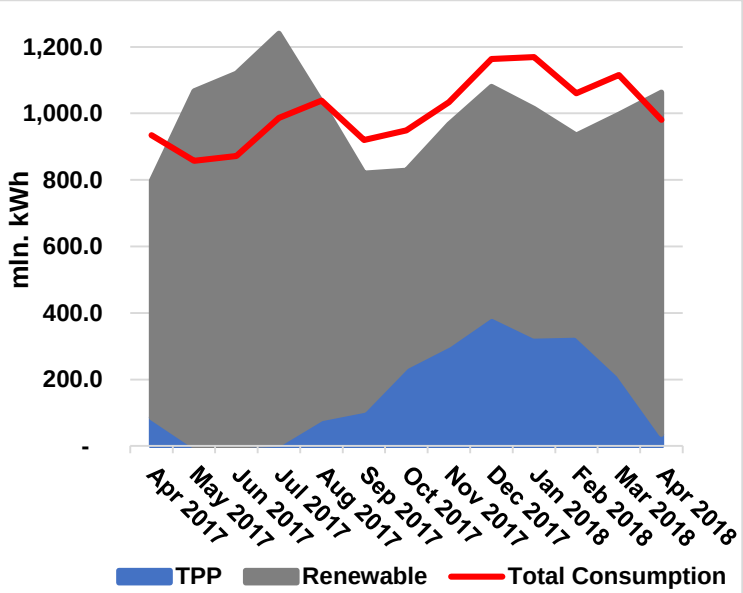
1.Electricity Generation – Consumption – Trade

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



Source: Electricity System Commercial Operator (ESCO)

In April 2018, Georgian power plants generated 1,064 mln. KWh of electricity. This represents a 30% increase in total generation, compared to the previous year (in 2017, total generation in April was 817.2 mln. kWh). The increase in generation on a yearly basis mainly comes from an increase in hydro power generation (more details below).

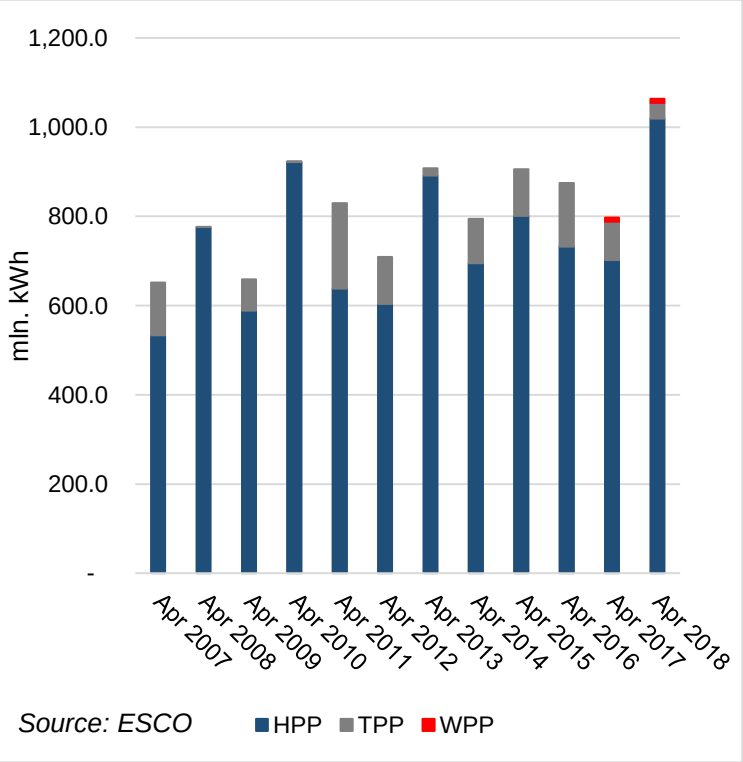
On a monthly basis, generation increased by 7% (in March 2018, total generation was 997 mln. kWh).

The share of electricity produced by renewable sources increased to 97% of total generation (1028 mln kWh), while thermal power generation decreased in comparison to March 2018, accounting for 3% of total generation (35 mln. kWh).

Consumption of electricity on the local market was 981 mln. kWh (+5% compared to April 2017, and -12% with respect to March 2018). In April 2018, generation exceeded total consumption by 21 mln - 2% of the total amount generated (compared to 119 mln kWh and a 12% deficit in total generation for March 2018).

