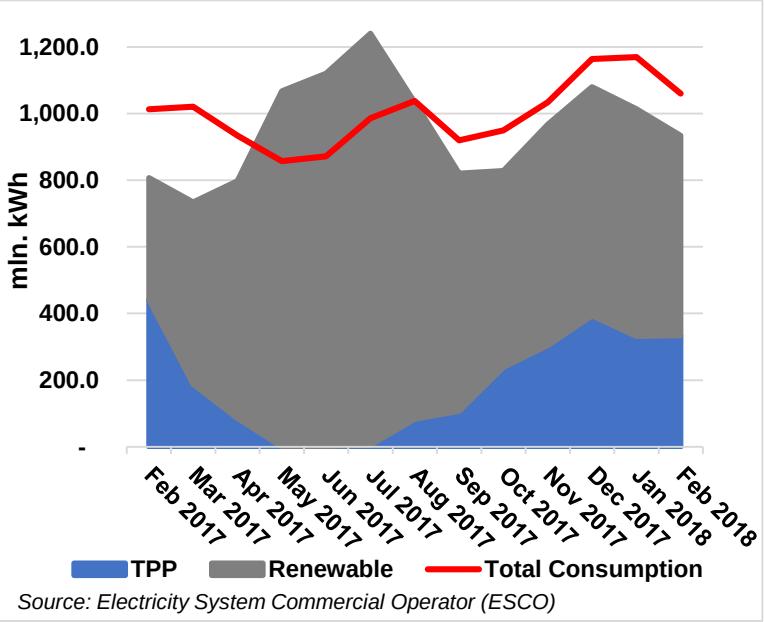
1. Electricity Generation – Consumption – Trade

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



Source: Electricity System Commercial Operator (ESCO)

In February 2018, Georgian power plants generated 934 mln. KWh of electricity. This corresponds to a 15% increase in total generation, compared to the previous year (in 2017, total generation in January was 809.2 mln. kWh). The increase in generation on a yearly basis comes from an increase in wind and hydro power generation (more details below).

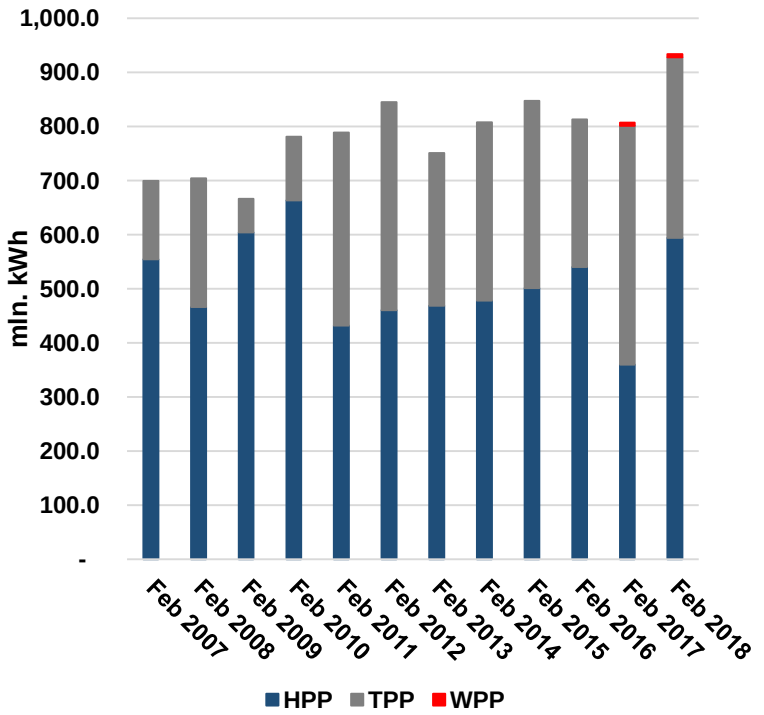
On a monthly basis, generation decreased by 8% in January 2018 (total generation was 1,014 mln. kWh).

The share of electricity produced by renewable sources decreased marginally to 64% of total generation (600 mln kWh), while that of thermal power generation increased in comparison to January 2018, accounting for 36% of total generation (334 mln. kWh).

Consumption of electricity on the local market was 1,060 mln. kWh (+5% compared to February 2017, and -9% with respect to January 2018). The gap between consumption and generation decreased to 126 mln. kWh - 13% of the amount generated in February 2018 (compared to 156 mln kWh and 15% of total generation in January 2018).

