

Security of Supply Coordination Group - 10th Meeting of Sub- Group for Electricity



Ms. Margalita Arabidze

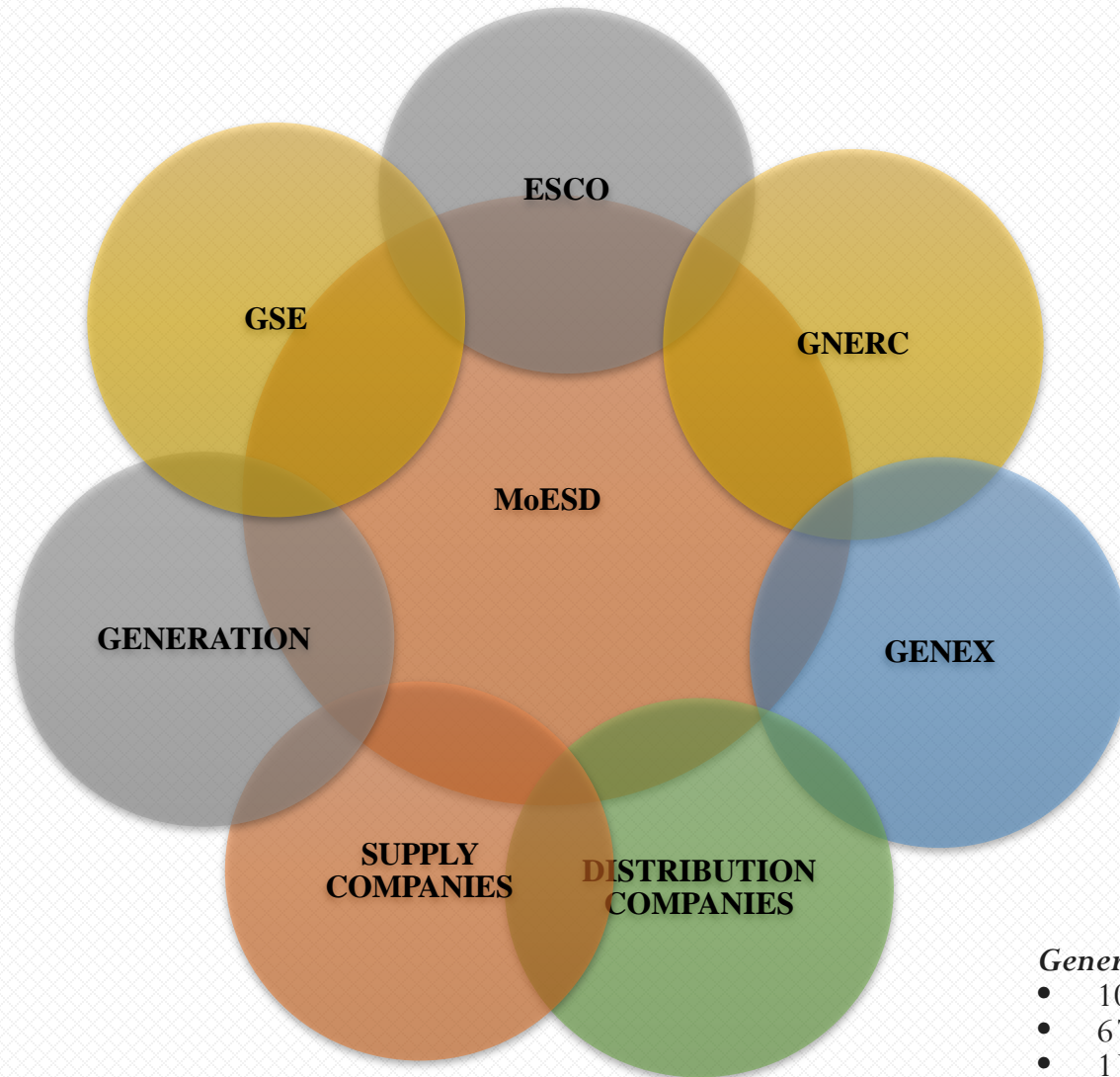
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MINISTRY OF ECONOMY
AND SUSTAINABLE
DEVELOPMENT
OF GEORGIA

ELECTRICITY MARKET OVERVIEW



Ministry of Economy and Sustainable Development of Georgia

- Responsible for Policy and Strategy Development and Implementation etc.

Independent regulator – GNERC

- Sector regulator, responsible for market monitoring;
- Commission licenses and monitor licensees;
- Resolve disputes between licensees and costumers.

Georgian Energy Exchange

- establishment of bilateral contracts,
- Responsible for the activities needed to form the daily organized markets and establish the market operator.