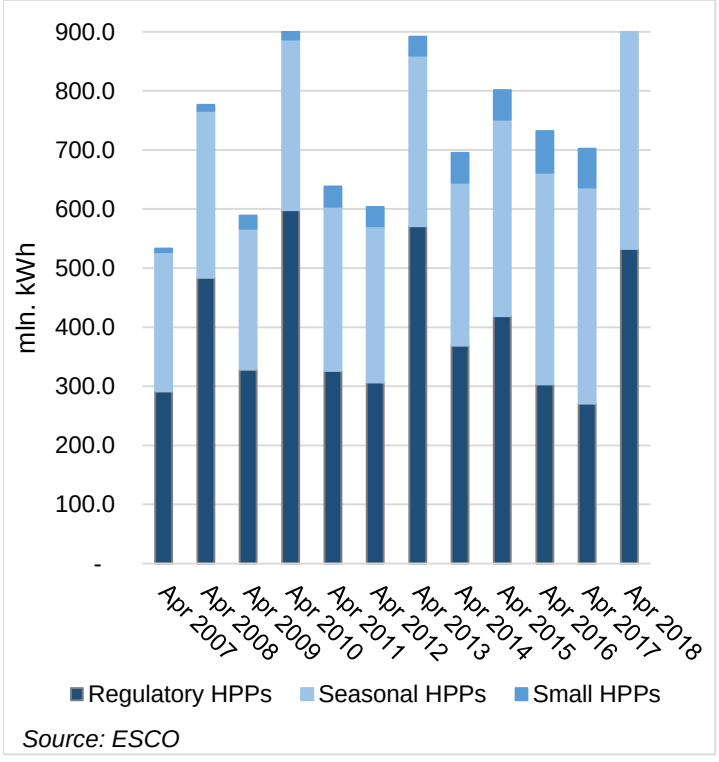
Among the different sources of electricity, hydropower became even more dominant. Specifically, in April 2018, hydropower (HPP) generation amounted to 1,019 mln. kWh (96% of total), wind power (WPP) was 9 mln. kWh (1% of total), and thermal power (TPP) was 35 mln. kWh (3% of total) (Figure 2). Among hydropower generators, large (regulatory) HPPs produced 52% (532 mln. kWh) of electricity, while seasonal and small HPPs produced 40% (407 mln. kWh) and 8% (80 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 larger HPPs, Enguri and Vardnili generated the largest amounts of power, producing 348 mln. kWh and 68 mln. kWh, respectively - 39% of total generation (Figure 4). They also represent around 78% of generation for regulatory HPPs. Overall, compared to April 2017, power generation increased by 30% (Figure 5), due to a 45% increase in HPP generation, while WPP generation remained the same and TPP decreased by 59%.

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

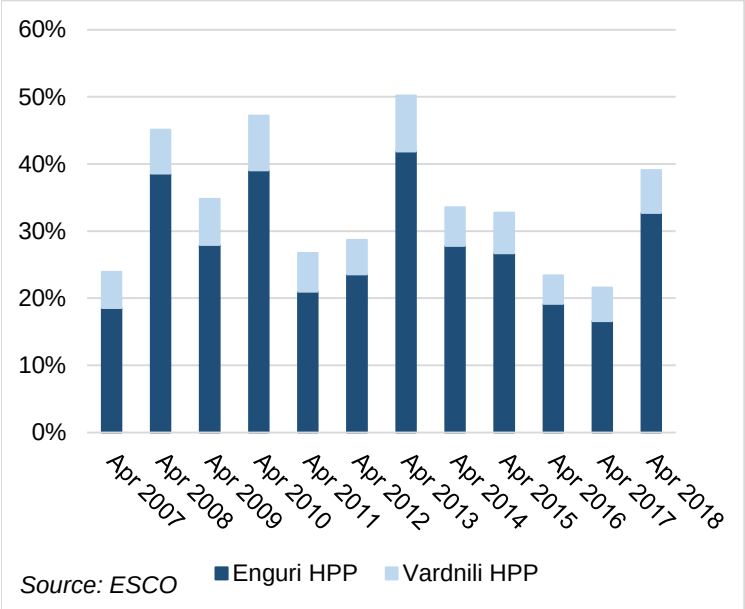
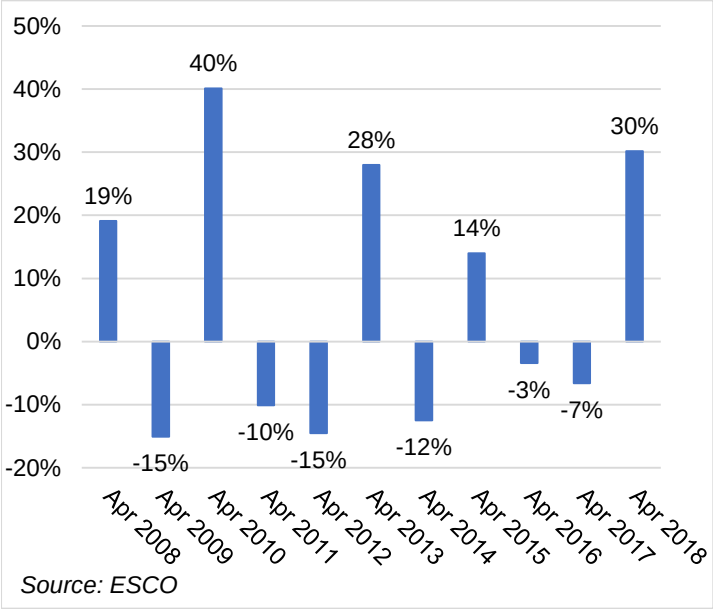


