



**Ministry of Economy and Sustainable Development of
Georgia**

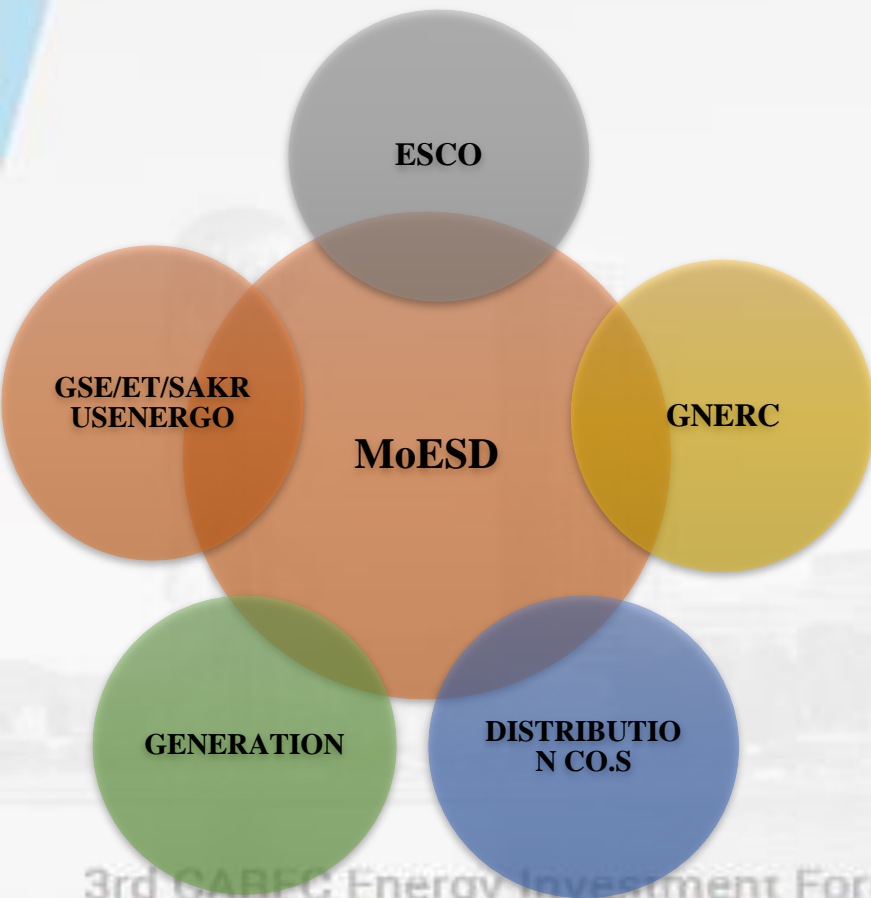
3rd CAREC Energy Investment Forum
UNLOCKING PRIVATE INVESTMENTS
IN HIGH TECHNOLOGY PROJECTS
Batumi, Georgia 11-12 September 2018

11-12 September, The 28 CAREC meeting, Batumi, Georgia





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

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

Distribution Companies

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





Installed Capacity of the System



Total installed capacity
4102.7 MW

Hydro Power:

76 Operating HPPs

Installed Capacity – 3156 MW

Wind Power:

1 Operating WPP

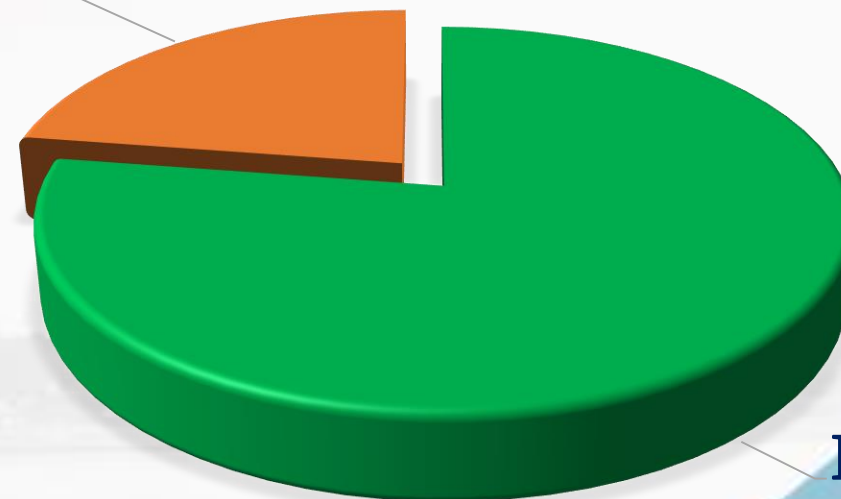
Installed Capacity – 20.7 MW

Thermal Power:

