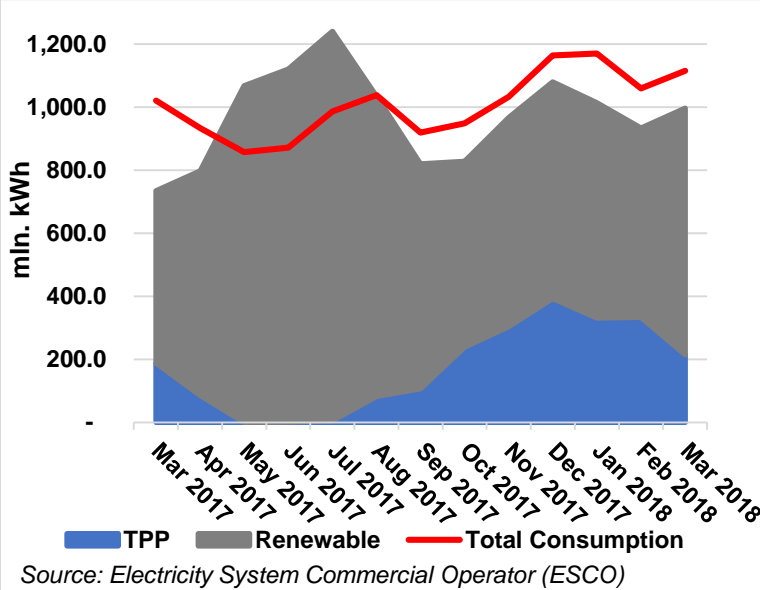




1. Electricity Generation – Consumption – Trade

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



In March 2018, Georgian power plants generated 997 mln. kWh of electricity. This corresponds to a 35% increase in total generation, compared to the previous year (in 2017, total generation in March was 740.7 mln. kWh). The increase in generation on a yearly basis comes from an increase in both hydro power generation and thermal power generation (more details below).

On a monthly basis, generation increased by 7% (in February 2018, total generation was 934 mln. kWh).

The share of electricity produced by renewable sources increased to 78% of total generation (782 mln kWh), while that of thermal power generation decreased in comparison to February 2018, accounting for 22% of total generation (215 mln. kWh).

Consumption of electricity on the local market was 1,116 mln. kWh (+9% compared to March 2017, and +5% with respect to February 2018). The gap between consumption and generation decreased to 119 mln. kWh - 12% of the amount generated in March 2018 (compared to 126 mln kWh and 13% of total generation in February 2018).

Among different sources of electricity, hydropower remained dominant. Specifically, in March 2018, hydropower (HPP) generation amounted to 775 mln. kWh (78% of total), wind power (WPP) was 7 mln. kWh (1% of total), and thermal power (TPP) was 215 mln. kWh (22% of total) (Figure 2). Among hydropower generators, large (regulatory) HPPs produced 43% (333 mln. kWh) of electricity, while seasonal and small HPPs produced 48% (372 mln. kWh) and 9% (69 mln. kWh), respectively (Figure 3).