Figure 5. **Growth of generation (%, y/y)**



Total electricity consumption in Georgia came from: **Energo-Pro Georgia** (49% - 485 mln. kWh), **Telasi** (24% - 237 mln. kWh), **Abkhazia** (15% - 149 mln. kWh), and **direct customer**s (11% - 109 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption was 5% in April 2018, compared to April 2017 (Figure 7). Annual demand increased from Energo-Pro Georgia by 16%, from Telasi by 9%, and from Abkhazia by 1%, while demand from direct consumers decreased by 14%.

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

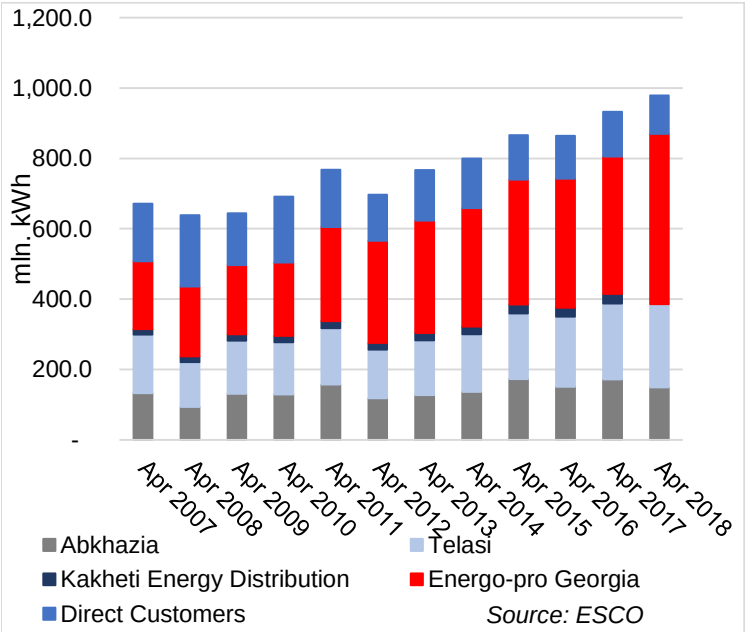
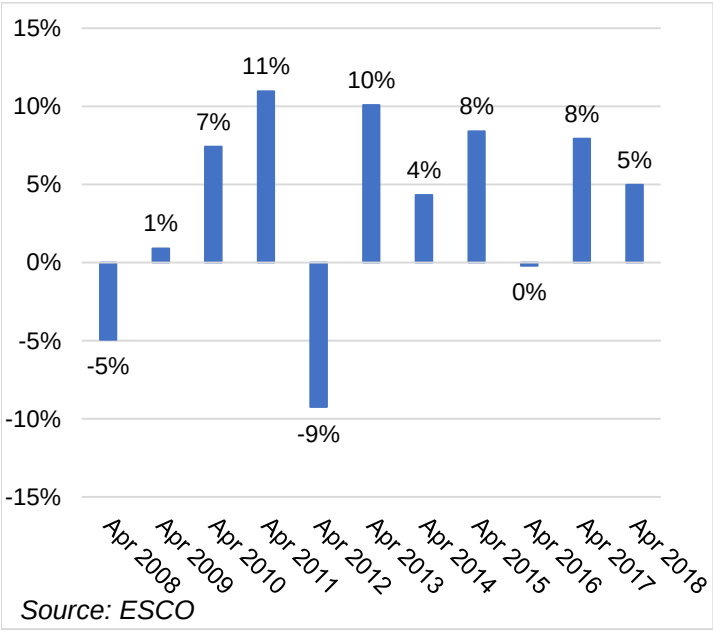
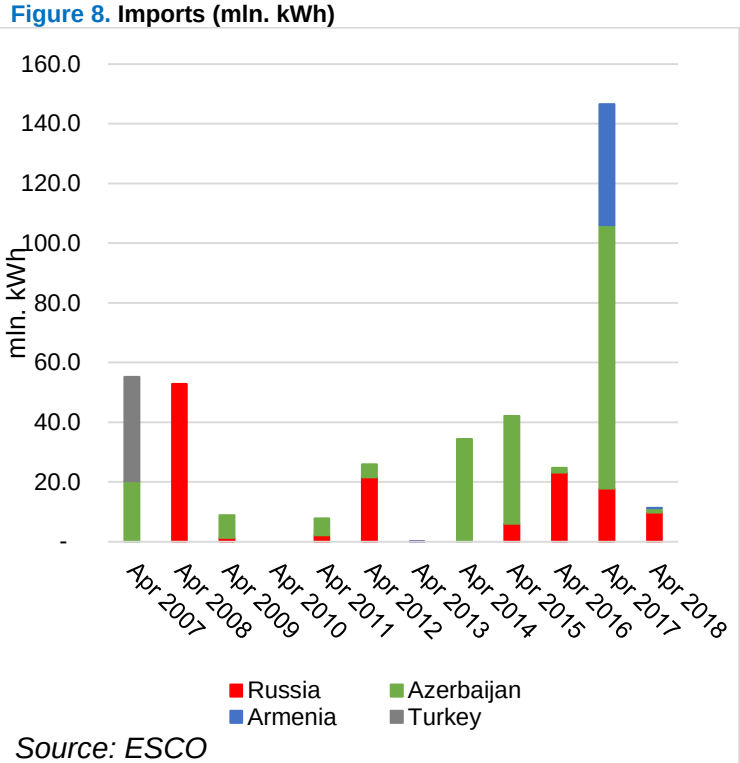


