 12% was imported from Turkey (Figure 8). In October 2018, Georgia exported 0.207 mln kWh of electricity (7.5¢ - 19.96 tetri). 100% of exports were exported to Armenia (0.207 mln kWh) (Figure 9).

Figure 8. Imports (mln. kWh)



Source: ESCO

Figure 9. Exports (mln. kWh)

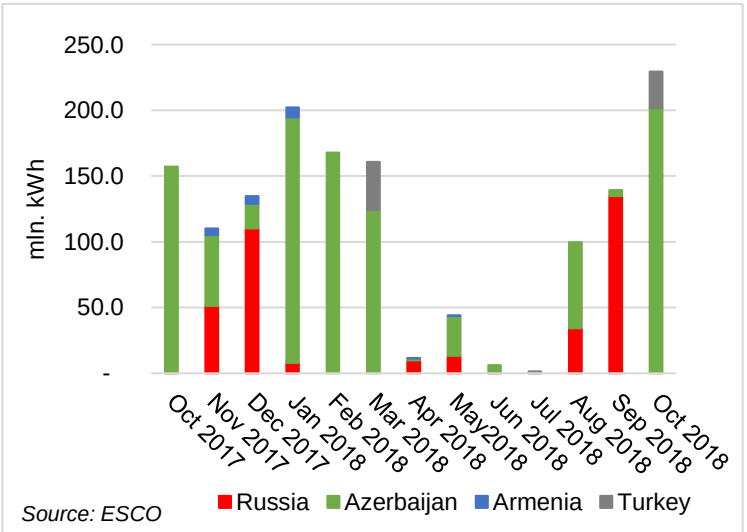


Source: ESCO

In October 2018, electricity imports increased by 65% compared to September 2018. While in September the main electricity provider was Russia, in this month Russia did not provide any electricity, instead Azerbaijan and Turkey took its place, with Azerbaijan regaining its role of main electricity provider to the Georgian system (88% in October) and Turkey providing 12% of the imports.

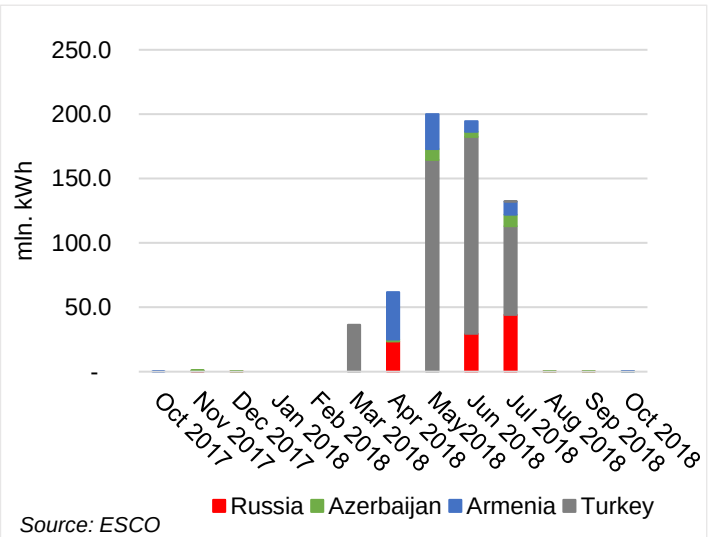
As for electricity exports, In October 2018, electricity exports increased by 74% compared to September 2018. Georgia exported electricity to Armenia, while during the last month electricity was exported to Russia and Azerbaijan. Even though exports remain quite low in the last few months, the increase was revealed compared to September.

Figure 10. Imports (mln. kWh)



Source: ESCO

Figure 11. Exports (mln. kWh)



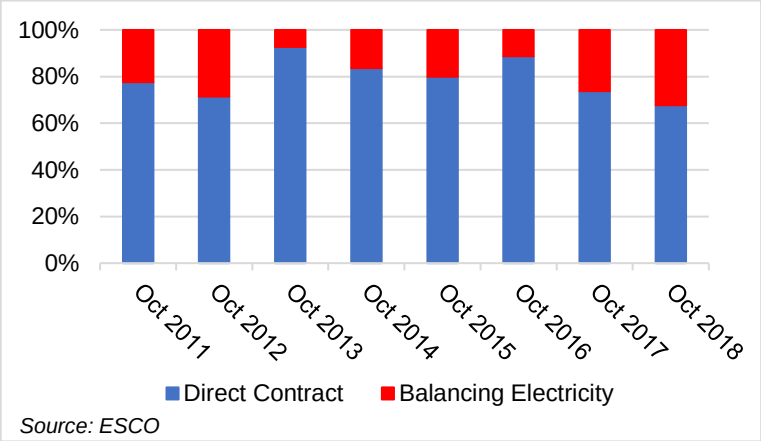
Source: ESCO

2. Market Operations

In October 2018, 68% of electricity sold on/from the local market (675 mln. kWh) was sold through direct contracts. The remaining 32% (322 mln. kWh) was sold as balancing electricity (Figure 12).