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

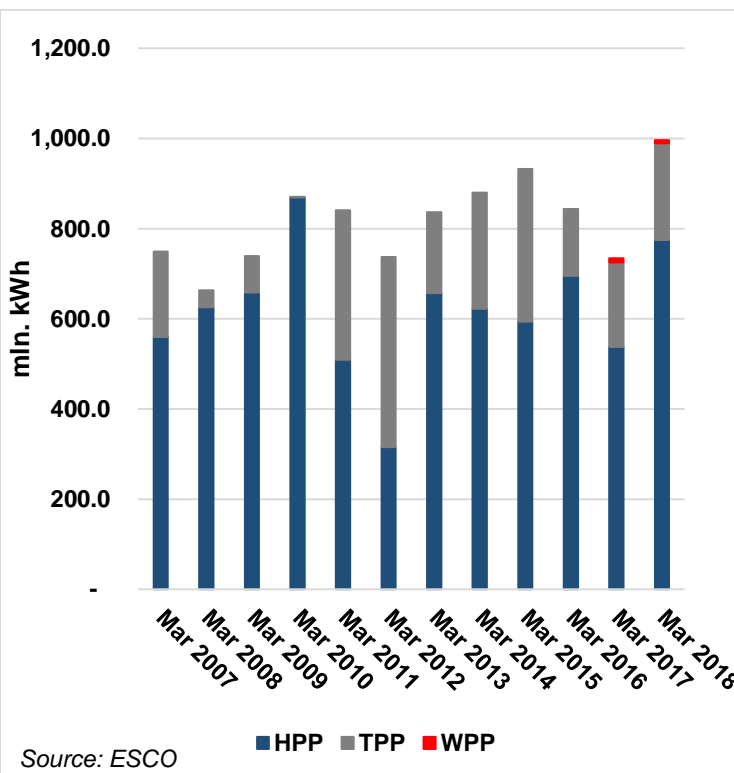
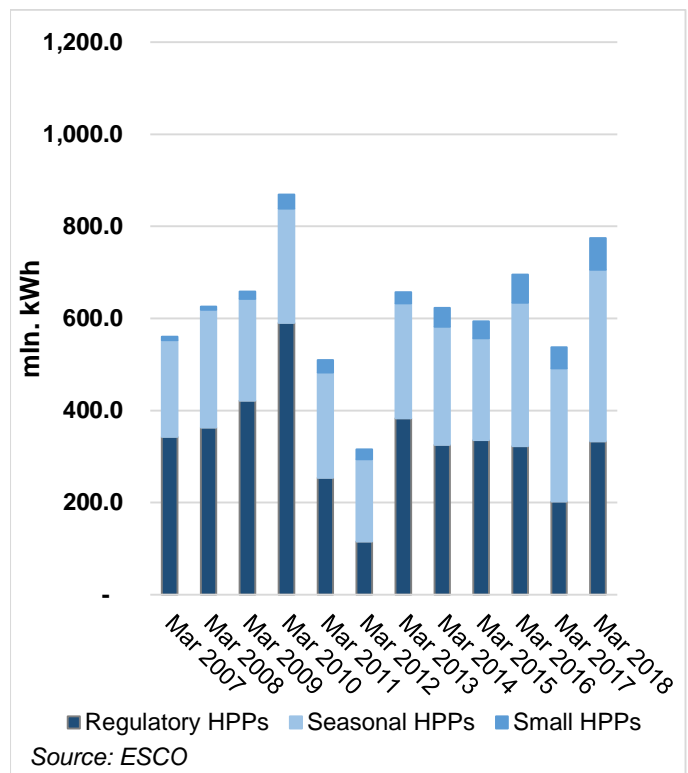


Figure 3. HPP generation by type (mln. kWh)



Among the bigger HPPs, Enguri and Vardnili generated the largest amounts of power, producing 188 mln. kWh and 49 mln. kWh, respectively - 24% of total generation (Figure 4). They also represent around 71% of generation for regulatory HPPs. Overall, compared to March 2017, power generation increased by 35% (Figure 5), due to a 44% increase in HPPs and 14% increase in TPPs (while WPP generation decreased by 21%).





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

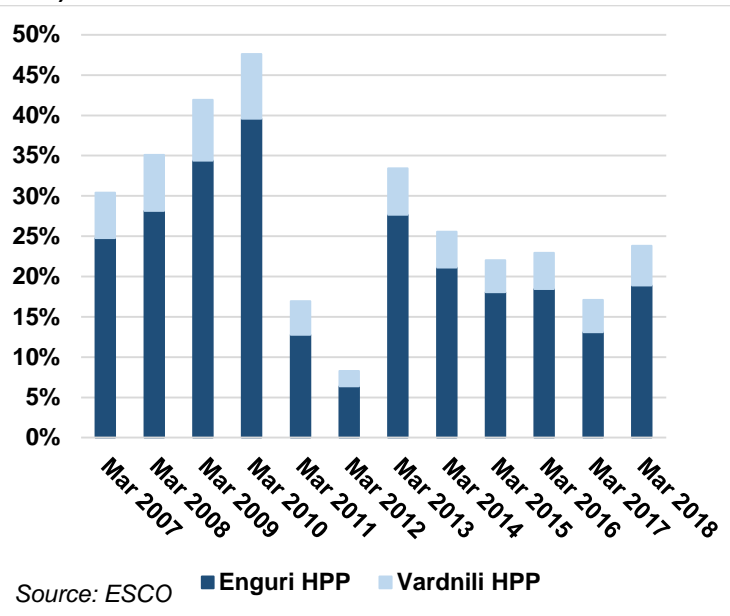
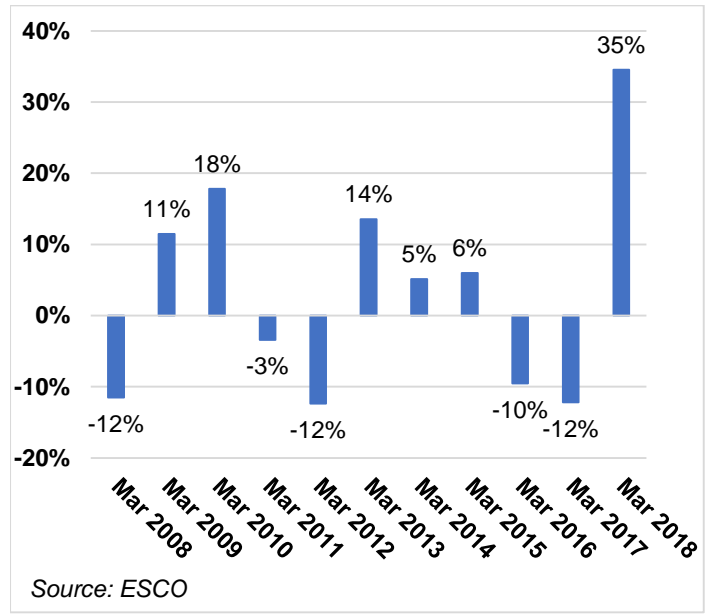


