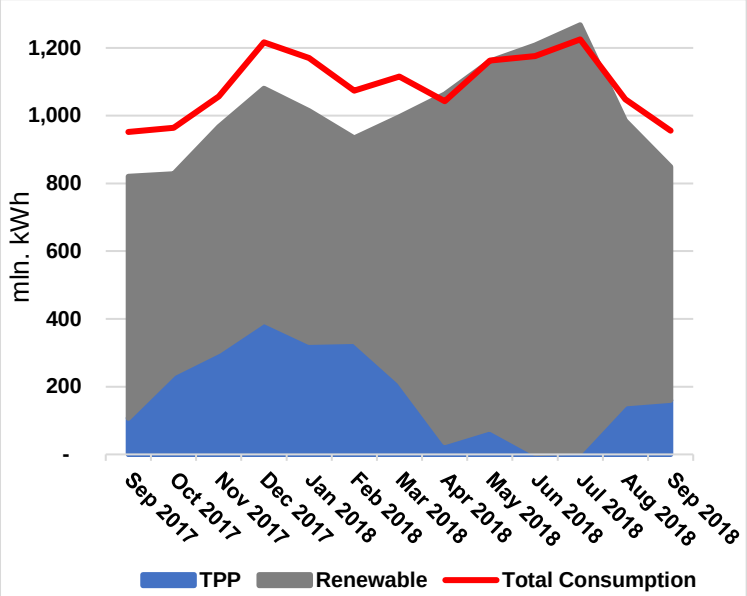
1. Electricity Generation – Consumption – Trade

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



Source: Electricity System Commercial Operator (ESCO)

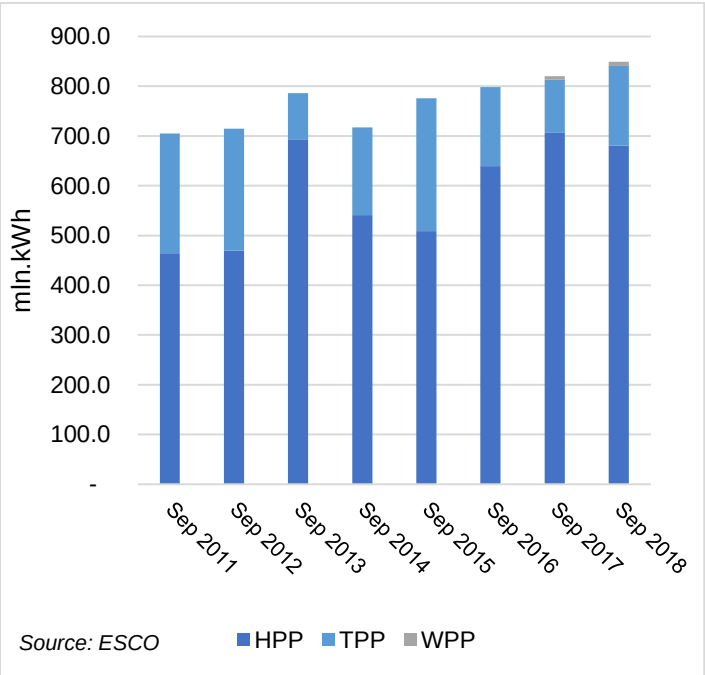
In September 2018, Georgian power plants generated 849 mln. KWh of electricity. This represents a 3% increase in total generation, compared to the previous year (in 2017, total generation in September was 820 mln. kWh). The increase in generation on a yearly basis comes from an increase in wind power (+18%) and thermal power generation (+50%), more than offsetting the decline in HPP generation (-4%).

On a monthly basis, generation decreased by 14% (in August 2018, total generation was 985 mln. kWh). The monthly decline in total generation was the result of a reduction in electricity produced by renewable sources (down to 689 mln kWh - with respect to August 2018), and of the increase of thermal power generation (160 mln. kWh - +7% with respect to August 2018).

Consumption of electricity on the local market was 955 mln. kWh (+4% compared to September 2017, and -9% with respect to August 2018). In September 2018, total consumption exceeded generation by 106 mln, which is 11% of the total consumption and 13% of the amount generated (compared to 64 mln kWh and 7% deficit of total generation for August 2018).