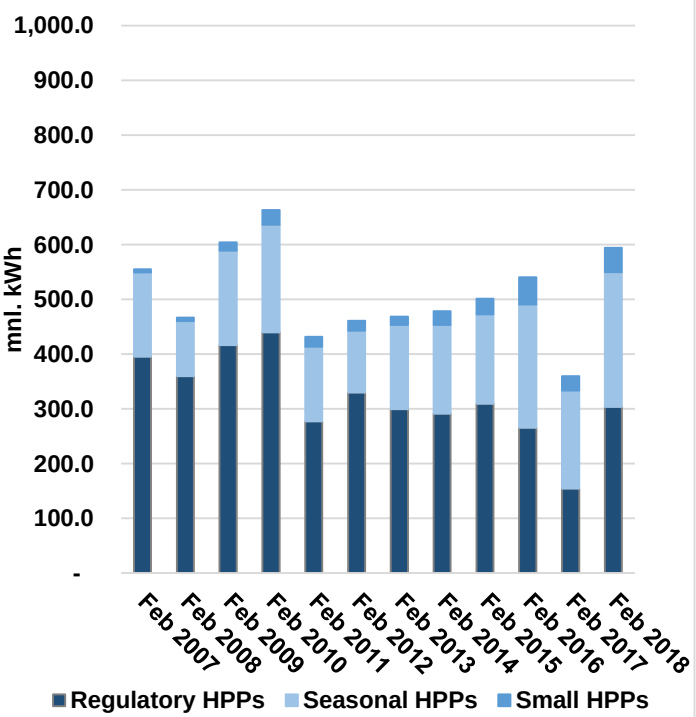
Among the different sources of electricity, hydropower remained dominant. Specifically, in February 2018, hydropower (HPP) generation amounted to 594 mln. kWh (63% of total), wind power (WPP) was 6 mln. kWh (1% of total), and thermal power (TPP) was 334 mln. kWh (36% of total) (Figure 2). Among hydropower generators, large (regulatory) HPPs produced 51% (303 mln. kWh) of electricity, while seasonal and small HPPs produced 41% (246 mln. kWh) and 8% (45 mln. kWh), respectively (Figure 3).

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



Source: ESCO

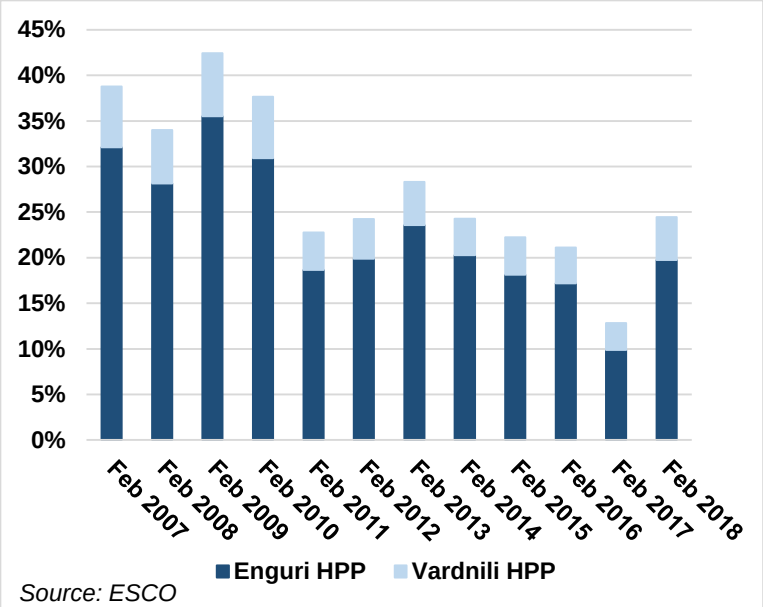
Figure 3. HPP generation by type (mln. kWh)



