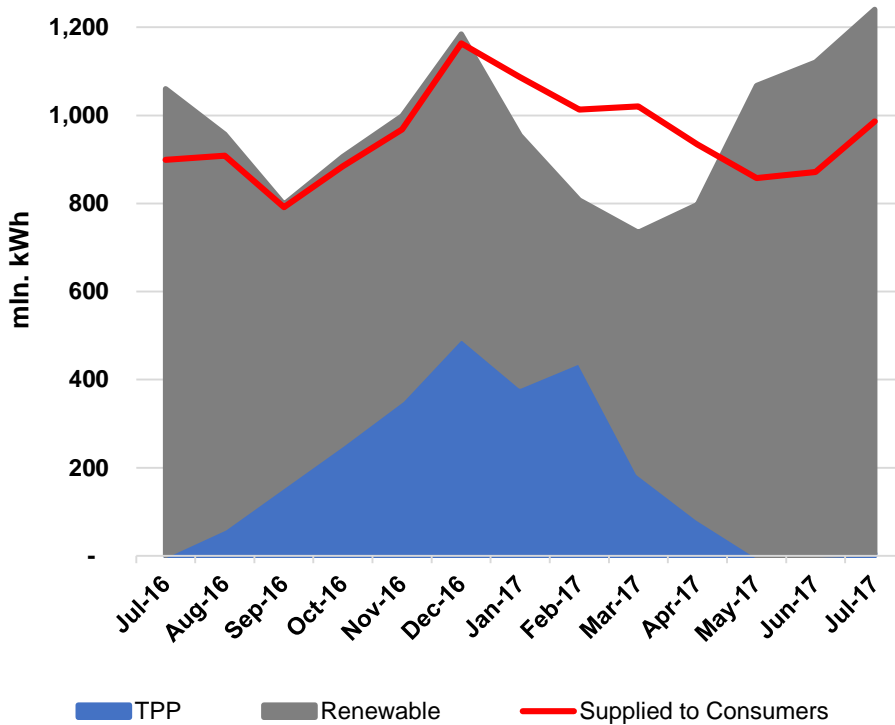




1. Electricity Generation – Consumption – Trade

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



Source: Electricity System Commercial Operator (ESCO)

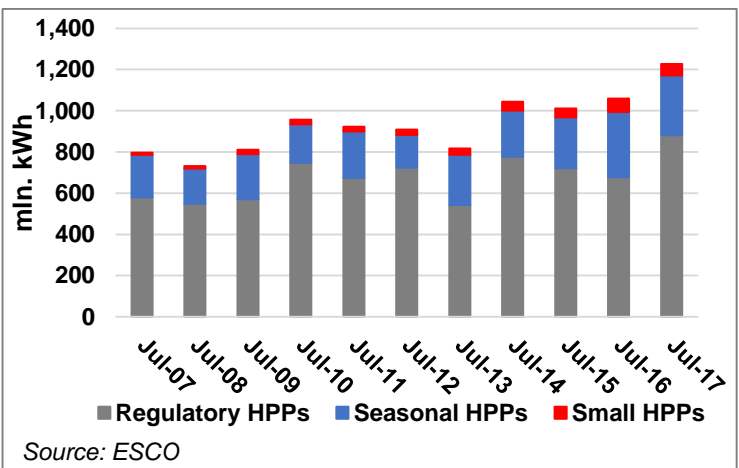
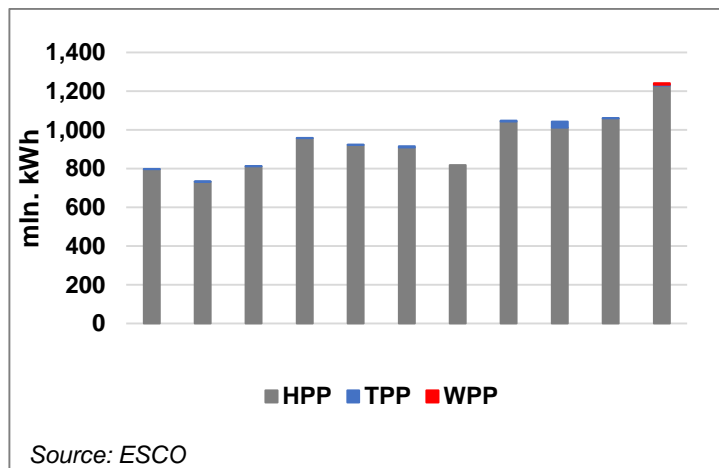
In July 2017, Georgian power plants generated 1,247 mln. kWh of electricity. This corresponds to a 18% increase in total generation compared to July 2016, when total generation of electricity was 1,061 mln. kWh. Generation also increased by 10% compared to June 2017 (1,138 mln. kWh).

