

Energy Sector of Georgia



MINISTRY OF ECONOMY
AND SUSTAINABLE
DEVELOPMENT
OF GEORGIA



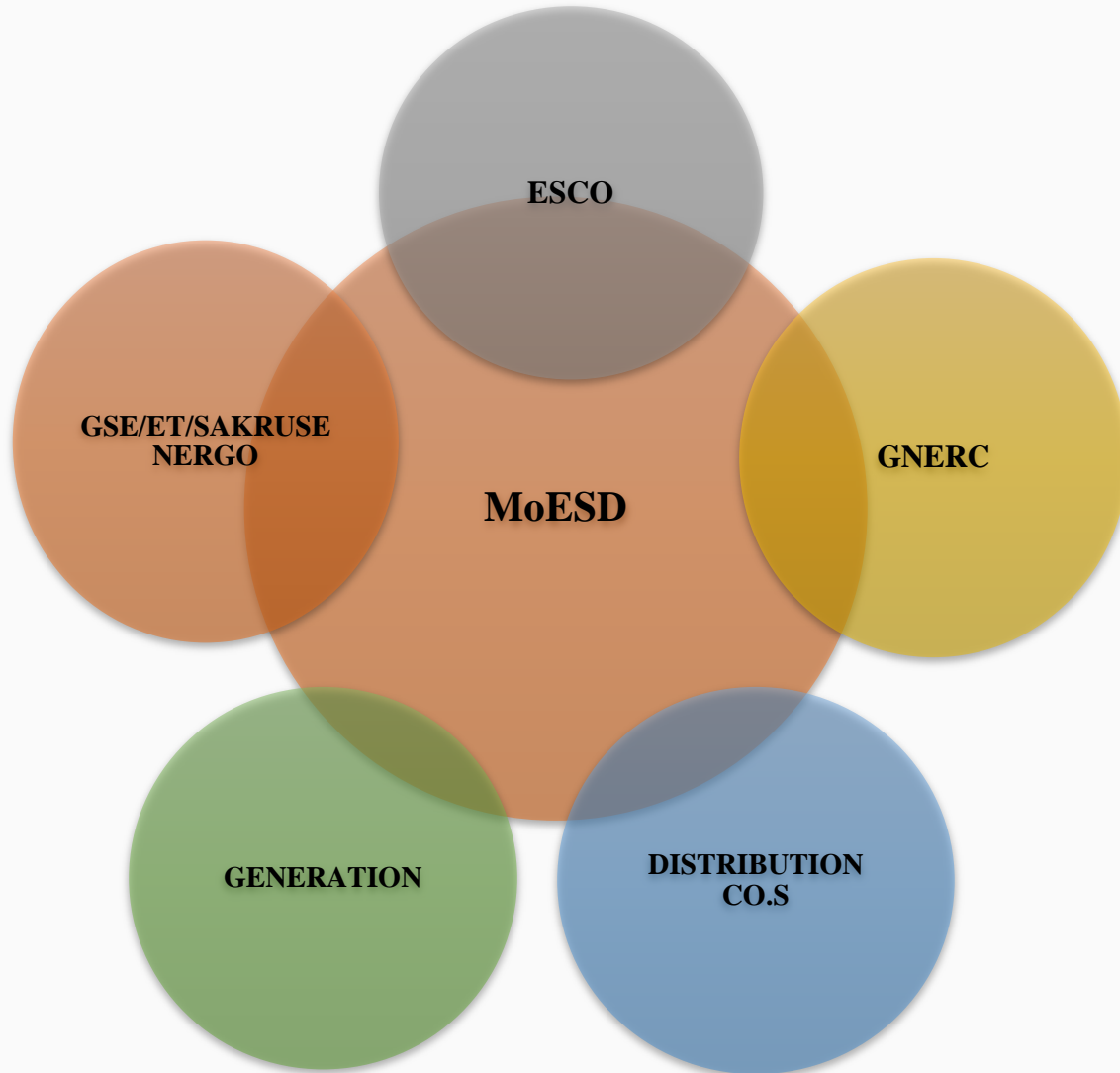
GSE
Georgian State Electrosystem

Margalita Arabidze – Ministry of Economy and Sustainable Development of Georgia

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Nodar Ruadze - Georgian State Electrosystem

ELECTRICITY MARKET OVERVIEW



Ministry of Economy and Sustainable Development of Georgia

- Sets policies and is responsible for development and implementation of national policy in the energy sector, including the establishment of the required legislative and regulatory framework;
- Is also responsible (among others) for the development of sector strategies, the attraction of investment in the sector, and the development of the competition.