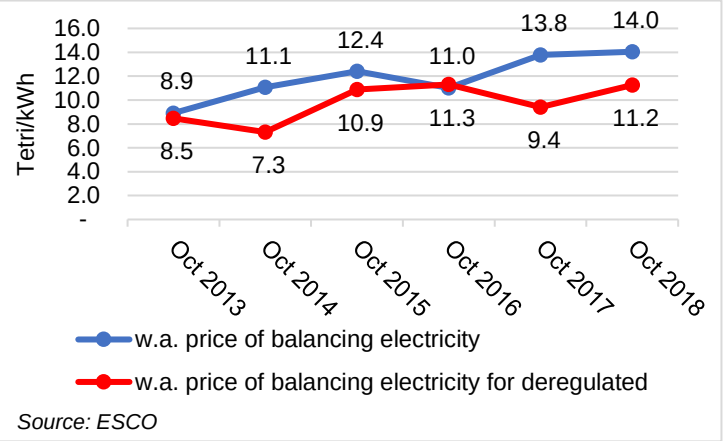
The weighted average price of balancing electricity was 14 tetri/kWh in October 2018, which is an annual increase of 1% compared to October 2017. As for the weighted average price for deregulated (small) HPPs, it reached 11.2 tetri/kWh (Figure 13).

Figure 12. Electricity Purchased / Sold Shares of Direct Contracts and Balancing Electricity



Source: ESCO

Figure 13. Balancing Electricity Prices Weighted Average and Weighted Average Price for Deregulated HPPs (Tetri/ Kwh)

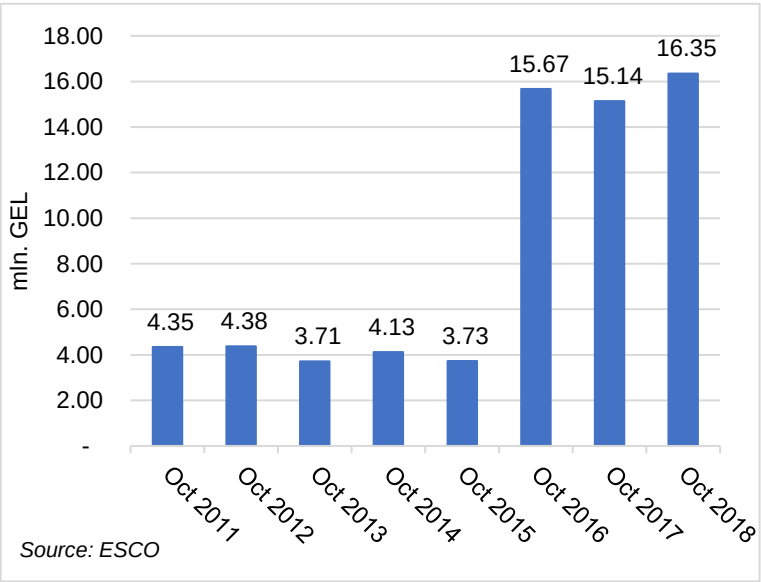


Source: ESCO

Guaranteed capacity payments in October 2018 were roughly 16.35 mln. GEL, an increase of 8% compared to October 2017 (Figure 14).

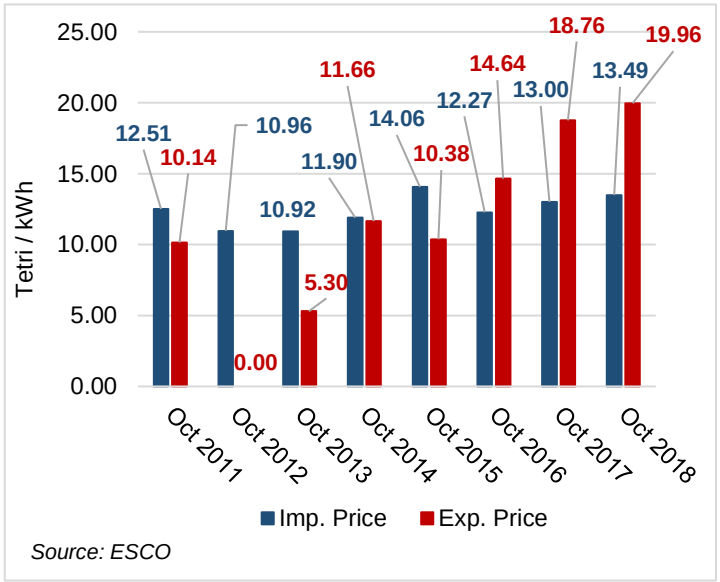
The average electricity import price in October 2018 increased to 5.1¢ (13.49 tetri) per kWh (an increase of 3.7% in GEL) compared to October 2017, while the export price increased to 7.5¢ (19.96 tetri) per kWh (an increase of 6% in GEL) compared to October 2017.