Following the traditional seasonal pattern, almost all generation (1,242 mln. kWh, or 99.6% of total generation) came from renewable sources of electricity, while thermal power generation accounted for only 5 mln. kWh (0.4% of total generation). Consumption of electricity on the local market was 986 mln. kWh, smaller than the amount generated, leaving a resource for export to neighboring electricity markets (Russia, Turkey and Azerbaijan). Looking at the seasonal trend, generation from TPP is usually low in summer, but increases in fall and winter, only to decline again in spring. Renewables instead are characterized by a different pattern; electricity generation increases from March to July, and begin declining from August to February.

Among different sources of electricity, hydropower was dominant, as is to be expected under the local market structure. Specifically, in July 2017, hydropower (HPP) generation amounted 1,234 mln. kWh, wind power (WPP), 7 mln. kWh, and thermal power (TPP), 5 mln. kWh (**Figure 2**). From hydropower generation, large (regulatory) HPPs produced 71% (881 mln. kWh) of electricity; correspondingly, seasonal and small HPPs produced 24% (297 mln. kWh) and 4% (57 mln. kWh), respectively (**Figure 3**). Compared to last year, regulatory HPP's share has increased total hydropower generation by 7%. That is primarily due to the increase of production from large HPPs, and the decrease in generation of seasonal and small HPPs, compared to July 2016.