Source: ESCO

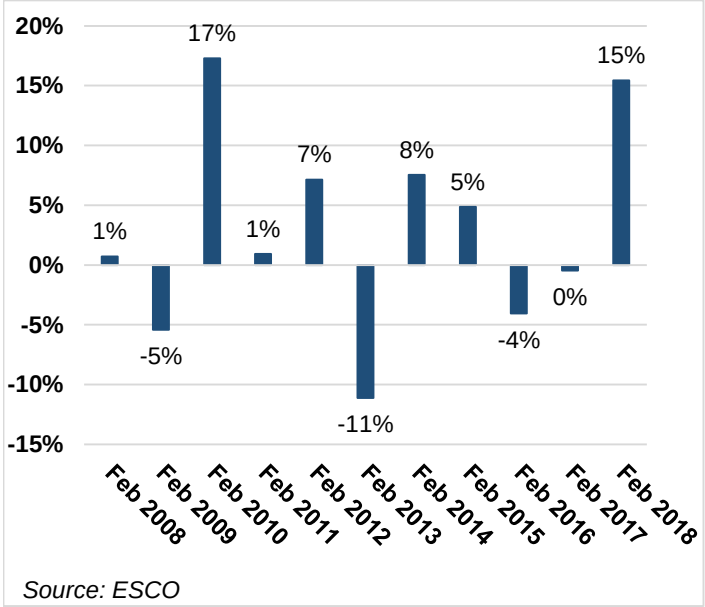
Among the bigger HPPs, Enguri and Vardnili generated the largest amounts of power, producing 185 mln. kWh and 44 mln. kWh, respectively - 25% of total generation (Figure 4). They also represent around 76% of generation for regulatory HPPs. Overall, compared to February 2017, power generation increased by 15% (Figure 5), due to a 65% increase in HPPs (while TPP generation decreased by 24%).

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



Source: ESCO

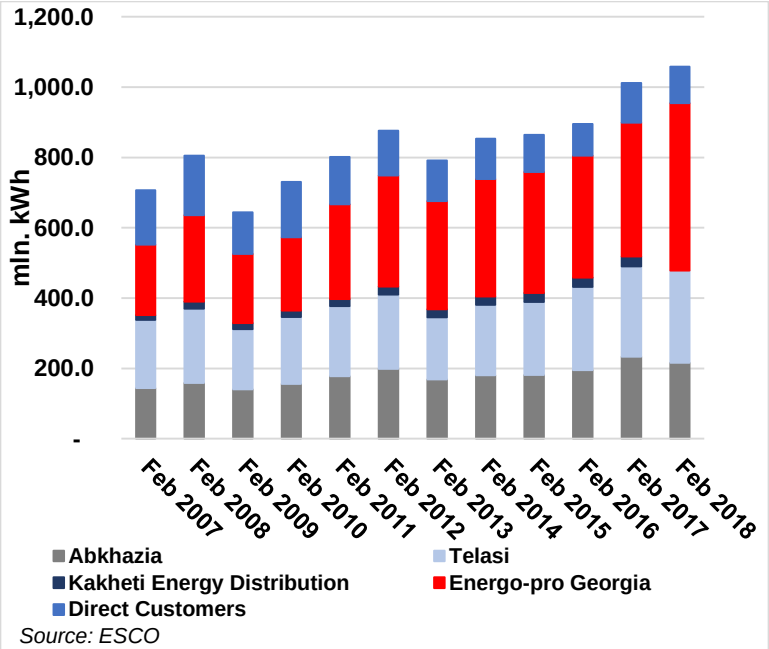
Figure 5. Growth of generation (%, y/y)



Source: ESCO

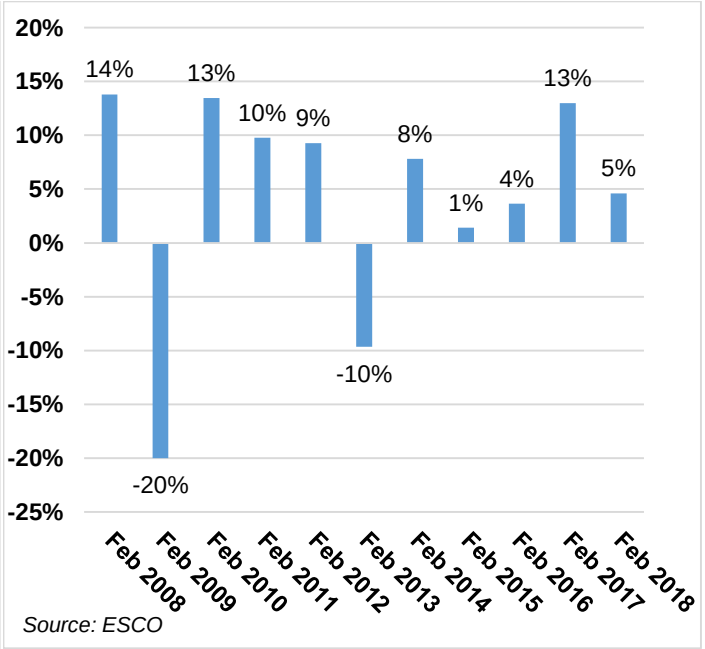
Total electricity consumption in Georgia came from: **Energo-Pro Georgia** (45% - 476mln. kWh), **Telasi** (25% - 262 mln. kWh), **Abkhazia** (20% - 216 mln. kWh), and **direct customer**s – (10% - 104 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption was 5% in February 2018, compared to February 2017 (Figure 7). Annual demand increased from Energo-Pro Georgia by 16%, and from Telasi by 2%, while demand from Abkhazia decreased by 7% and from direct consumers by 8%.