Independent regulator – GNERC

- Is nominated as the sector regulator;
- The commission issues licenses in the Georgian electricity, natural gas and water sectors and controls/monitors activities of licensees;
- Resolves disputes between licensees and customers
- Is responsible for market monitoring;

Technical operator / Transmission Services - HV lines, HV substations and dispatching

- GSE and ET (100% state owned)
- SakRusEnergO (50% state owned and 50% owned by Inter RAO)

Electricity System Commercial operator – ESCO

- Balances market, emergency import/export
- Reserves capacity trader

Generation

- 84 Hydropower plants
- 5 Thermal plants
- 1 Wind Power Plant

Distribution Companies

- 2 Distribution Co.s under private ownership: Telasi, Energo-Pro Georgia

INSTALLED CAPACITY OF THE SYSTEM



4213.6 MW

Hydro Power:

84 Operating HPPs

Installed Capacity – 3279.7 MW

Wind Power:

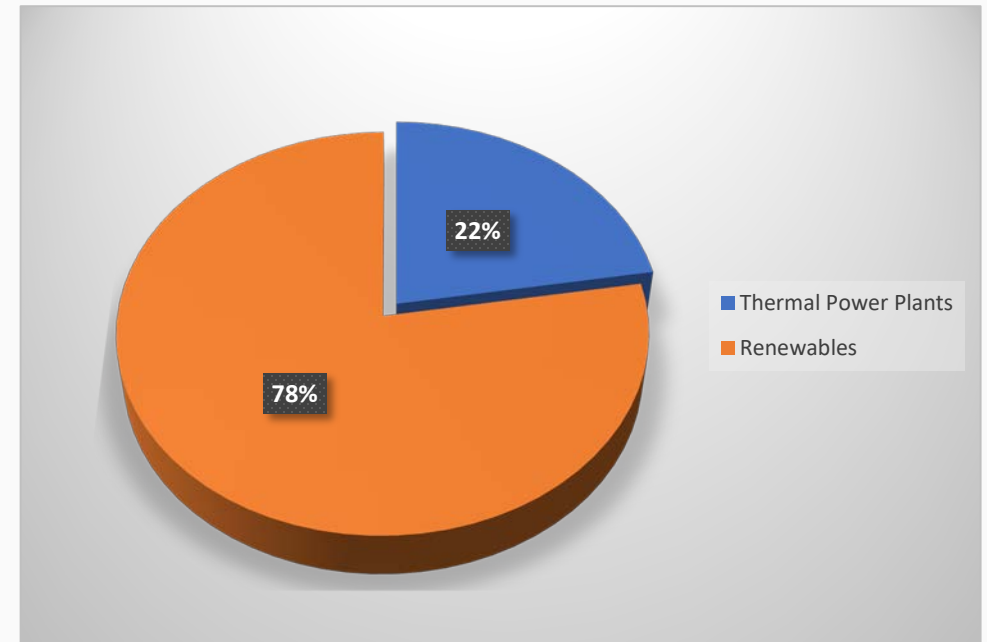
1 Operating WPP

Installed Capacity – 20.7 MW

Thermal Power:

5 Operating TPPs

Installed Capacity – 913.2 MW



EXISTING ENERGY INFRASTRUCTURE

Transmission Network (GSE and Energotrans):

- ▶ 500/400/330/220/110/35 kV transmission lines with overall length of 4380 km;
 - ▶ 500 kV transmission lines with total length - 815 km;
 - ▶ 400 kV transmission lines with total length - 32.6 km;
 - ▶ 330 kV transmission lines with total length - 21.1 km;
 - ▶ 220 kV transmission lines with total length -1769.4 km.