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

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



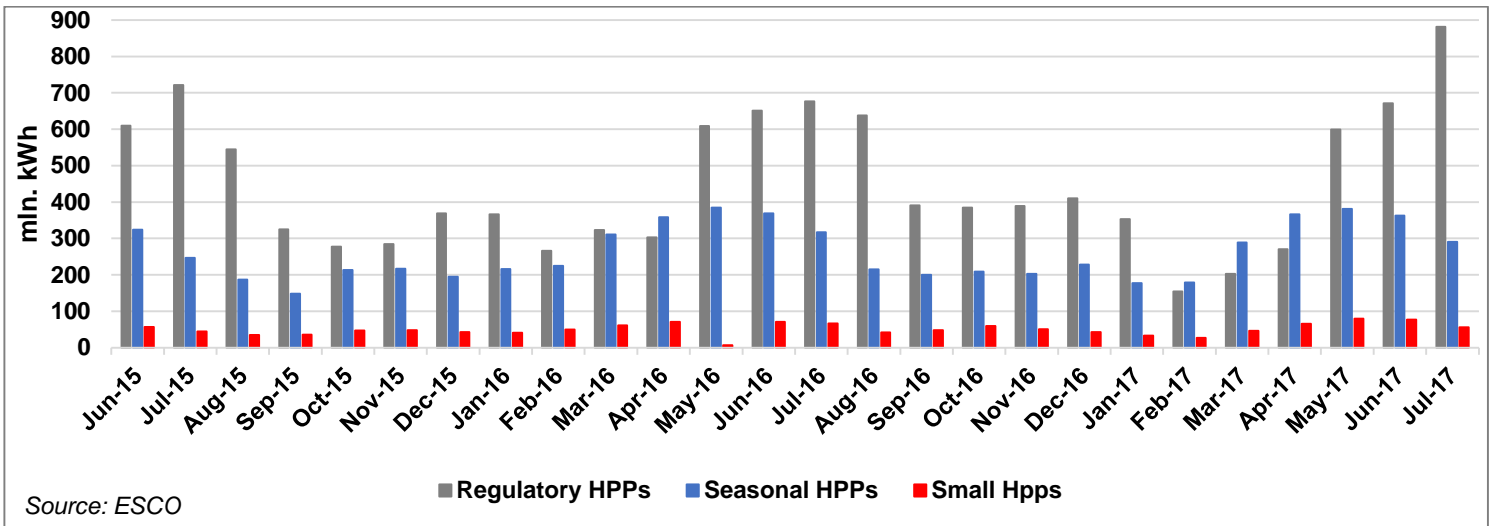
Source: ESCO

Source: ESCO



Regulatory, seasonal and small HPPs are characterized by well-defined seasonal patterns. As the water level in rivers rises in the spring, production from HPPs increases between May and August. Beginning in September, when the water level in rivers decreases, generation starts declining for all types of HPPs, except regulatory. From December to January, large (regulatory) HPPs start depleting their reserves, and production starts increasing compared to earlier months, until it reaches its lowest level from February through March. During the entire year, generation from regulatory plants is highest in July. Seasonal HPPs increase their generation from May through June; thereafter, generation starts declining, but in summer it is relatively higher than during autumn and winter. As for small hydropower plants, electricity generation is relatively high from March to July, and starts declining in August.

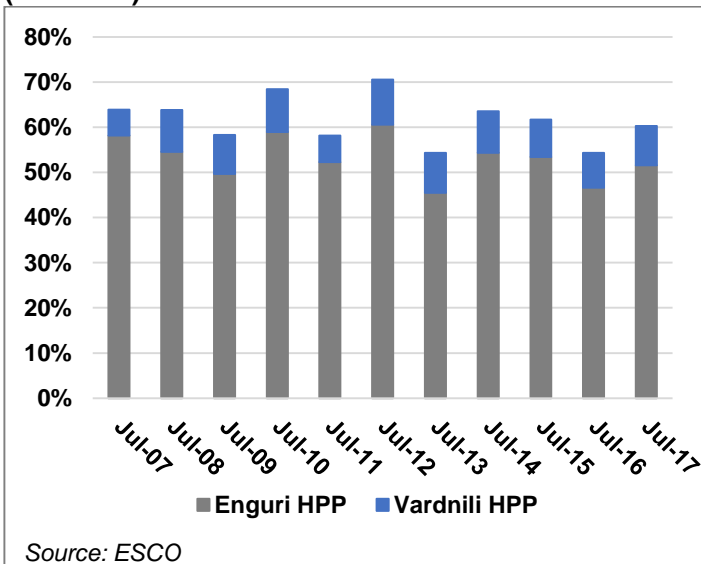
Figure 4. Seasonal Trends for Regulatory, Small and Seasonal HPPs



Source: ESCO

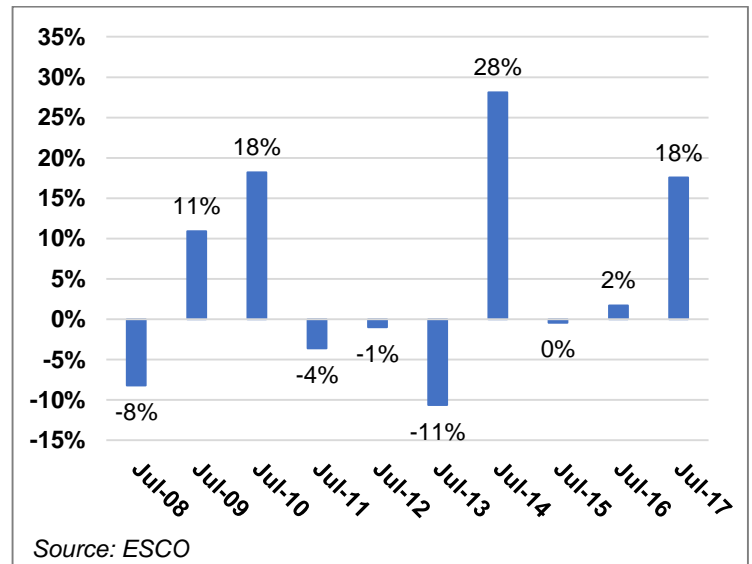
Among large HPPs, Enguri and Vardnili, as always, generated the largest fraction of power generation, producing 643 mln. kWh and 109 mln. kWh, respectively, representing 60% of total generation (**Figure 5**). These largest HPPs also represent around 85% of generation of regulatory HPPs. Annual growth in power generation has reached an impressive 18% (**See Figure 6**), compared to July 2016, 30% of which is due to the increase in generation from regulatory HPPs. In first seven months of 2017, compared to the same period (Jan-Jul) in 2008, electricity generation has increased overall by 32%.