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

- Georgian State Electrosystem (GSE) (100% state owned)

Electricity System Commercial operator – ESCO

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

Generation

- 105 Hydropower plants
- 6 Thermal plants
- 1 Wind Power Plant

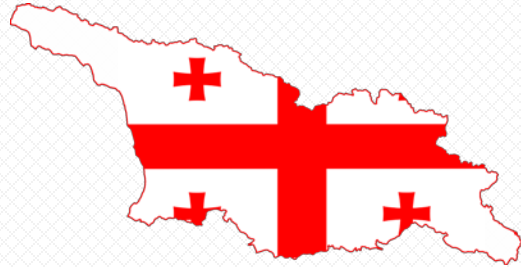
Distribution Companies

- under the private ownership:
Telasi, Energo-Pro Georgia

Supply Companies

- under the private ownership:
“Telmico” and “EP Georgia supply”

INSTALLED CAPACITY OF THE SYSTEM



4 524.7 MW

Hydro Power:

105 Operating HPPs

Installed Capacity – 3350 MW

Wind Power:

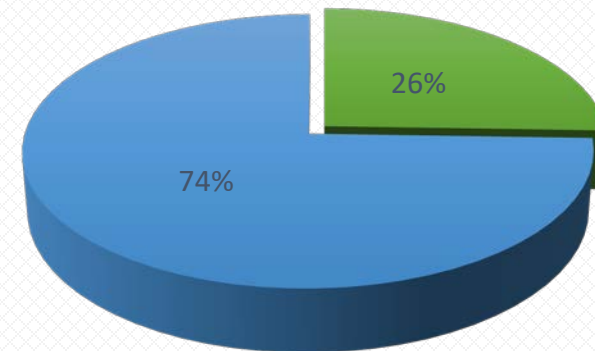
1 Operating WPP

Installed Capacity – 20.7 MW

Thermal Power:

6 Operating TPPs

Installed Capacity – 1154 MW



■ TPPs ■ Renewables

EXISTING ENERGY INFRASTRUCTURE

- ▶ 500/400/330/220/110/35 kV transmission lines with overall length of 4380 km;
 - ▶ 500 kV transmission lines with total length - 923 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 -1797 km.

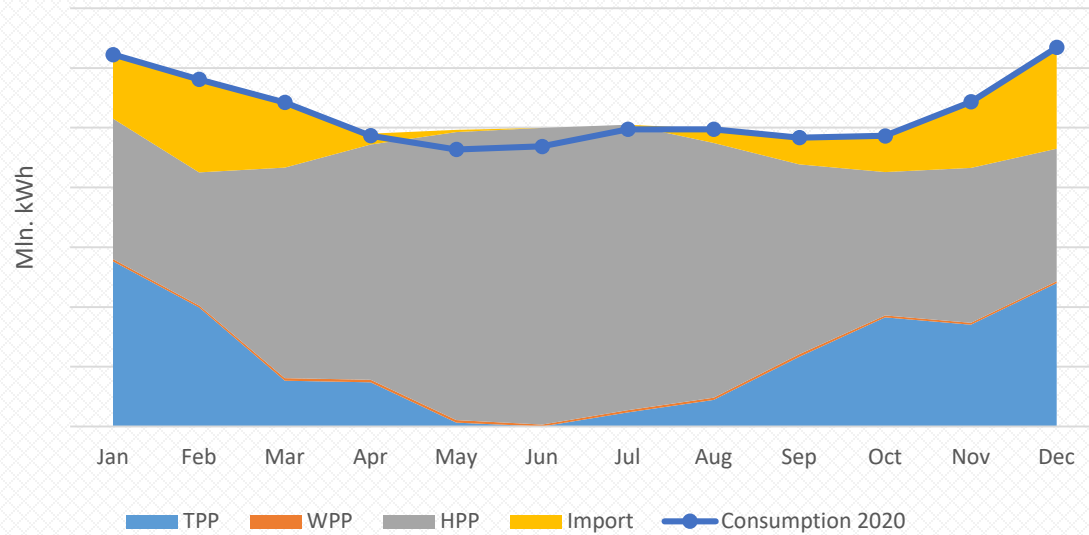
- ▶ 94 sub-stations, with total installed capacity- 12114 MWA
 - ▶ 7 substations of strategic importance - 500 kV;
 - ▶ 24 substations -220 kV.