Figure 5. Growth of generation (% y/y)



Total electricity consumption in Georgia came from: **Energo-Pro Georgia** (47% - 521mln. kWh), **Telasi** (24% - 271 mln. kWh), **Abkhazia** (19% - 207 mln. kWh), and **direct customers** (10% - 115 mln. kWh) (Figure 6). Overall, the annual increase in electricity consumption was 9% in March 2018, compared to March 2017 (Figure 7). Annual demand increased from Energo-Pro Georgia by 19%, from Telasi by 10%, and from Abkhazia by 1%, while demand from direct consumers decreased by 11%.

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

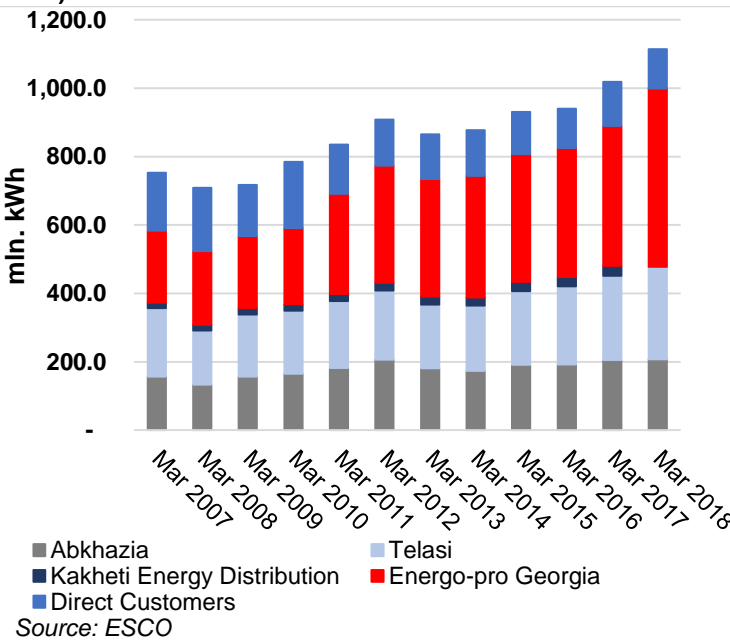
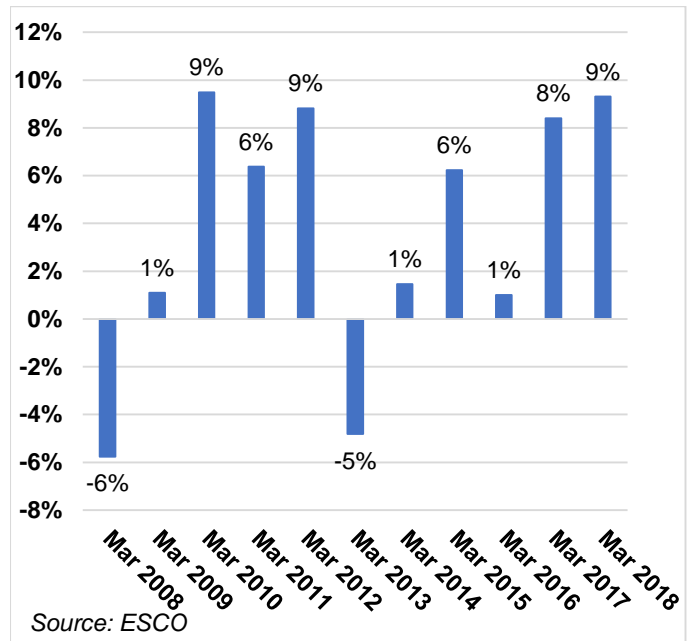