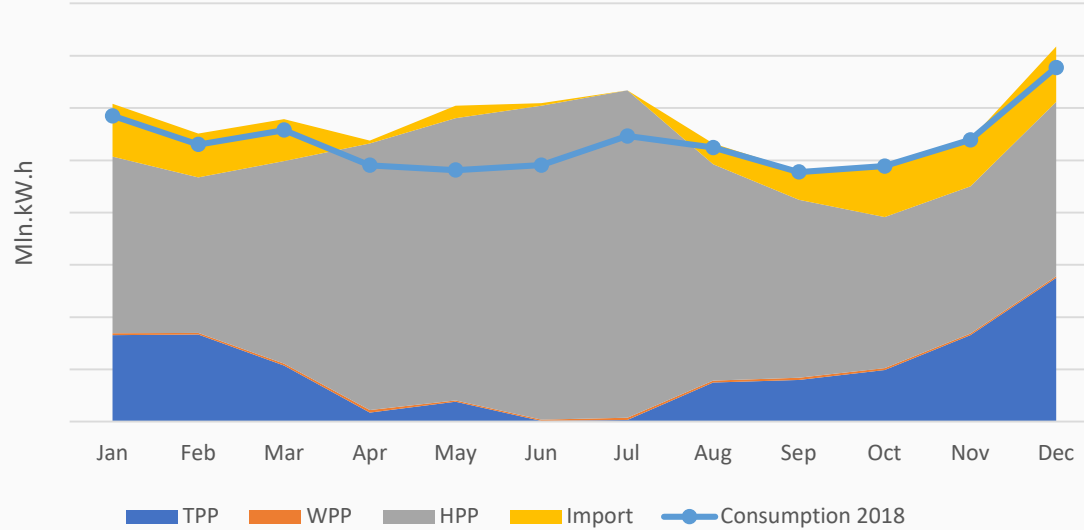
- ▶ 94 sub-stations, with total installed capacity- 12114 MWA,
 - ▶ 6 substations of strategic importance - 500 kv;
 - ▶ 24 substations -220 kv.

Interconnectors

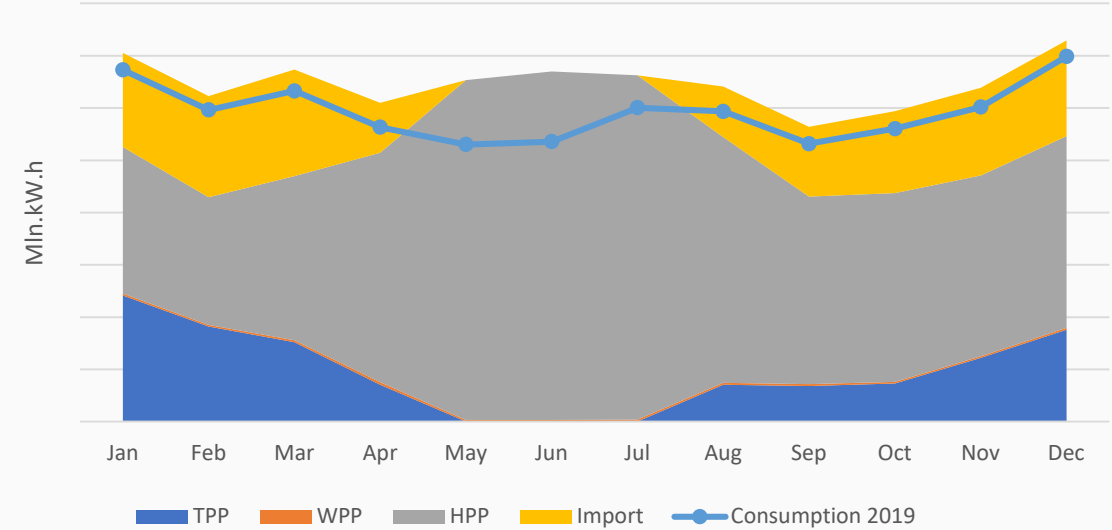
Country	Transmission line	Nominal voltage (kv)	Exchange	TTC Summer (MW)	TTC Winter (MW)
Russia	„Kavkasioni“ AC-3x300	500	export	570	650
			import	570	650
	„Salkhino“ AC-400	220	export	120	120
			import	120	120
Azerbaijan	„Mukhranis Veli“ AC-3x300	500	export	630	710
			import	630	710
	„Gardabani“ AC-480	330	export	210	240
			import	210	240
Armenia	„Alaverdi“ AC-300	220	export	150 / 100	150 / 100
			import	150 / 100	150 / 100
Turkey	„Meskheti“ AC-3x500	400	export	700	700
	„Adjara“ AC-400	220	export	150 / 150	150 / 150
			import	150 / 150	150 / 150