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



Source: ESCO

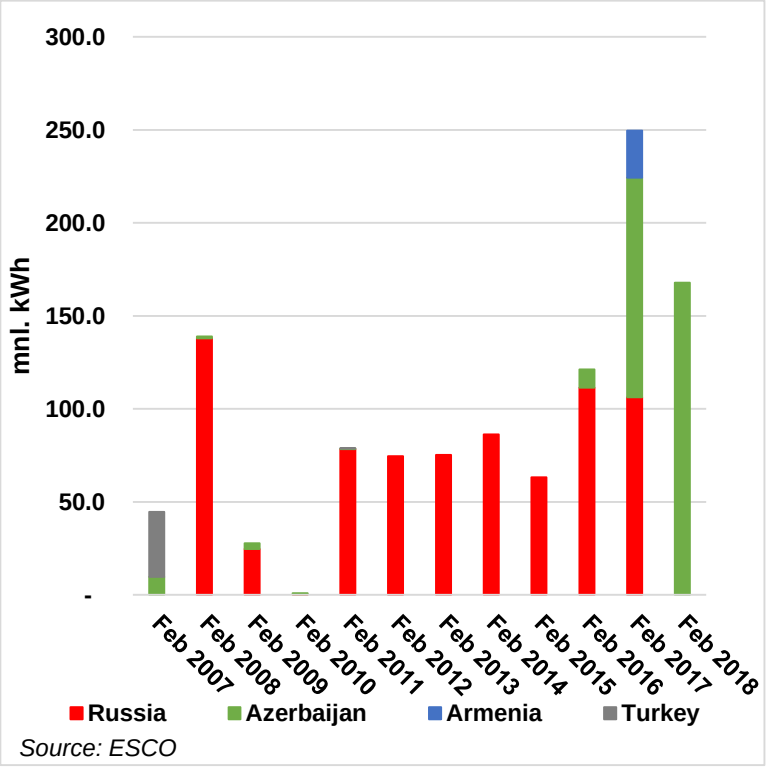
Figure 7. Electricity consumption growth (%, y/y)



Source: ESCO

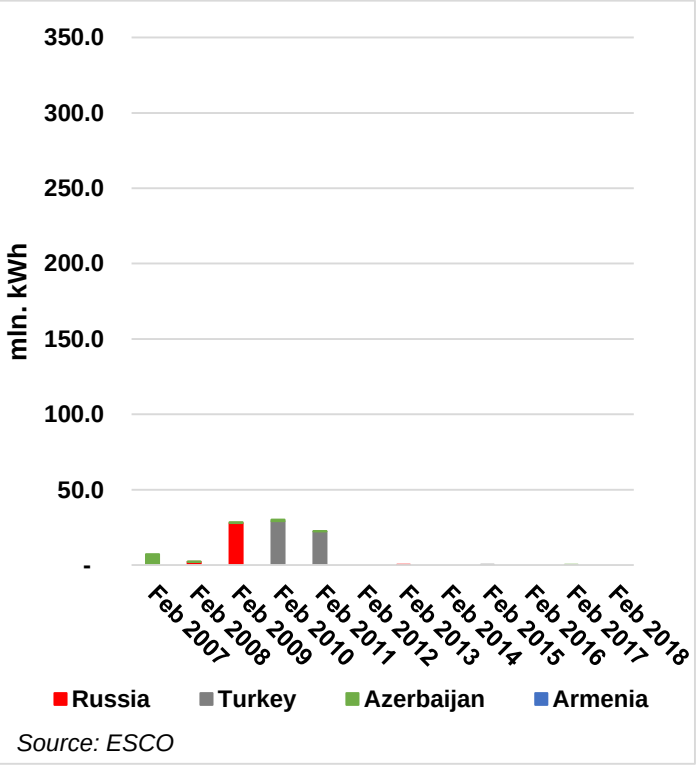
In February 2018, Georgia imported 168 mln. kWh of electricity (5.3¢/kWh – 12.99 tetri/kWh). 100% of this electricity was imported from Azerbaijan (Figure 8). Import decreased by 33% in comparison to February 2017. Similar to last month, in February 2018, Georgia did not export electricity (see Figure 9).