Figure 7. Electricity consumption growth (% y/y)

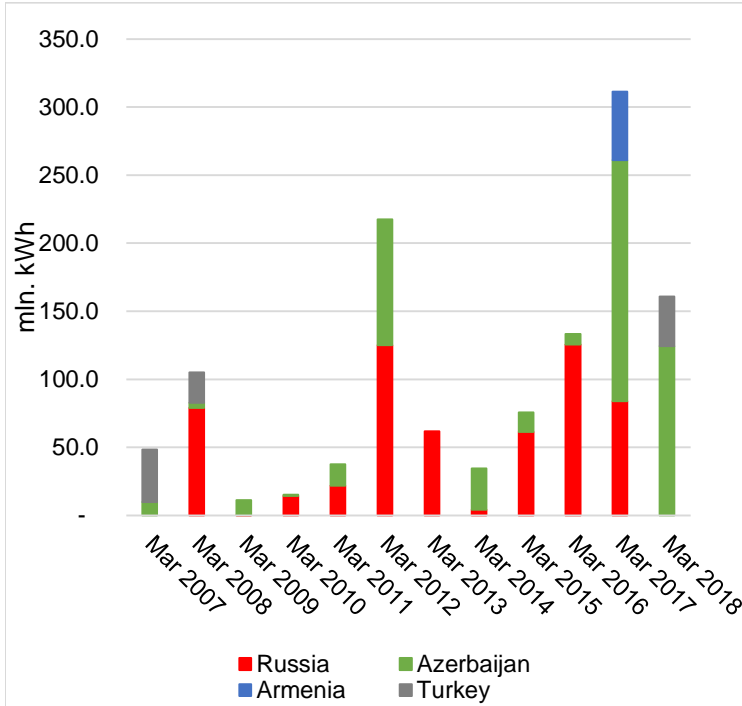


In February 2018, Georgia imported 161 mln. kWh of electricity (5.5¢/kWh – 13.44 tetri/kWh). 77% of this electricity was imported from Azerbaijan, and 23% was imported from Turkey (Figure 8). Imports decreased in comparison to March 2017 by 48%. Similar to the last two months, in March 2018, Georgia did not export electricity (see Figure 9).



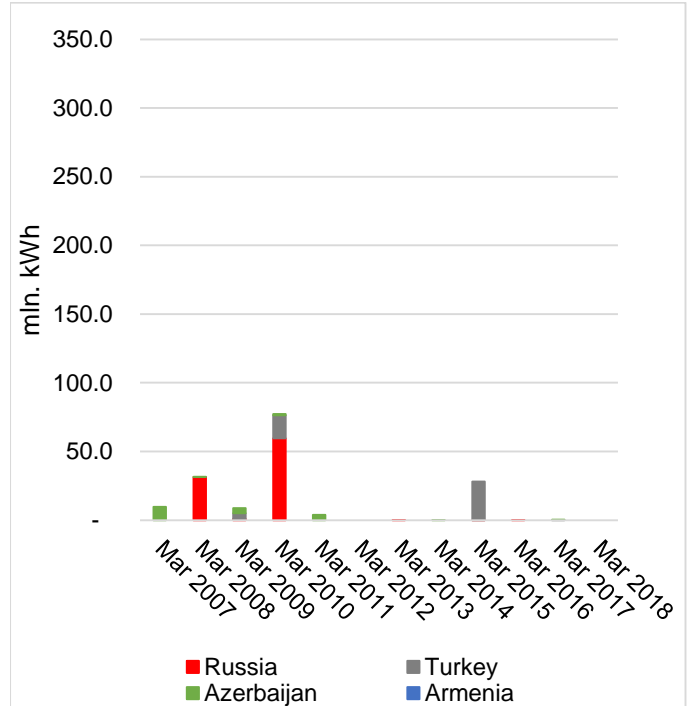


Figure 8. Imports (mln. kWh)