5 Operating TPPs

Installed Capacity – 926 MW

TPP
23%

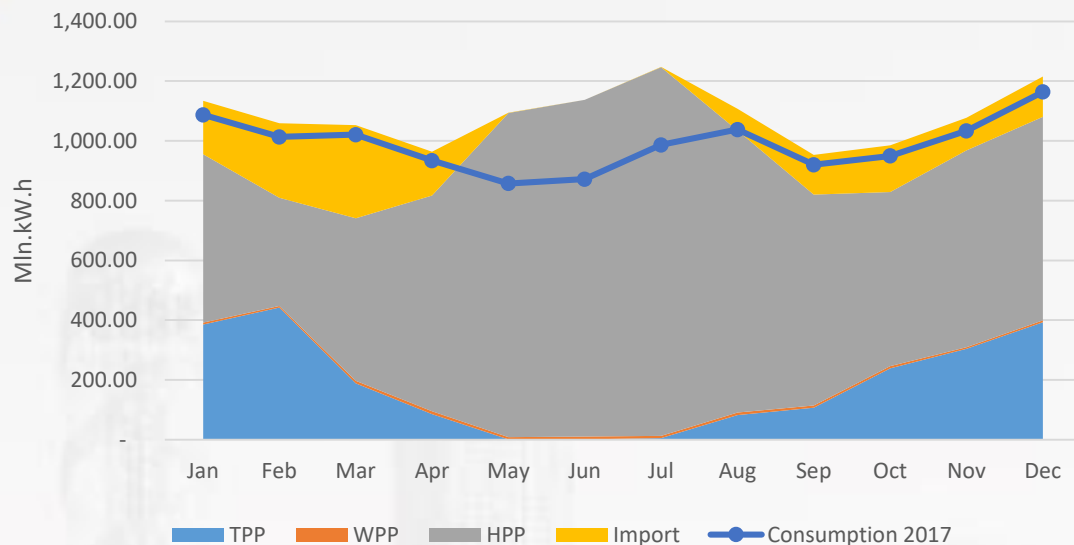


RE
77%

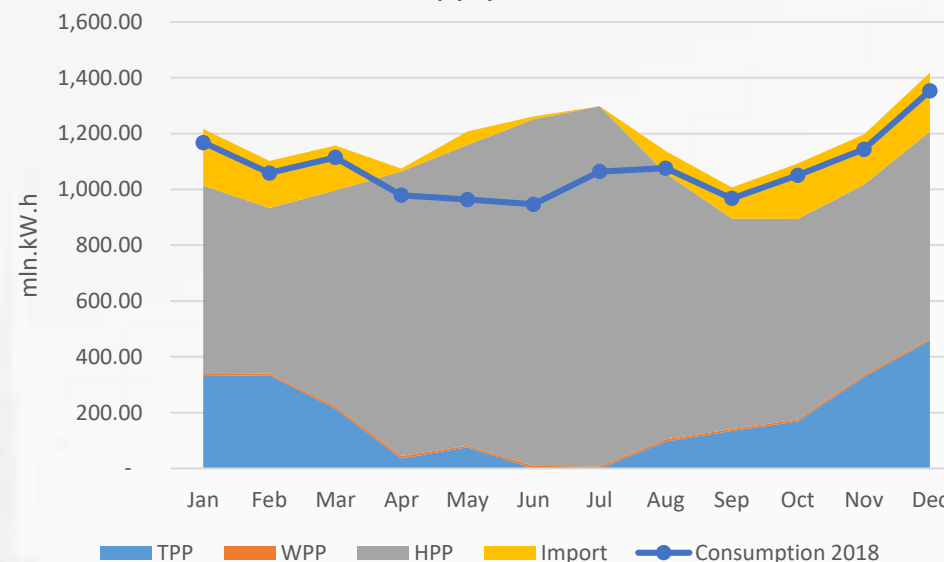


Supply and Consumption 2017-2018

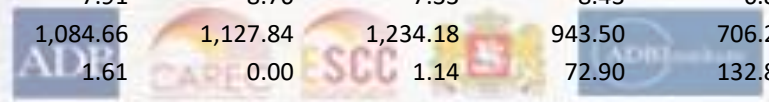
Supply 2017



Supply 2018



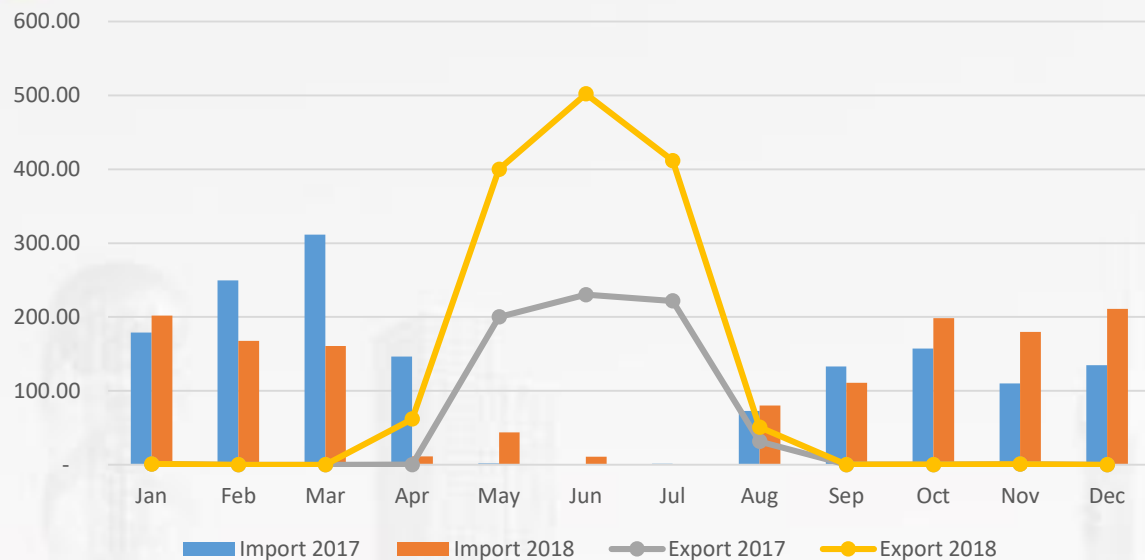
	2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TPP		331.38	333.75	214.83	35.43	75.89	-	-	96.00	133.97	168.24	328.37	458.34
WPP		7.13	6.22	7.05	9.37	5.14	8.80	7.34	8.43	7.00	7.10	6.40	6.30
HPP		675.70	594.16	774.71	1,019.00	1,078.62	1,242.01	1,291.12	952.94	754.80	719.57	682.41	743.42
Import		202.14	167.89	160.76	11.22	47.94	10.80	-	80.13	110.88	198.47	179.85	211.22
	2017												
TPP		385.29	441.66	187.86	85.66	0.28	1.09	5.40	82.58	107.18	238.85	304.15	393.03