SUPPLY AND CONSUMPTION 2018-2019

Supply 2018



Supply 2019

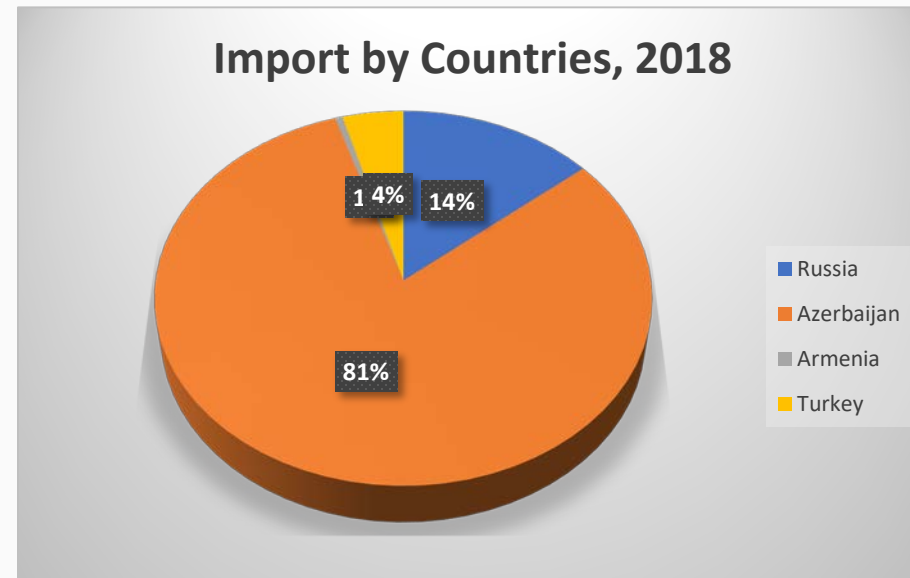
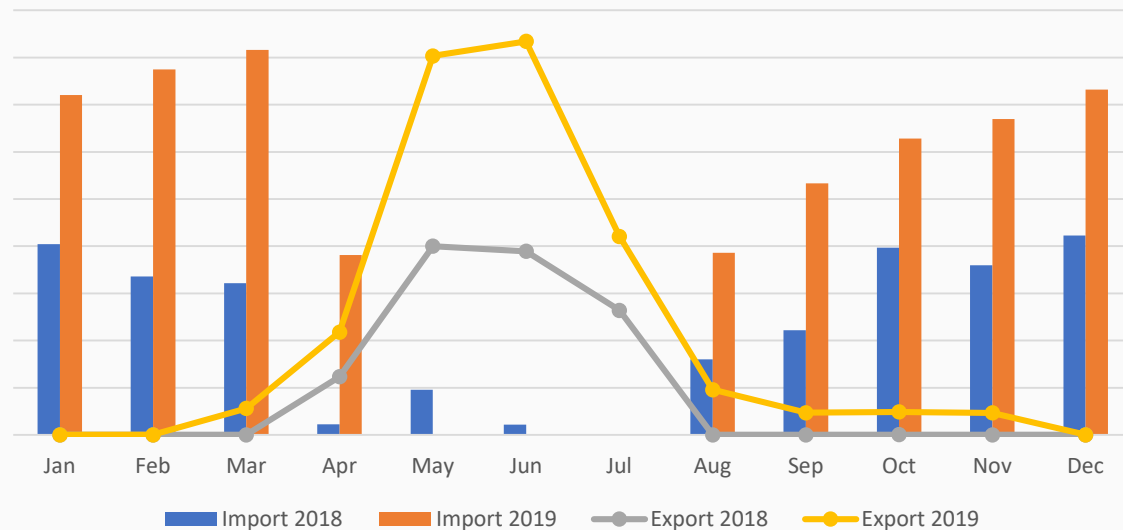


	2019	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
TPP		483.12	363.80	303.80	141.30	-	-	-	141.36	136.80	145.70	244.20	352.47	2,312.55
WPP		6.70	6.00	8.00	9.30	7.00	7.20	7.50	7.90	7.00	6.90	6.40	6.70	86.60
HPP		561.05	488.84	627.71	878.11	1,300.04	1,332.35	1,317.60	939.95	717.39	721.43	691.60	732.78	10,308.86
Import		360.10	387.48	407.94	190.55	-	-	-	193.13	266.46	314.06	334.71	366.11	2,820.54
	2018	1,014.20	934.13	996.59	1,063.79	1,160.74	1,208.38	1,267.88	984.62	848.91	782.89	900.41	1,223.78	12,386.31
TPP		331.38	333.75	214.83	35.43	76.22	2.97	7.07	149.61	160.29	197.82	330.84	550.50	2,390.69
WPP		7.13	6.22	7.05	9.37	5.19	5.17	8.06	7.58	8.10	7.20	6.75	6.30	84.12
HPP		675.70	594.16	774.71	1,019.00	1,079.33	1,200.24	1,252.75	827.43	680.52	577.87	562.82	666.98	9,911.50
Import		202.14	167.89	160.76	11.22	47.94	10.80	-	80.13	110.88	198.47	179.85	211.22	1,381.28