Source: ESCO

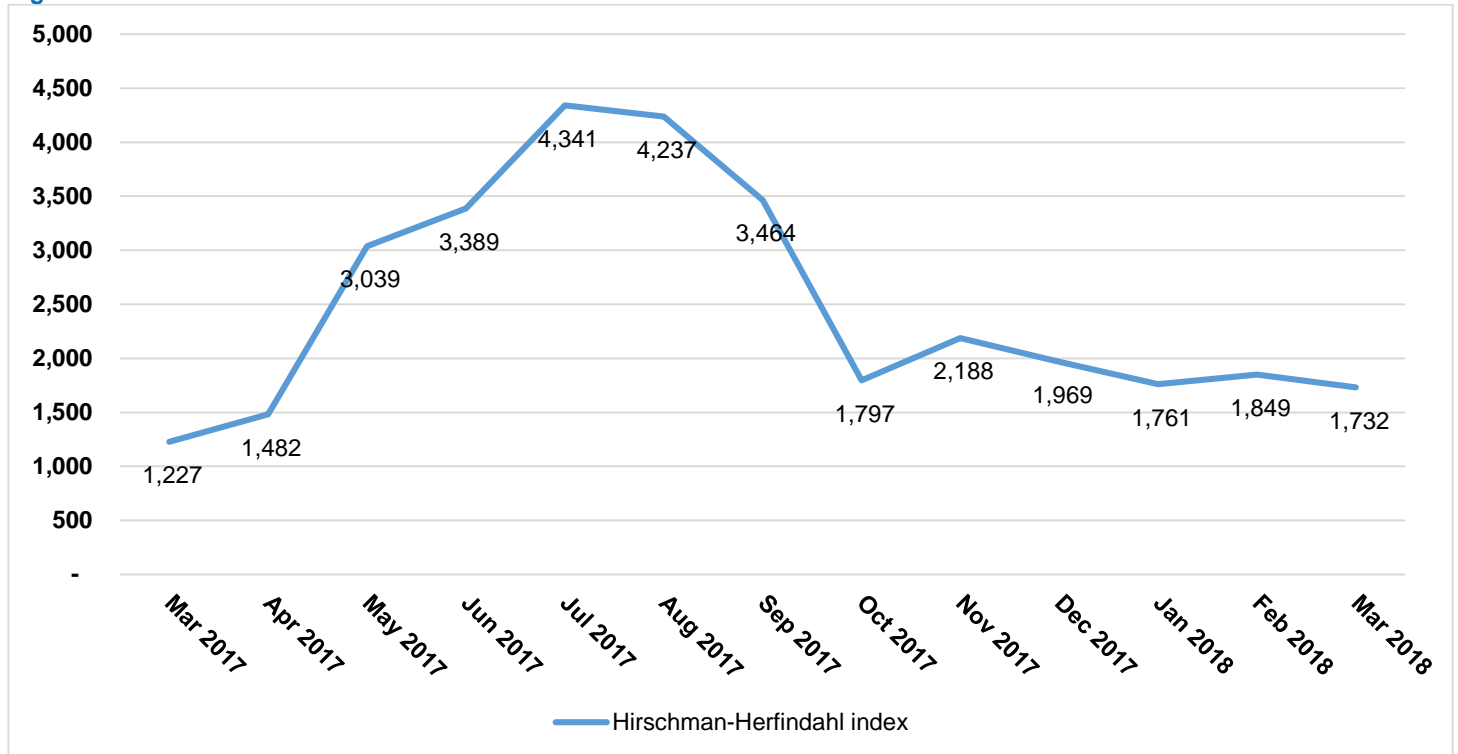
Figure 9. Exports (mln. kWh)



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. In March 2018, the Georgian electricity market was still moderately concentrated (with an HHI value of 1,732), however, the level of concentration increased compared to the prior year (from HHI value: 1,227 in March 2017).

Figure 10. Hirschman-Herfindahl index for Power Generation





2. Market Operations

In March 2018, 75% (853 mln. kWh) of electricity sold on/from the local market was through direct contracts. The remaining 25% (282 mln. kWh) was sold as balancing electricity. **(Figure 11).**

The weighted average price of balancing electricity was 12.1 tetri/kWh in February 2018, which is an annual decrease of 3%, compared to March 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