WPP		6.51	5.82	8.94	9.41	7.91	8.76	7.33	8.43	6.86	6.89	5.10	5.80
HPP		563.70	361.70	543.94	722.16	1,084.66	1,127.84	1,234.18	943.50	706.24	582.64	658.29	681.52
Import		179.04	249.67	311.43	146.54	1.61	0.00	1.14	72.90	132.85	157.09	110.23	134.67



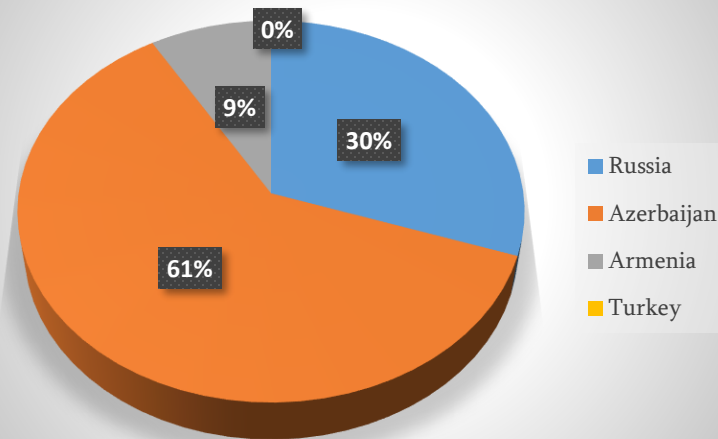


Import and Export 2017-2018

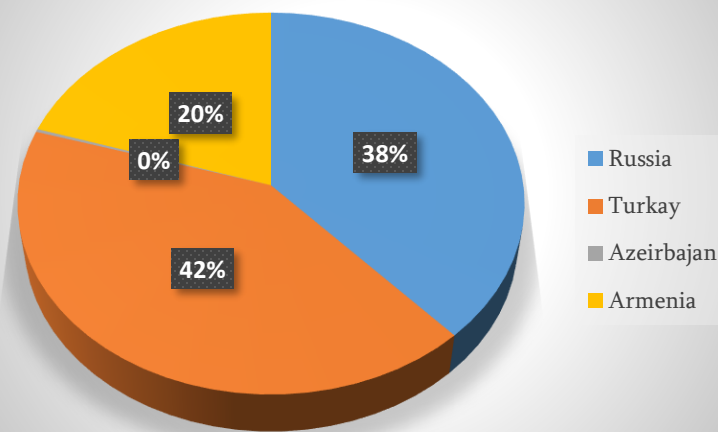
Import-Export 2017-2018



Import by Countries 2017



Export by Countries 2017



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Import 2017	179.04	249.67	311.43	146.54	1.61	0.00	1.14	72.90	132.85	157.09	110.23	134.67
Import 2018	202.14	167.89	160.76	11.22	43.96	10.80	-	80.13	110.88	198.47	179.85	211.22
Export 2017	1.00	0.02	0.02	0.11	200.11	230.09	221.78	31.55	0.06	0.11	0.85	0.00
Export 2018	-	-	-	61.72	199.97	272.00	190.00	19.21	-	-	-	-