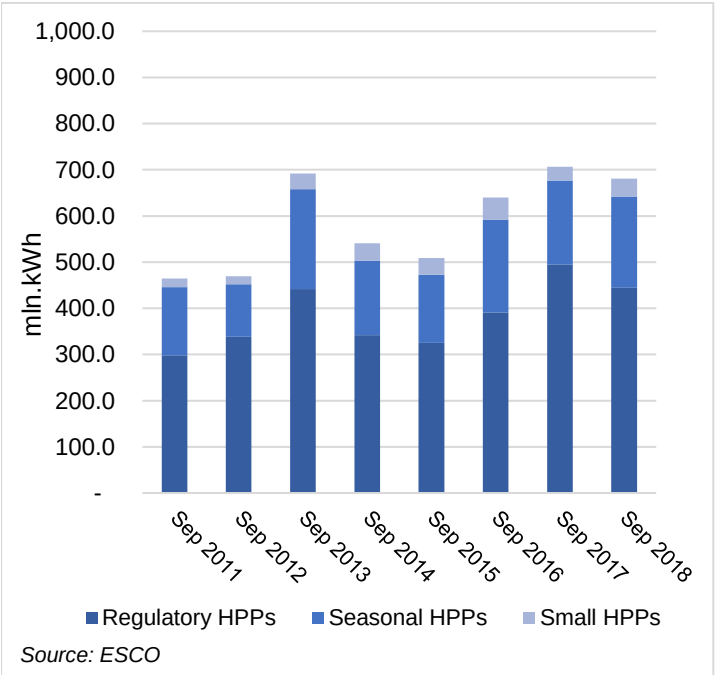
Among the different sources of electricity, hydropower remains dominant. Specifically, in September 2018, hydropower (HPP) generation amounted to 681 mln. kWh (80% of total); wind power (WPP) generation was 8 mln. kWh (1% of total), and thermal power (TPP) generation was 160 mln. kWh (19% of total) (Figure 2). Among hydropower generators, large (regulatory) HPPs produced 65% (444 mln. kWh) of electricity, while seasonal and small HPPs produced 29% (198 mln. kWh) and 6% (38 mln. kWh), respectively (Figure 3).

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



Source: ESCO

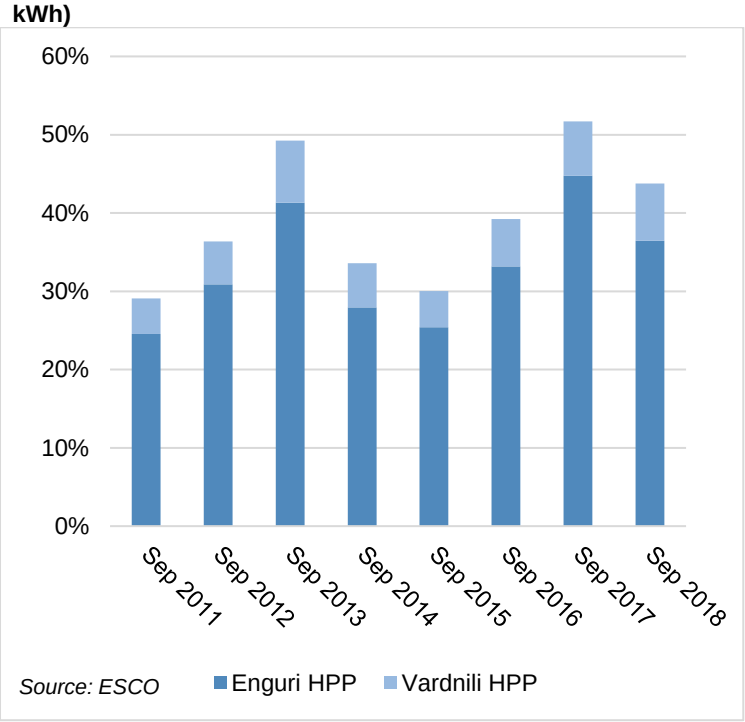
Figure 3. HPP Generation by Type (mln. kWh)