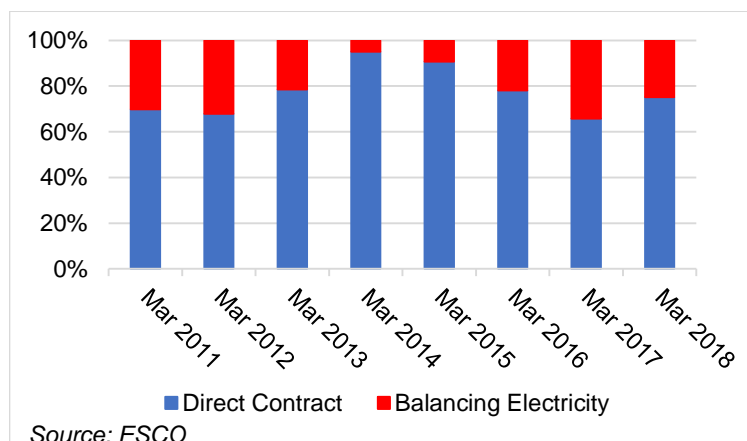
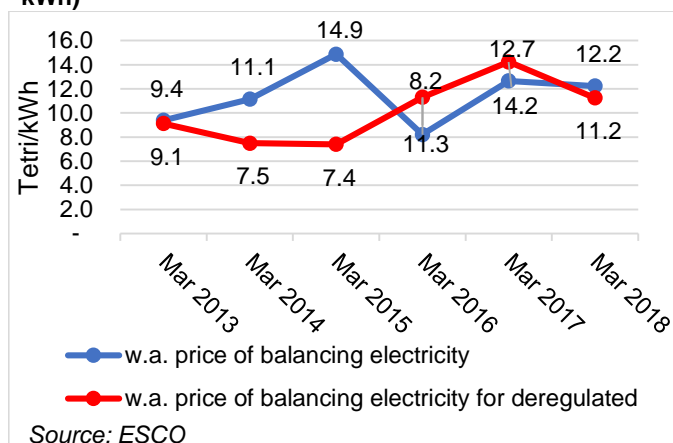


Figure 12. Balancing electricity prices weighted average and weighted average price for deregulated HPPs (tetri/kWh)



Guaranteed capacity payments in March 2018 were roughly 16.41 mln. GEL, an increase of 8% compared to March 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 earlier 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 March 2018 increased to 5.5 ¢ (13.44 tetri) per kWh, compared to same month in the previous year (an increase of 39%).

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

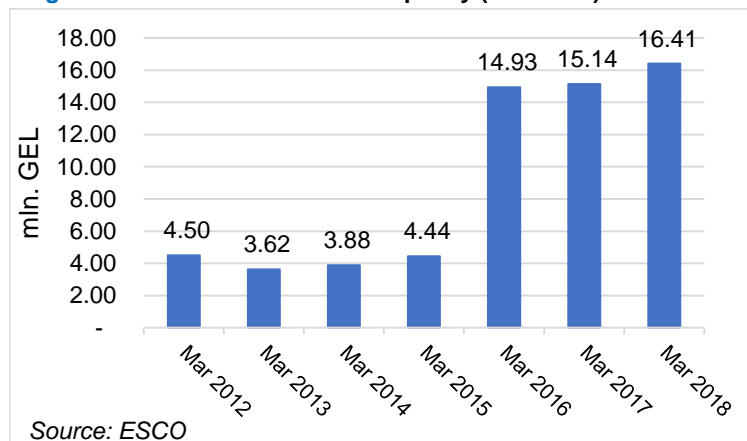
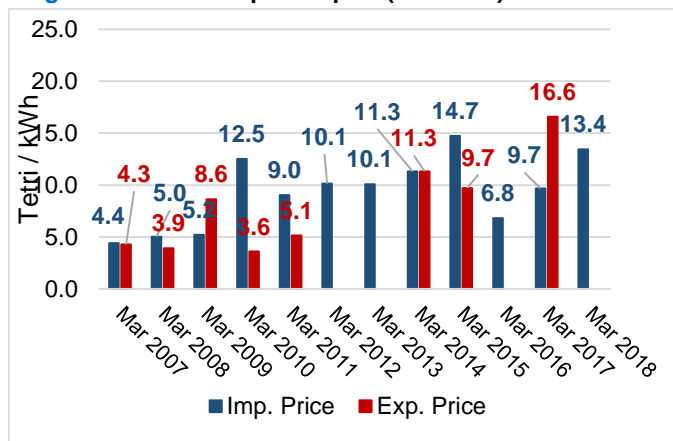


Figure 14. Prices Import/Export (tetri/kWh)¹



ISET Policy Institute – Energy and Environment Policy Research Center

Authors:

Norberto Pignatti – Policy Center Head

n.pignatti@iset.ge

Levan Pavlenishvili – Senior Researcher

l.pavlenishvili@iset.ge

Mariam Chachava – Research Assistant

m.chachava@iset.ge

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