Figure 5. Share of Enguri and Vardnili in total generation (mln. kWh)



Source: ESCO

Figure 6. Annual growth of generation (%)



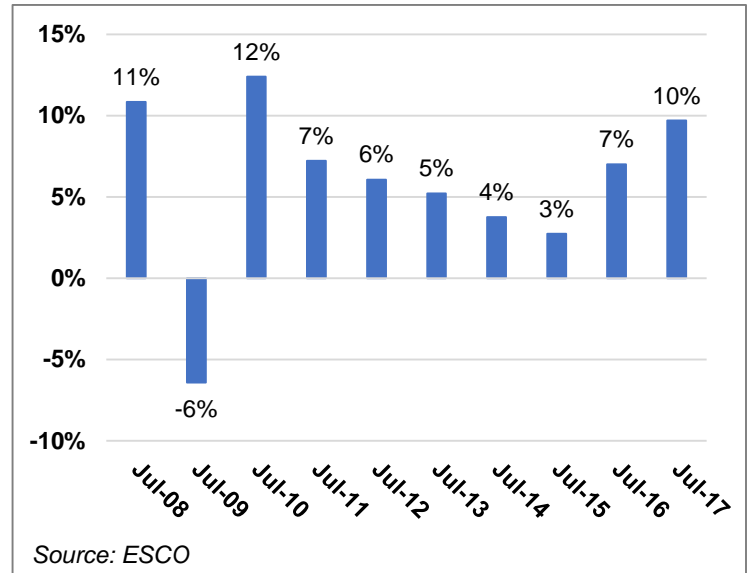
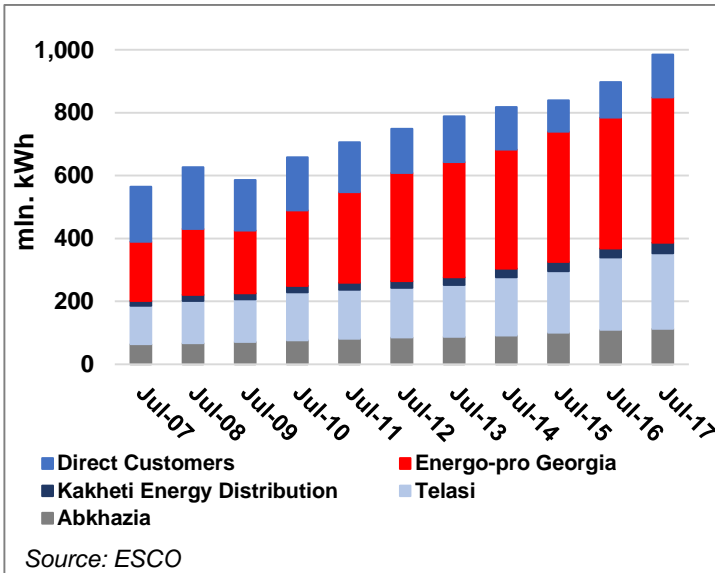
Source: ESCO



In July 2017, total electricity demand for Georgia came from: Telasi – 24% (240 mln. kWh), Energo-Pro Georgia – 47% (463 mln. kWh), Kakheti Energy Distribution – 3 % (33 mln. kWh), Abkhazia – 11% (113 mln. kWh, and direct customers – 14% (136 mln. kWh) **(Figure 7)**. Compared to July 2016, consumption from Telasi increased by 4%, Energo-Pro Georgia by 11%, Kakheti Energy Distribution by 14%, Abkhazia by 3%, and from direct customers by 20%. Overall annual increase in electricity consumption reached 10% in July 2017 **(Figure 8)**.