Source: ESCO

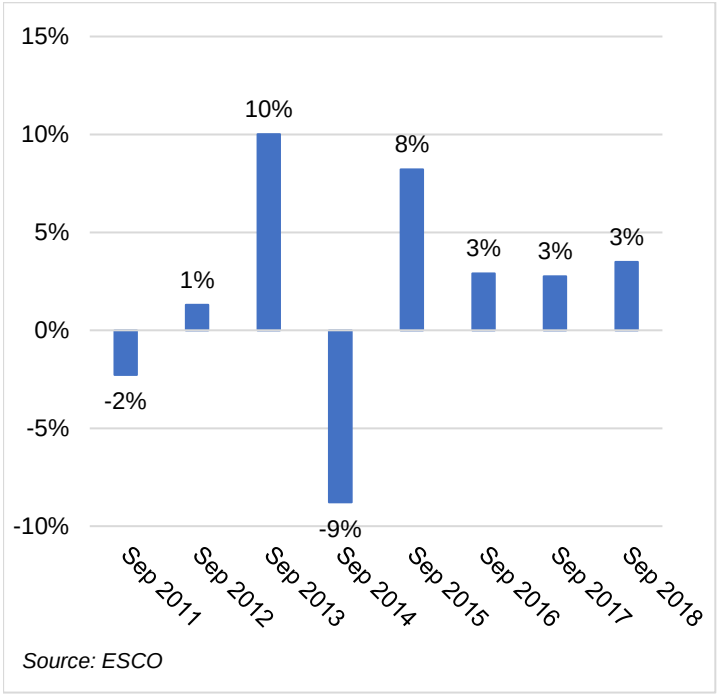
Among the large HPPs, Enguri and Vardnili generated the largest amounts of power, producing 371 mln kWh (44% of total generation), with 309 mln. kWh and 62 mln. kWh, respectively (Figure 4). They also represent around 84% of generation for regulatory HPPs.

Figure 4. Share of Enguri and Vardnili in Total Generation (mln. kWh)



Source: ESCO

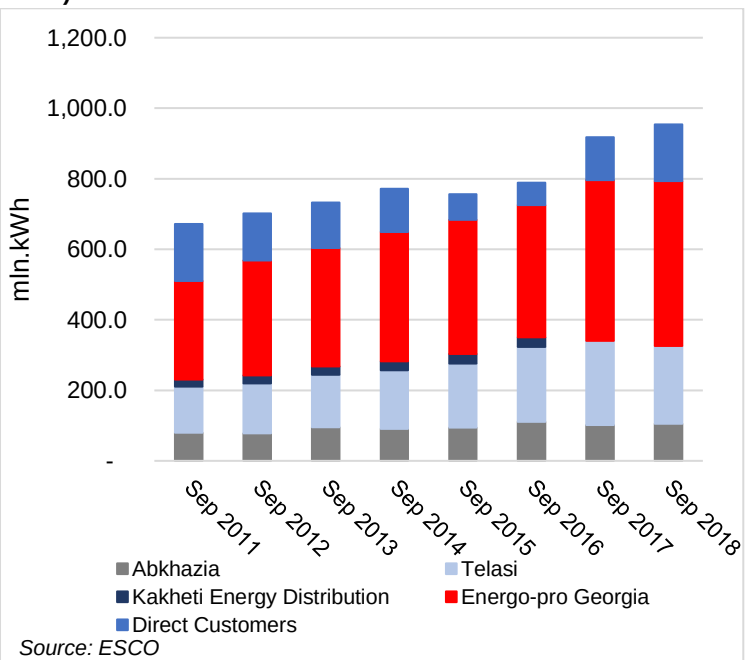
Figure 5. Growth of Generation (%, y/y)