Figure 7. **Electricity consumption growth (%, y/y)**



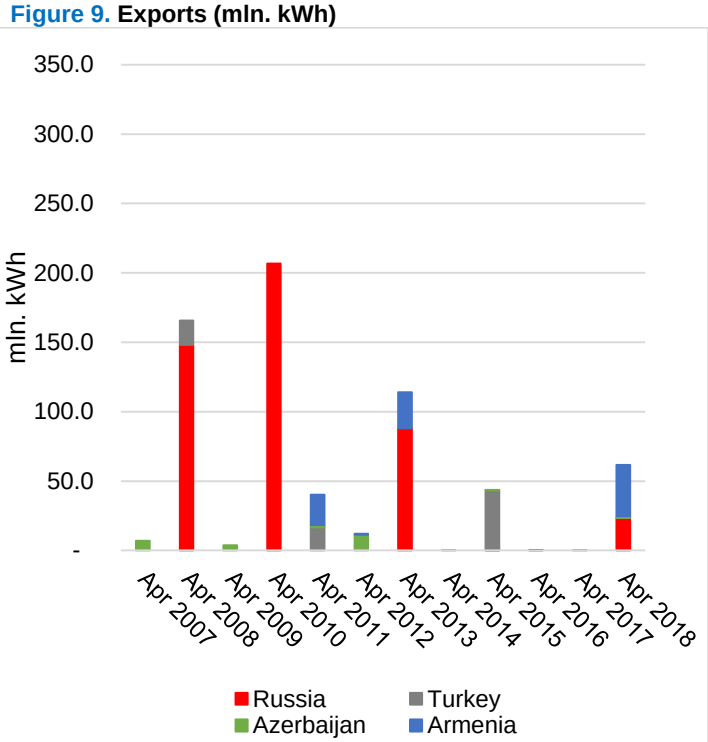
In April 2018, Georgia imported 11 mln. kWh of electricity (5.7 ¢ - 13.83 tetri per kWh). 87% of this electricity was imported from Russia, 12% was imported from Azerbaijan, and 1% was imported from Armenia (Figure 8). Imports decreased in comparison to April 2017 by 92%. While in the period January through March 2018 Georgia did not export electricity, in April 2018, Georgia exported 62 mln kWh of electricity. 38 % of exports (23 mln Kwh) were exported to Russia, 60% (37 mln kWh) to Armenia, and 2% (1 mln kwh) to Azerbaijan (see Figure 9).