Interconnectors

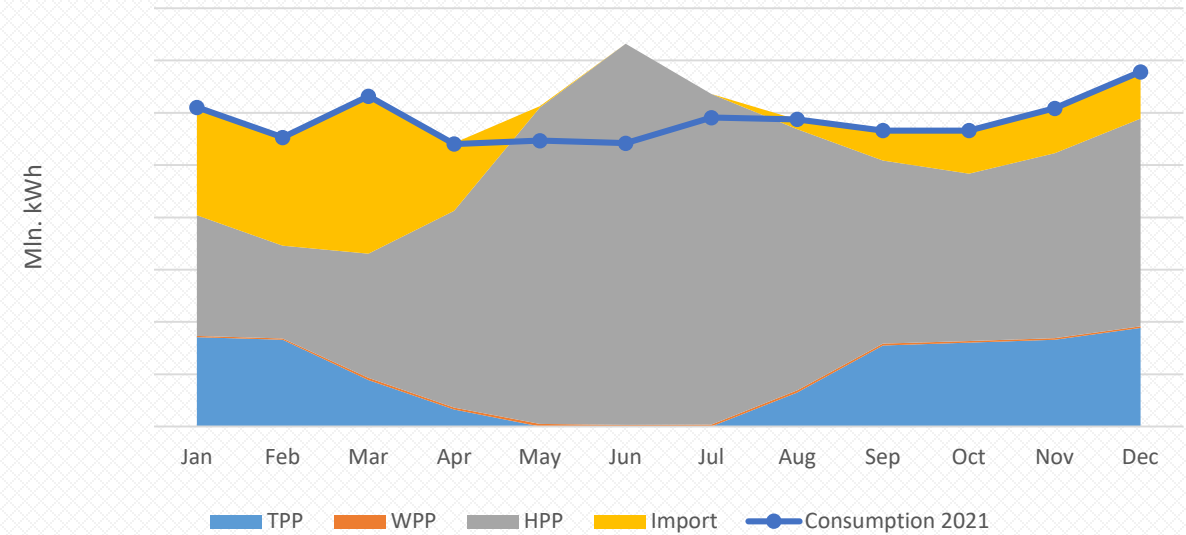
Country	Transmission line	Nominal voltage (kV)	Exchange	TTC Summer (MW)	TTC Winter (MW)
Russia	„Kavkasioni“ AC-3x300	500	export	570	650
			import	570	650
	„Salkhino“ AC-400	220	export	120	120
			import	120	120
Azerbaijan	„Mukhranis Veli“ AC-3x300	500	export	630	710
			import	630	710
	„Gardabani“ AC-480	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
			import	700	700
	„Adjara“ AC-400	220	export	150 / 150	150 / 150
			import	150 / 150	150 / 150

SUPPLY AND CONSUMPTION 2020-2021

Supply 2020



Supply 2021



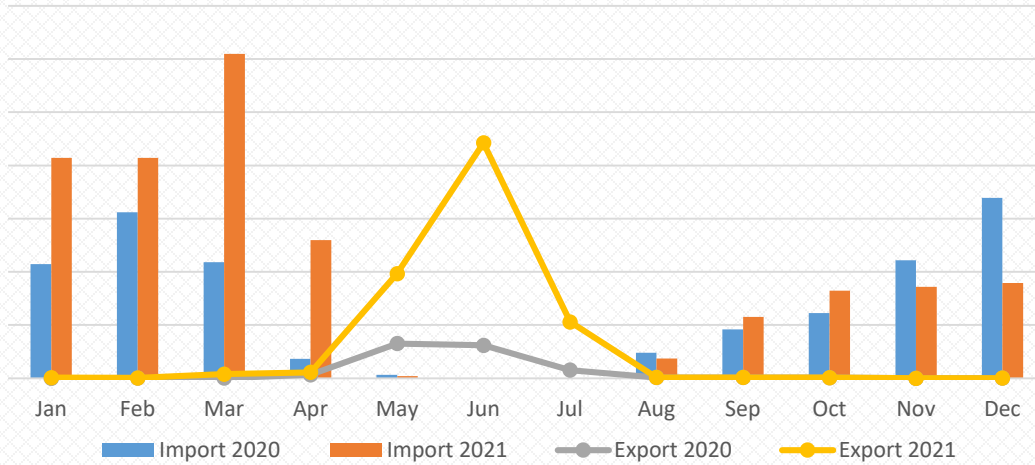
Mln. kWh

2020	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TPP	552.5	398.5	153.1	148.3	12.9	0.0	47.7	89.3	233.8	365.1	340.2	479.5
WPP	7.9	6.7	8.8	8.4	8.1	6.7	7.3	7.5	8.4	6.8	7.2	7.1
HPP	470.5	445.5	705.2	787.1	964.9	992.7	955.0	851.7	634.8	479.6	518.0	443.2
Import	214.3	312.0	217.9	36.2	6.6	0.1	0.6	47.6	91.6	122.6	221.4	339.2
2021												
TPP	341.3	331.3	177.0	65.3	0.3	0.0	0.0	130.3	309.6	320.3	331.2	377.4
WPP	5.1	5.8	8.9	6.9	9.0	6.5	7.9	7.9	7.6	6.6	6.5	6.3
HPP	461.2	354.8	475.4	753.3	1211.7	1457.7	1264.0	999.2	700.0	640.8	707.9	794.2
Import	414.1	414.0	609.7	259.6	4.1	0.0	0.0	37.2	115.0	164.6	171.9	179.0