Source: ESCO

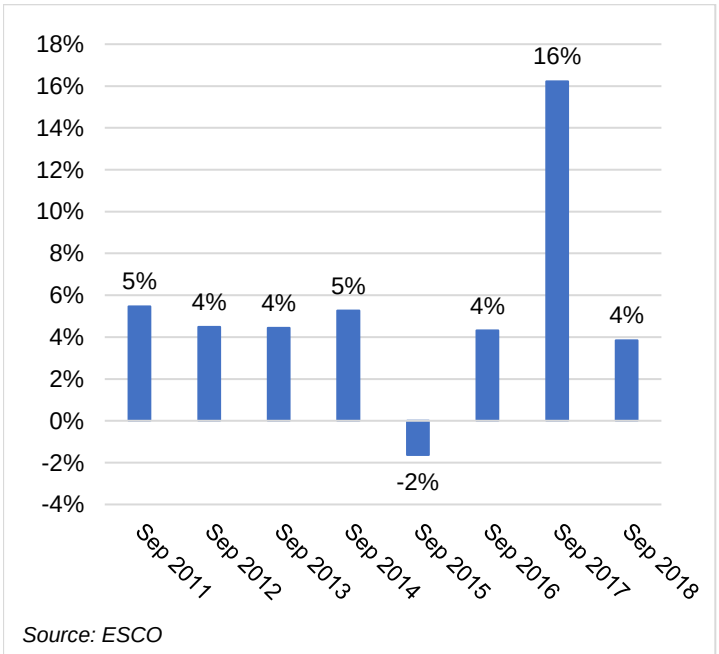
Total electricity consumption in Georgia came from: **Energo-Pro Georgia** (49% - 468 mln. kWh), **Telasi** (23% - 220.6 mln. kWh), **Abkhazia** (11% - 105 mln. kWh), and **direct customer**s (17% - 160 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption was 4% in September 2018, compared to September 2017 (Figure 7). Annual demand increased from Energo-Pro Georgia by 3%, from direct consumers by 32%, and from Abkhazia by 4%, while it decreased from Telasi by 8%.

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



Source: ESCO

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

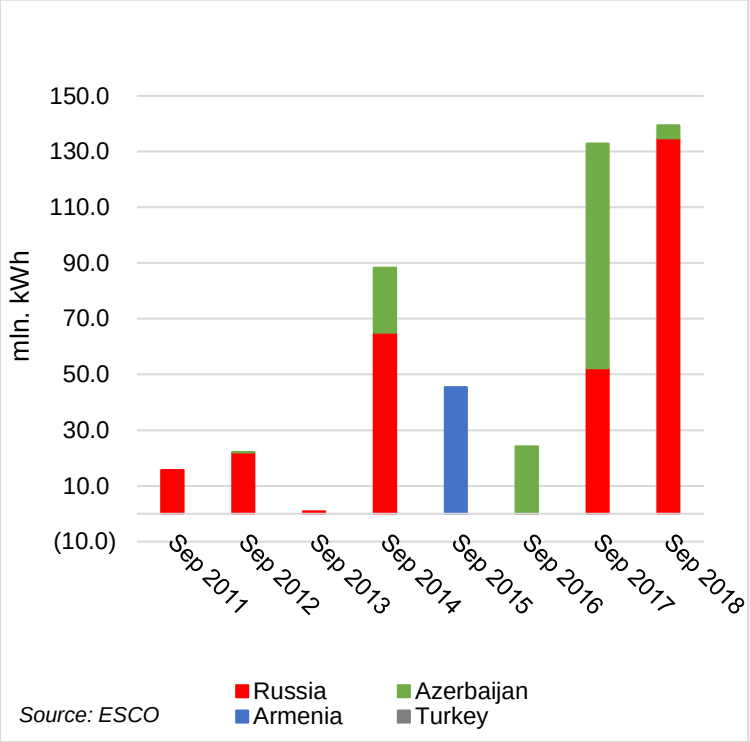


Source: ESCO

In September 2018, Georgia imported 139.46 mln. kWh of electricity (4¢ - 11 tetri). 3% of this electricity was imported from Azerbaijan, 97% was imported from Russia (Figure 8). In August 2018, Georgia exported 0.119 mln kWh of electricity (6¢ - 15.3 tetri). 6% of exports were exported to Russia (0.007 mln kWh) and 94% to Azerbaijan (0.112 mln kWh) (see Figure 9).