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



Source: ESCO

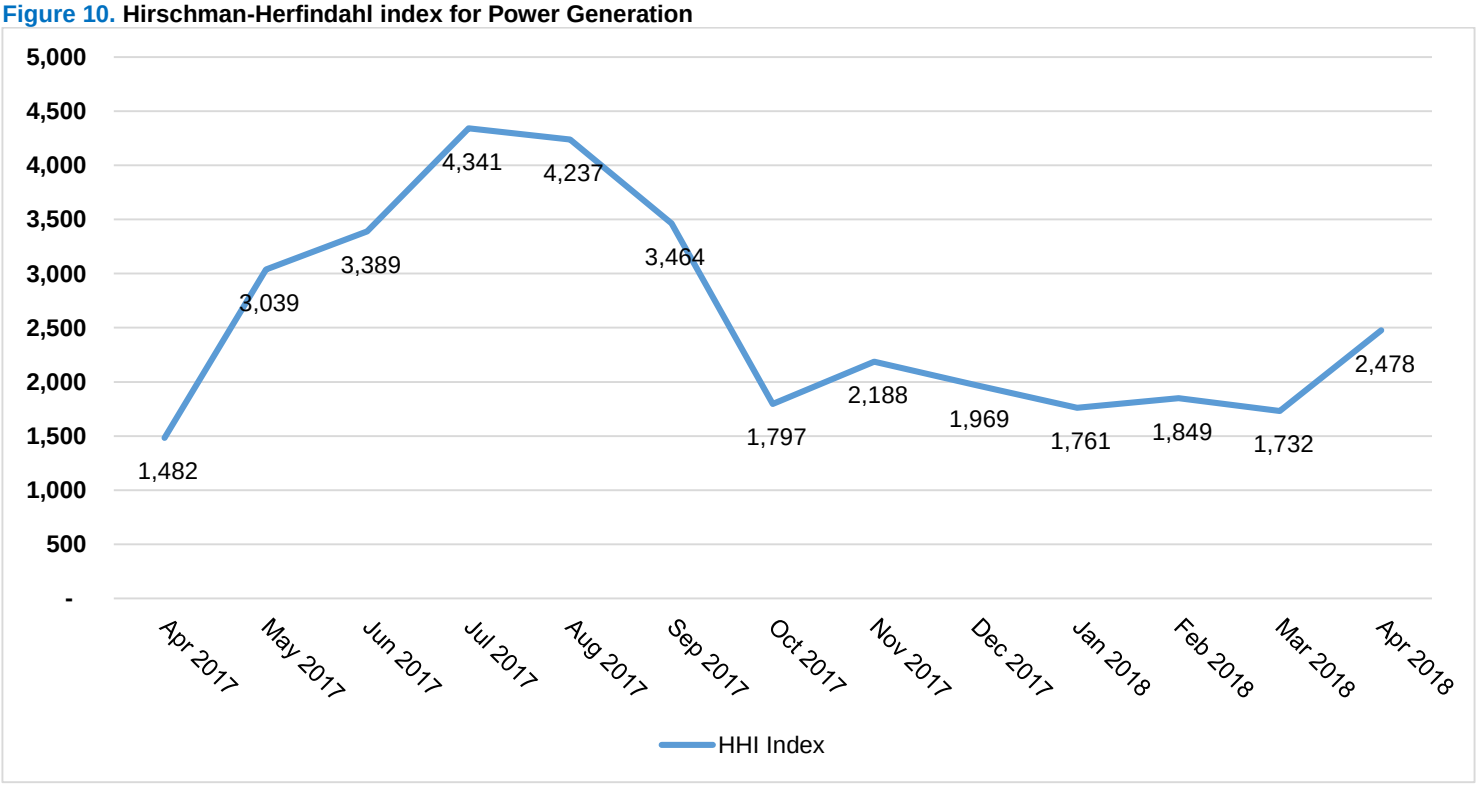
Figure 9. **Exports (mln. kWh)**



Source: ESCO

In summary, we utilize the Hirschmann-Herfindahl (HHI) market concentration index to evaluate how competitive the market was over the past few months. April 2018, the Georgian electricity market was still moderately concentrated, with an HHI value of 2,478 (a value that is quite close, however, to the value for a highly concentrated market, 2,500). The level of concentration increased significantly compared to the prior year (from HHI value: 1,482 in April 2017).