* December 2018 – forecast data

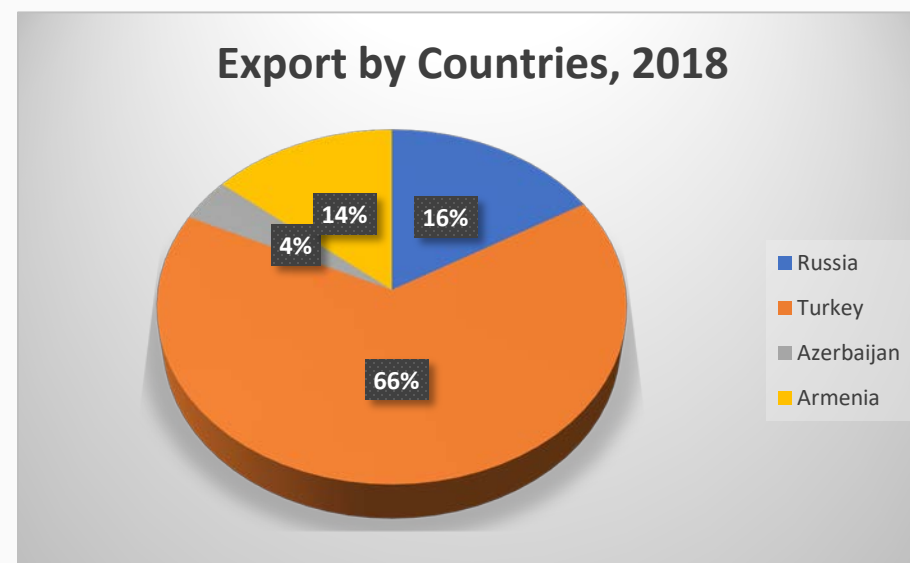
IMPORT AND EXPORT 2018-2019

Import-Export 2018-2019



Mln.MW.h

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
Import 2018	202.14	167.89	160.76	11.22	47.94	10.80	-	80.13	110.88	198.47	179.85	211.22	1,381.28
Import 2019	360.10	387.48	407.94	190.55	-	-	-	193.13	266.46	314.06	334.71	366.11	2,820.5
Export 2018	-	-	-	61.73	199.97	194.58	132.03	0.02	0.12	0.21	-	-	588.64
Export 2019	-	-	28.02	47.18	201.78	222.45	78.37	47.90	23.33	24.11	23.33	-	696.47



* December 2018 – forecast data

LOSSES 2017-2018

➤ Total losses for transmission and distribution network

- ✓ 2001 – 18.53%
- ✓ 2006 – 13.20%
- ✓ 2016 – 7.21%
- ✓ 2017 – 7.05%
 - Transmission network – 1.97%
 - Distribution - 5.09%

➤ Losses determined for 2018-2020

- ✓ for Transmission Licensees - 2.06%
was – 4.41%
- ✓ for Distribution Licensees –
 - JSCo Telasi – 5.88%
 - JSCo Energo-Pro Georgia – 9.8%



SOLUTIONS

➤ Development of Renewable Resources

- ✓ Hydropower – 126 projects
- ✓ Wind - 18
- ✓ Solar - 5
- ✓ Biomasses

➤ Development of Transmission Network

- ✓ Development of internal transmission network
- ✓ Development and strengthening of interconnection network

➤ Construction of New TPP

- ✓ 230MW TPP will be put into operation in 2019
- ✓ Development of the new TPP started



➤ Gas Storage

- ✓ Feasibility study completed
- ✓ Technical data: volume 23-250 mln m³
- ✓ Project completion is planned in 2020
- ✓ This project is the most crucial for the energy security of Georgia

Expediency of research project on underwater cable construction in the Black Sea

Romania's or Bulgaria's energy system can be defined as the connecting point of underwater cable.



Expected outcome :

- Diversification of supply channels and increased quality of energy security;
- Supporting Georgian legislation and regulation framework, harmonize energy system and market in accordance with European energy package;
- Stimulating investors in electricity generation sector as well as in industry;
- Increasing development of renewable energy projects in eastern and western part of Black sea;
- Achieving SDG goals for 2030.



Thank you!