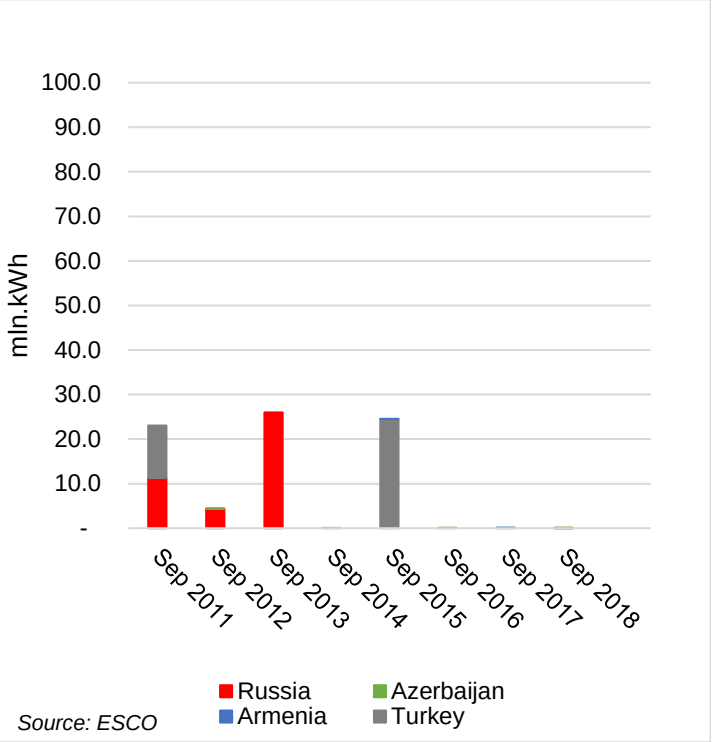
[1] In August, 2017 Energo-Pro Georgia became an owner of Kakheti Energy Distribution