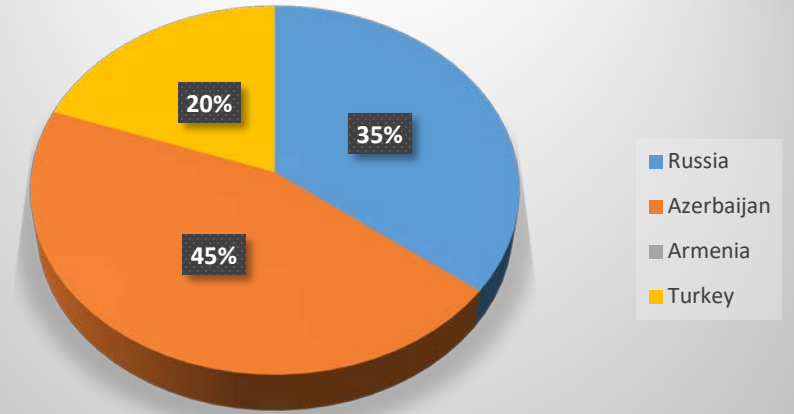
Forecast data

IMPORT AND EXPORT 2020-2021

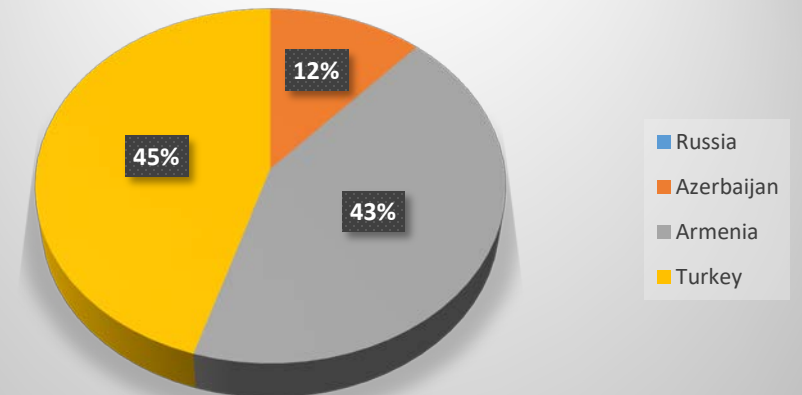
Import-Export 2020-2021



Import by Countries, 2020



Export by Countries, 2020



Forecast data

Mln. kWh

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Import 2020	214.26	312.04	217.88	36.22	6.56	0.09	0.55	47.64	91.61	122.61	221.39	339.21
Import 2021	414.1	413.96	609.68	259.59	4.14	0.0	0.0	37.2	115.0	164.6	171.9	179.0
Export 2020	0.01	0.51	0.11	6.42	65.25	61.94	15.36	1.57	1.44	1.09	0.01	0.08
Export 2021	1.06	0.02	7.51	4.53	131.32	380.3	90.4	0.0	0.0	0.0	0.0	0.0

LOSSES 2001-2020

➤ Total losses for transmission and distribution network

- ✓ 2001 – 18.53%
- ✓ 2006 – 13.20%
- ✓ 2016 – 7.21%
- ✓ 2017 – 7.05%
- ✓ 2018 – 6.48%
- ✓ 2019 – 6.86%
- ✓ 2020 – 7.01%
 - Transmission network – 1.92%
 - Distribution - 5.10%

Normative Losses Determined By GNERC	2018-2020	2021-
Transmission Licensees	2.06%	1.76%
Distribution Licensees		
Telasi	5.85%	4.81%
Energo-Pro Georgia	10.37%	9.80%



SOLUTIONS

➤ Development of Renewable Resources

- ✓ Hydropower – 123 projects
- ✓ Wind - 18
- ✓ Solar - 12
- ✓ Biomasses

➤ Development of Transmission Network

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

➤ Construction of New TPPs

- ✓ 255MW TPP was put into operation in 2020
- ✓ Two new 250MW TPPs are planned to be commissioned until 2025



➤ Gas Storage

- ✓ Feasibility study and bidding process is completed
- ✓ Technical data: volume 210-280 mln. m3
- ✓ Project completion was planned by 2024, however the construction is postponed by several years due to pandemic.
- ✓ This project is the most crucial for the energy security of Georgia

GEORGIA'S SECURITY OF SUPPLY STATEMENT IN ELECTRICITY SECTOR

- Development of the SoS Statement is an obligation processed by the Treaty
- The Security of Supply Statement in Electricity Sector was adopted in March 2021
- Available in Georgian and English (published on MoESD's website)
- The document contains next major parts:
 - Legal Regulation on Security of Supply
 - Key players in Electricity Sector
 - Electricity Sector Overview



Thank you!



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