Figure 8. Import (mln. kWh)



Source: ESCO

Figure 9. Export (mln. kWh)

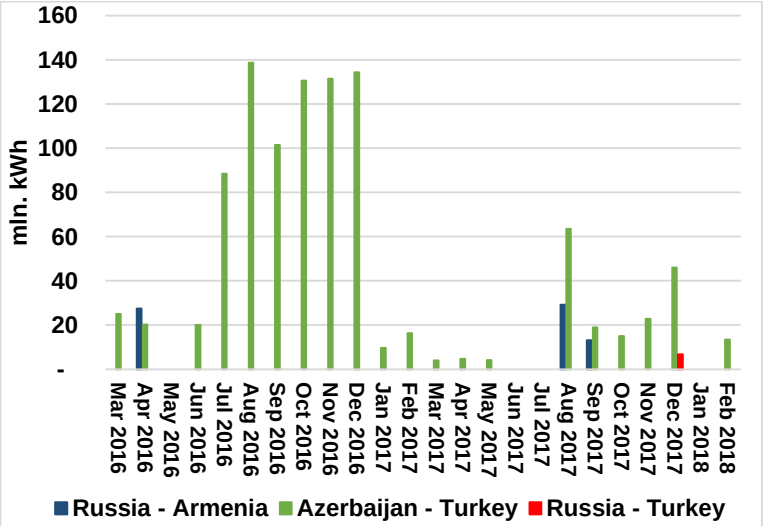


Source: ESCO

In February 2018, Georgia transited 13mln. kWh of electricity from Azerbaijan to Turkey (See Figure 10). The transit capacities remain unstable on a monthly basis, however, more transit is yet to be expected from July.

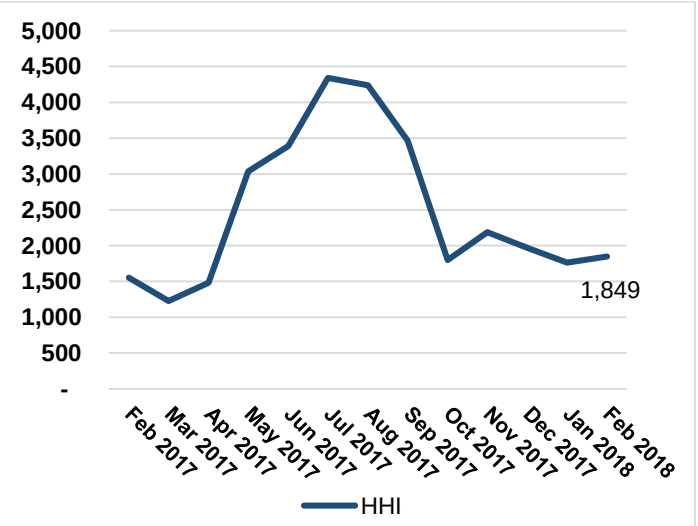
In summary, we calculate the Hirschmann-Herfindahl (HHI) market concentration index to evaluate how competitive the market was over the past months. In February 2018, the Georgian electricity market was moderately concentrated (with HHI value: 1,849), however, the level of concentration has increased slightly compared to last year (from HHI value: 1,554 in February 2017). It is important to note that, considering the big share of relatively larger HPPs among several owners, the Georgian electricity market becomes highly concentrated in the summer months – following the seasonal pattern of HPP generation.

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



Source: ESCO

Figure 11. Hirschman-Herfindahl index for Power Generation



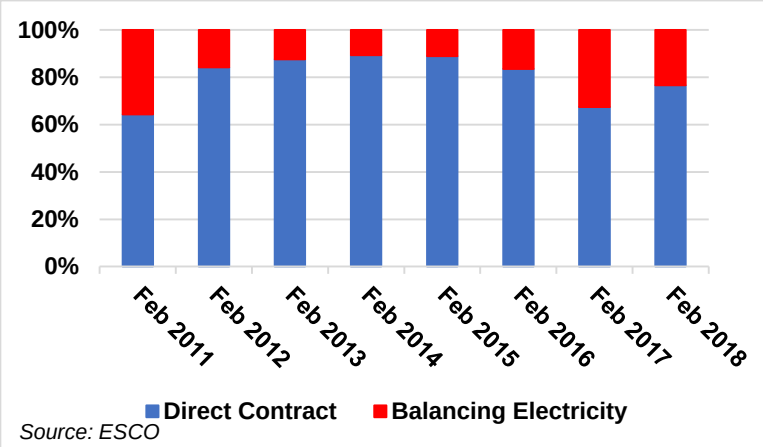
Source: ESCO, Author Calculations

2. Market Operations

In February 2018, 77% (825 mln. kWh) of electricity sold on/from the local market was through direct contracts. The remaining 23% (252 mln. kWh) was sold as balancing electricity. **(Figure 11).**