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



Source: ESCO

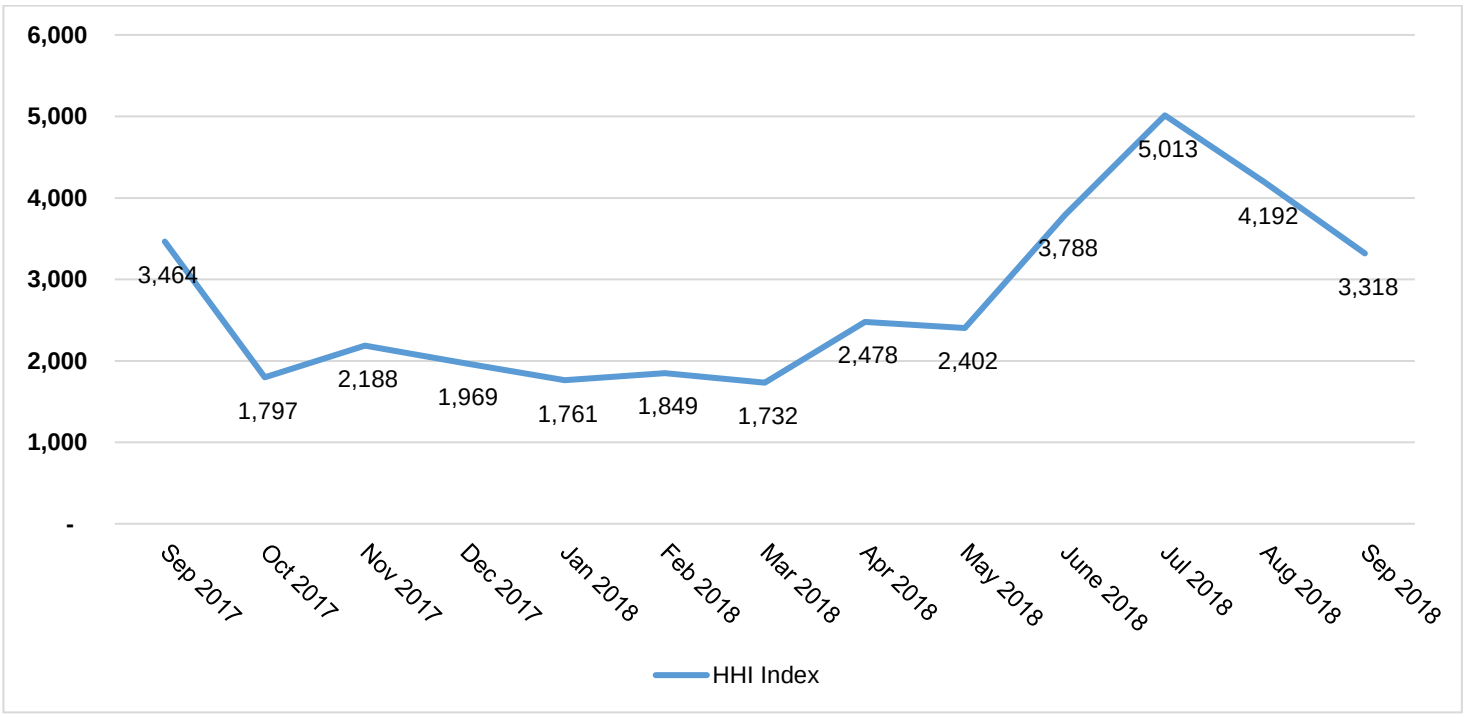
Figure 9. **Exports (mln. kWh)**



Source: ESCO

In conclusion, we utilize the Hirschman-Herfindahl (HHI) market concentration index to evaluate how competitive the generation segment of the market has been over the past 12 months. In September 2018, the Georgian electricity market was highly concentrated, with an HHI value of 3,318 (which is substantially higher than the threshold value for a highly concentrated market - 2,500). However, the level of concentration decreased marginally compared to the prior year (from an HHI value of 3,464 in September 2017).

Figure 10. **Hirschman-Herfindahl Index for Power Generation**

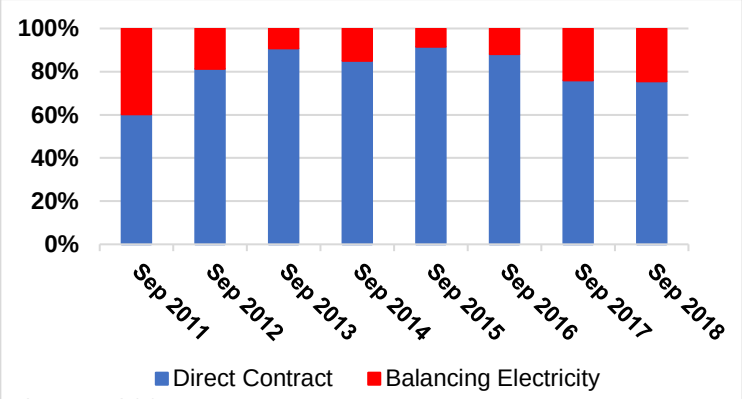


2. Market Operations

In September 2018, 76% of electricity sold on/from the local market (736 mln. kWh) was sold through direct contracts. The remaining 24% (238 mln. kWh) was sold as balancing electricity (Figure 11).

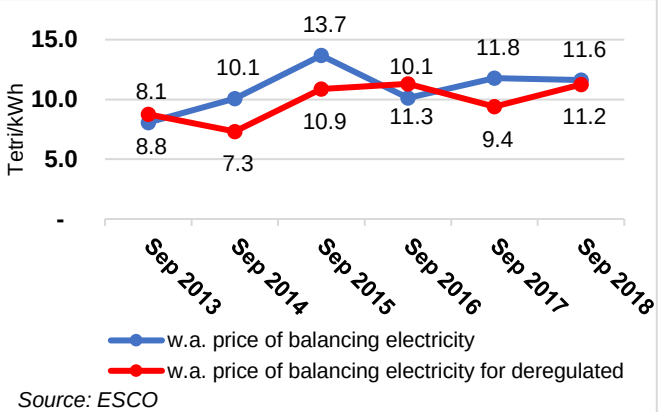
The weighted average price of balancing electricity was 11.6 tetri/kWh in September 2018, which is an annual decrease of 1% compared to September 2017. As for the weighted average price for deregulated (small) HPPs, it reached 11.2 tetri/kWh (Figure 12).