Figure 7. Electricity Consumption by Type of Customer (mln. kWh)

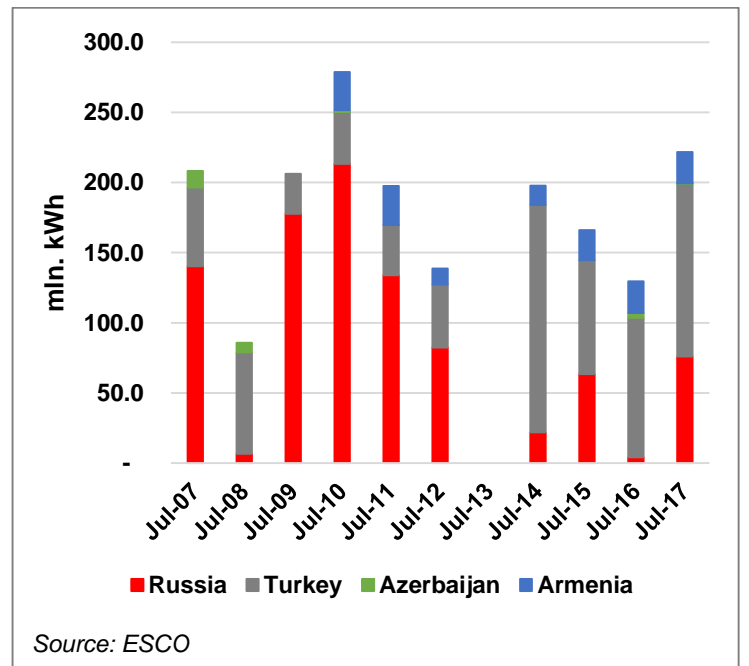
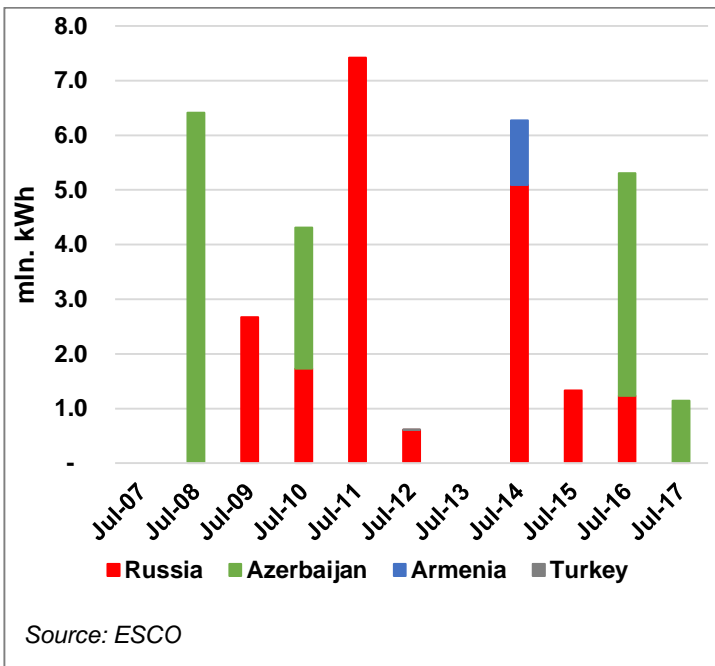
Figure 8. Annual electricity consumption growth (%)



In July 2017, electricity imports to Georgia reached one of the lowest points in the past 10 years – 1.141 mln. kWh (all from Azerbaijan, which differs from previous years) **(Figure 9)**. Export from Georgia reached 222 mln. kWh (a 71% increase compared to July 2016). The highest level of export has been made to Turkey – 123 mln. kWh (a 23% increase compared to July 2016) **(Figure 10)**.

Figure 9. Import (mln. kWh)

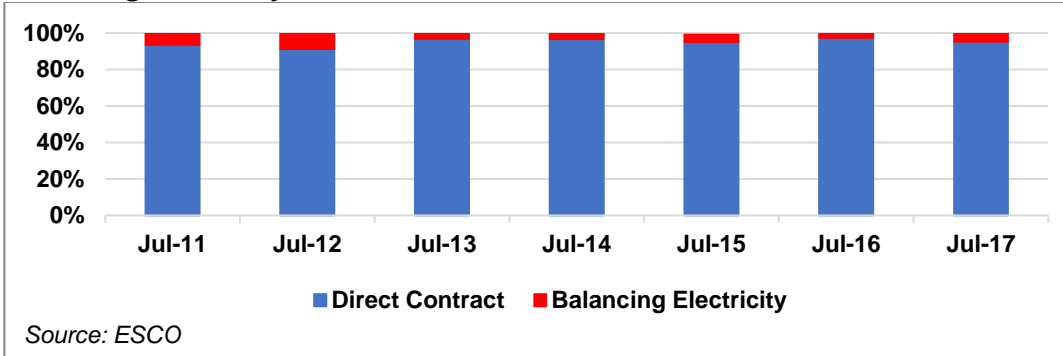
Figure 10. Export (mln. kWh)