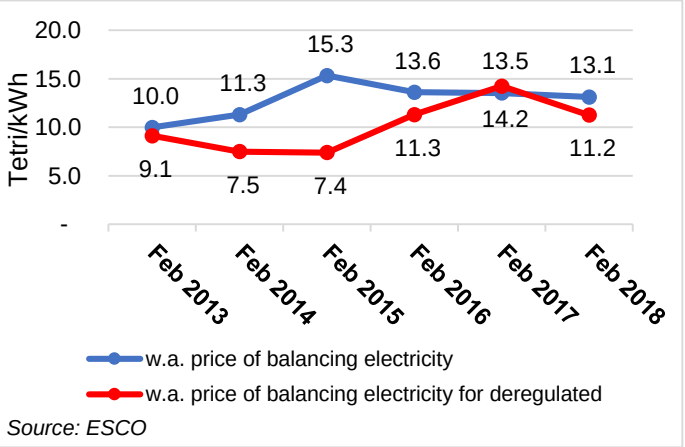
The weighted average price of balancing electricity was 13.1 tetri/kWh in February 2018, which is an annual decrease of 3%, compared to February 2017. As for the weighted average price for deregulated (small) HPPs, it reached 11.2 tetri/kWh **(Figure 12).**

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)

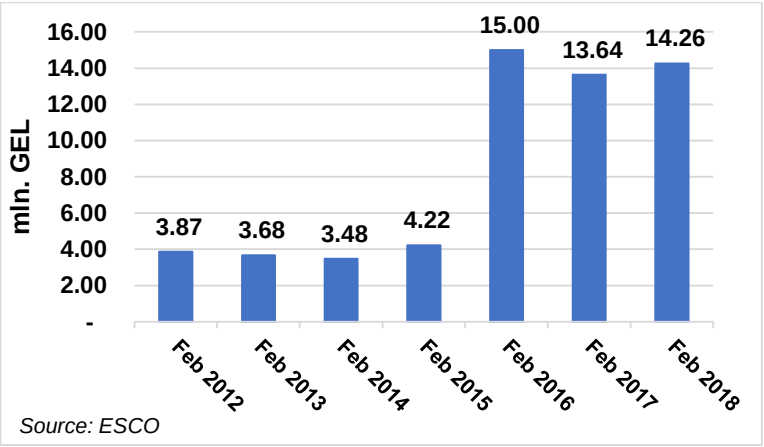


Source: ESCO

Guaranteed capacity payments in February 2018 were roughly 14.26 mln. GEL, an increase of 5% compared to February 2017 (Figure 13). The increase is primarily caused by the new, higher guaranteed capacity tariffs for most TPPs (except #9 Energy Block). 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.

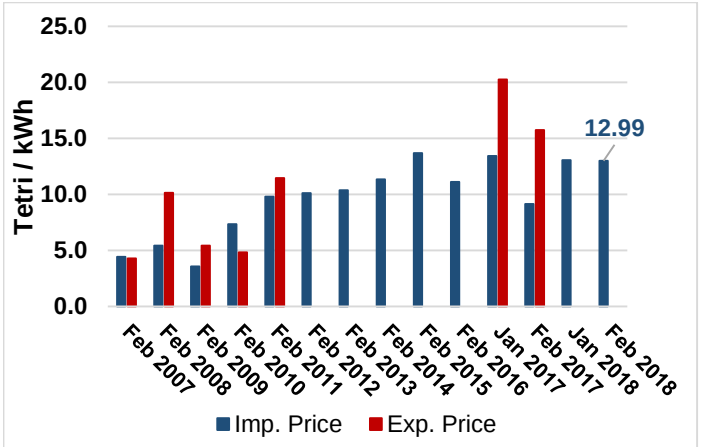
The average electricity import price in January 2018 increased to 5.3 ¢ (12.99 tetri) per kWh, compared to same month in the previous year (an increase of 52%).

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



Source: ESCO

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



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