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)

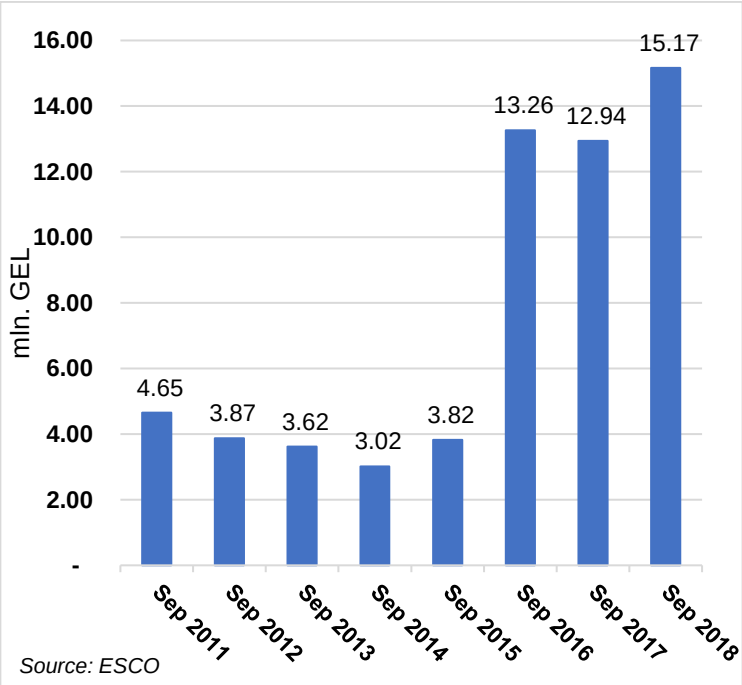


Source: ESCO

Guaranteed capacity payments in September 2018 were roughly 15.17 mln. GEL, an increase of 17% compared to September 2017 (Figure 13).

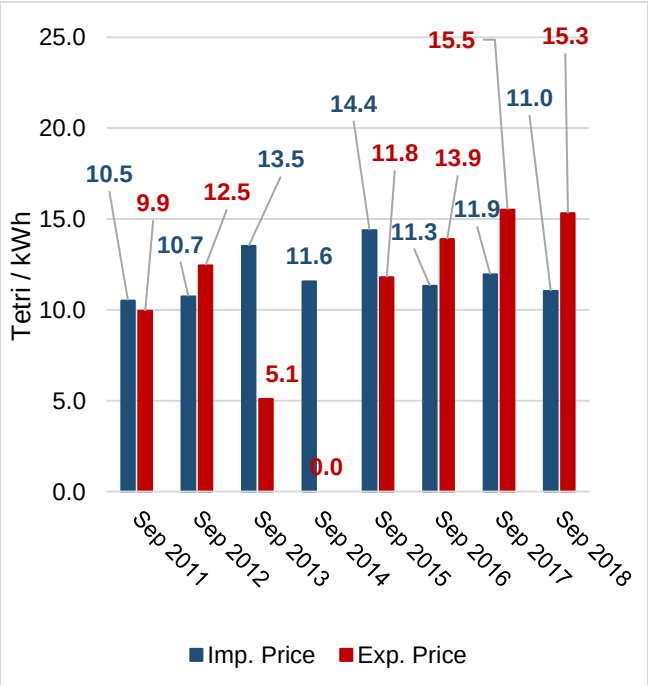
The average electricity import price in September 2018 decreased to 4¢ (11 tetri) per kWh (a decrease of 8%) compared to September 2017, and the export price decreased to 6¢ (15.3 tetri) per kWh (a decrease of 7%) compared to September 2017.

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



Source: ESCO

Figure 14. Prices Import/Export (tetri/kWh)[2]



[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.

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