Figure 14. Cost of Guaranteed Capacity (mln. GEL)



Source: ESCO

Figure 15. Prices Import/Export (tetri/kWh)[2]



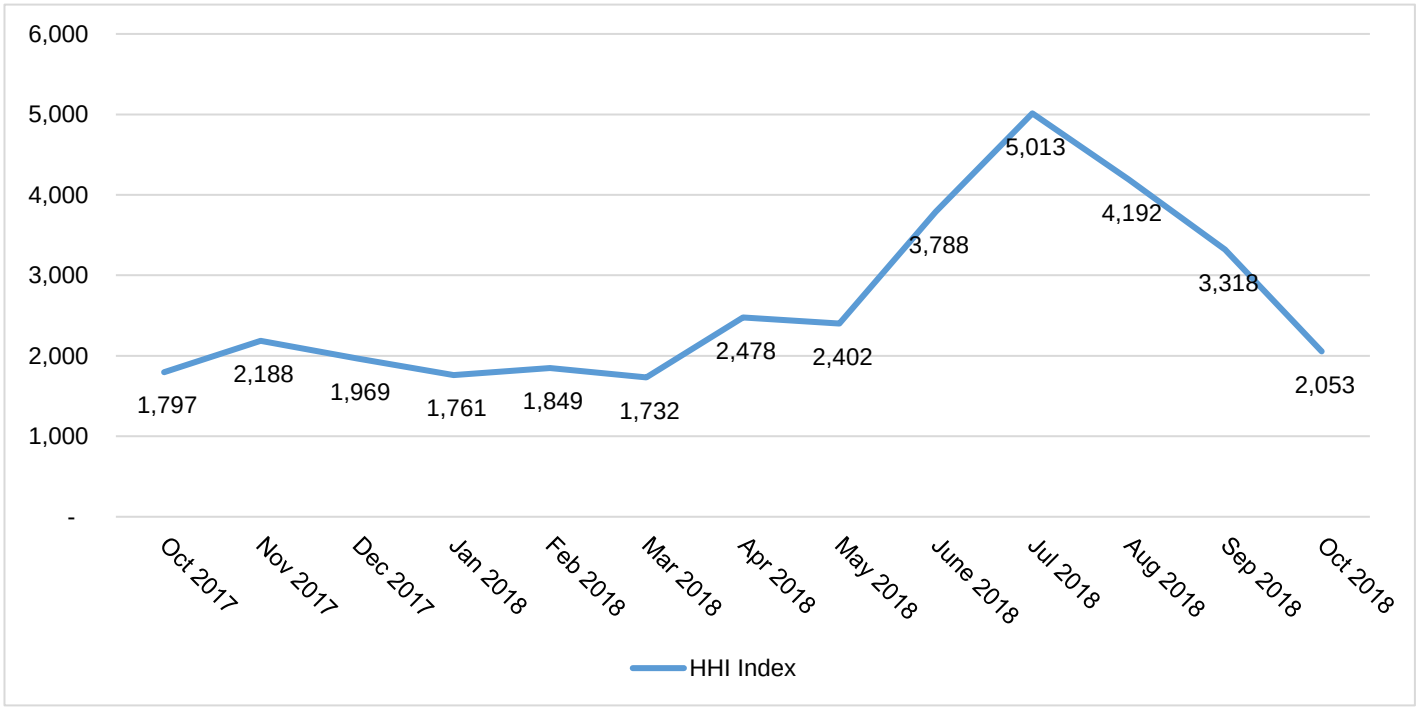
Source: ESCO

[2] Data is provided in US dollars and is converted to GEL using the average monthly exchange rate as reported by National Bank of Georgia.

3. Market concentration

In conclusion, we utilize the Hirschmann-Herfindahl (HHI) market concentration index to evaluate how competitive the generation segment of the market has been over the past 12 months. In October 2018, the Georgian electricity market was moderately concentrated, with an HHI value of 2053 (which is between the threshold for an unconcentrated market – 1,500 – and that for a highly concentrated market - 2,500). The level of concentration is noticeably higher compared to same period of the prior year (with an HHI value of 1797 in October 2017 the Georgian market was much closer to being classified as unconcentrated).

Figure 16. Hirschman-Herfindahl Index for Power Generation



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