2. Market Operations

Figure 11. Electricity purchased / sold shares of direct contracts and balancing electricity

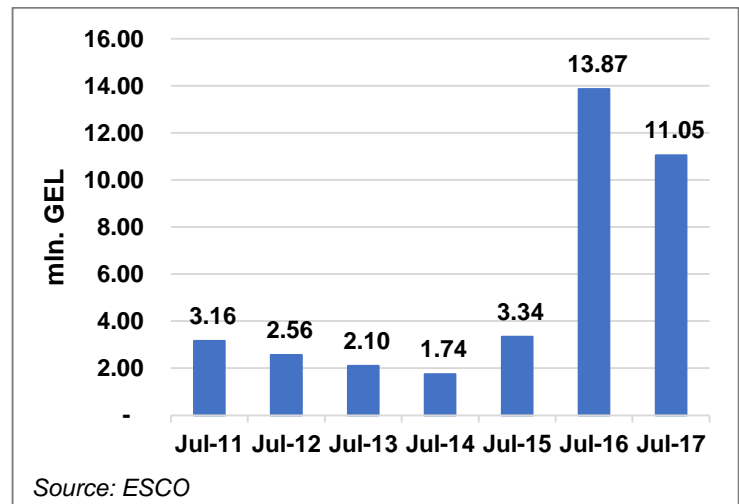
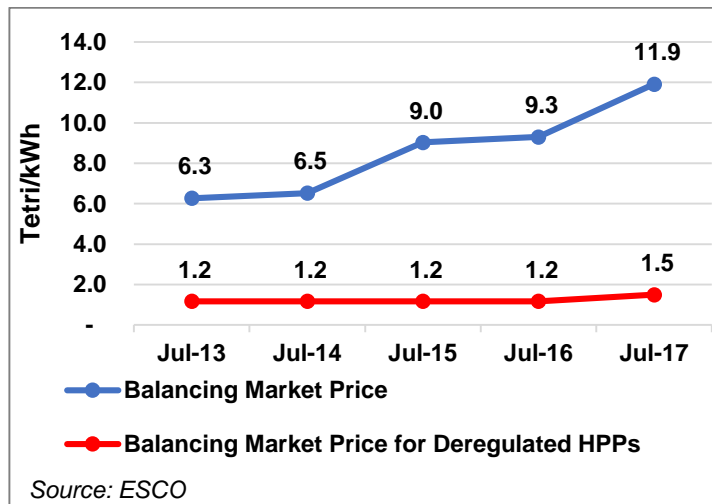


In July 2017, 95% of electricity sold on/from the local market (1,178 mln. kWh) was through direct contracts. The remaining 5% was sold as balancing electricity. Overall, the pattern over past years shows that the role of balancing electricity during the summer season is relatively minor (**Figure 11**).

The weighted average price of balancing electricity was 11.9 tetri/kWh in July 2017, which is a significant annual increase of 28%, as the price of imported balancing electricity has increased. As for the weighted average price for deregulated (small) HPPs, with an annual increase of the same magnitude, it reached 1.5 tetri/kWh (**Figure 12**). The price for deregulated HPPs is different from regulated ones because there are no tariffs set for deregulated HPPs. Investors are free to choose the market and negotiate the price. Moreover, no fee is required for connection to the transmission grid, and no license is required to export electricity. Guaranteed capacity payments in July 2017 were roughly 11 mln. GEL, which is a decrease of 20% compared to July 2016. The cost has decreased due to lower guaranteed capacity payments, defined by Georgian National Regulatory Commission, to the largest thermal power plants - Gardabani #9 and #4 - as well as the state-owned Gardabani combined cycle TPP.

Figure 11. Balancing electricity prices Weighted Average and Weighted Average price for deregulated HPPs (tetra / kWh)

Figure 12. Cost of Guaranteed Capacity (mln. GEL)



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