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

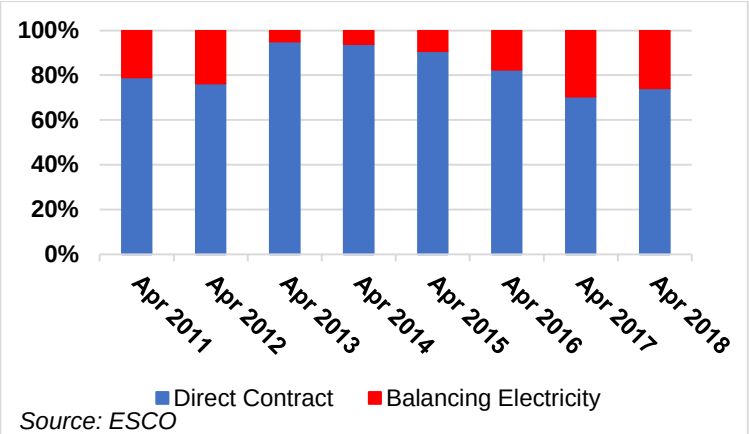


2.Market Operations

In April 2018, 74% (885 mln. kWh) of electricity sold on/from the local market was through direct contracts. The remaining 26% (307 mln. kWh) was sold as balancing electricity. **(Figure 11).**

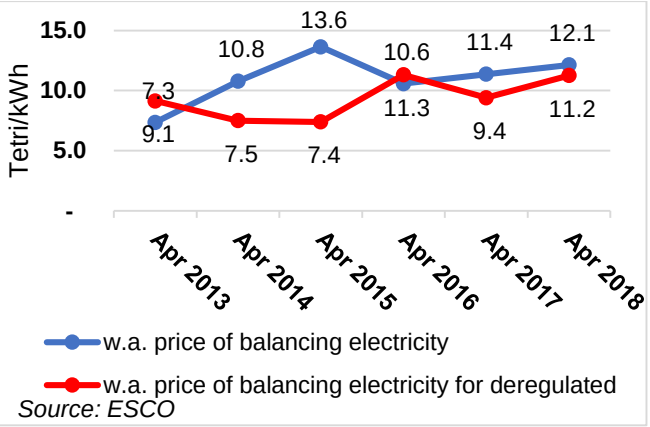
The weighted average price of balancing electricity was 12.1 tetri/kWh in April 2018, which is an annual increase of 7%, compared to April 2017. As for the weighted average price for deregulated (small) HPPs, it reached 11.2 tetri/kWh **(Figure 12).**

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)

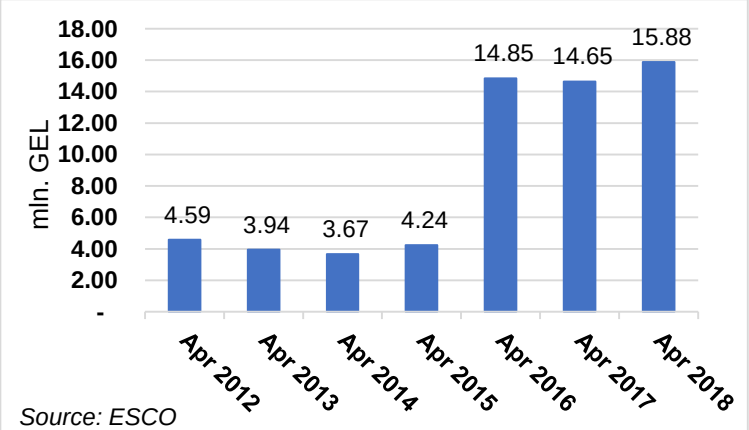


Source: ESCO

Guaranteed capacity payments in April 2018 were roughly 15.88 mln. GEL, an increase of 8% compared to April 2017 (Figure 13). The increase was primarily caused by the new, higher guaranteed capacity tariffs for most TPPs (except #9 Energy Block). The higher cost of guaranteed capacity, compared to prior years (2011-2015) was primarily caused by payments to the newly-built Gardabani TPP, which became operational in November 2015.

The average electricity import price in April 2018 increased to 5.7 ¢ (13.83 tetri) per kWh, compared to same month in the previous year (an increase of 25%), while the export price decreased to 2.9¢ (7.06 tetri) per kWh (a decrease of 51%) compared to April 2017.

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