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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%





Towards EU

2013

- Georgia officially applied for the membership in the Energy Community

2014

- EU Association Agreement Signed

2016

- Energy Community Treaty signed



Energy Community Accession Protocol

Directive No 2012/27/EU on Energy Efficiency

Timetable for implementation – by 31 December 2018

Responsible Body - Ministry of Economy and Sustainable Development

Directive No 2010/30/EU on the Indication by Labelling Product Information

Timetable for implementation – by 31 December 2018

Responsible Body - Ministry of Economy and Sustainable Development

Directive No 2010/31/EU Energy Performance of Buildings

Timetable for implementation – by 30 June 2019

Responsible Body - Ministry of Economy and Sustainable Development



❖ Law of Georgia on Energy Efficiency

- First Draft is prepared – with the assistance of EBRD
- Comparative Analysis is also drafted

❖ National Energy Efficiency Action Plan (NEEAP) of Georgia 2017-2020

- Action Plan was prepared in 2017 – with the assistance of EBRD
- Has been submitted to Government, waiting for approval

❖ Law of Georgia on Energy Labelling

- Final Draft is prepared and will be presented to Parliament for Approval in September – with the assistance of the Danish Government

❖ Law of Georgia on Energy Performance of Buildings

- Final Draft is prepared and will be presented to Parliament for Approval in September – with the assistance of EU4Energy Governance programme

❖ Law of National Construction Code

- Draft law was on second parliamentary hearing on May 30
- Final law will be adopted by June 3 , 2019





➤ Supporting energy efficiency and sustainable energy of Georgia

The project consists of several components:

- Awareness raising about integration of the renewable energy to the grid;
- Improvement of Energy Statistics;
- Energy Efficiency regulation for the buildings:
 - Energy efficiency measures in 27 public buildings, covering 70 000 m² area;
- Energy labelling of the appliances;
- Awareness raising campaigns and trainings;
- Implementation of the pilot projects for energy efficiency of the buildings

Funding:

Danish government, The Nordic Environment Finance Corporation (NEFCO) and Eastern Europe Energy Efficiency and Environment Partnership (E5P);



➤ Energy Efficiency Measures and Approach to EU-Energy Efficiency Standards in Buildings

The project consists of several components:

- Holistic rehabilitation (EE, structural and selected comfort measures) of up to 25 public kindergartens in Batumi;
- Consultancy services to assist the PEA to design and supervise the retrofitting of public buildings;
- Consultancy services to assist PEA for the planning and implementation of the project;
- Consultancy services to train the facility management of public buildings in the operation and maintenance of the rehabilitated buildings as well as trainings and awareness campaigns for the building users and the public;
- Potential rehabilitation of historic administrative building of the Black Sea Monitoring Service;

Funding:

KfW Development Bank, German Ministry for Economic Cooperation and Development (BMZ), Partner contribution from the Municipality of Batumi

IN HIGH TECHNOLOGY PROJECTS

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➤ Overall 44 Sectoral EE Measures in: Energy, Industry, Transport, Buildings:

- 9 Horizontal measures which impact more than one sector (e.g. public and private) and / or are consistent with horizontal measures as laid out by the EU's guidance on developing NEEAPs
- 1 Building measure in *private* commercial and residential buildings
- 9 Public sector measures which will be carried out at the level of central and non-central government
- 8 Industry sector measures which include 2 information gathering / refining measures and 6 investment measures
- 9 Transport sector measures including planned measures at the national and municipal levels
- 8 Energy sector measures related to energy transformation, transmission, and distribution

➤ Measures would lead to:

- 14% energy saving as compared to 2025 business as usual (BAU) projections
- 15% energy savings as compared to 2030 BAU projections – in compliance with goals according to NDC

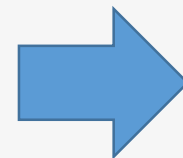


The Effects of Energy Efficiency Measures



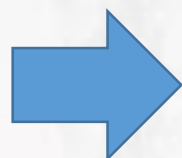
Energy saving for 2020-2030

- 3.3 bln kwh for 2020
- 6.3 mlrd kwh for 2025
- 9.4 bln kvw for 2030



CO₂ reduction for 2020-2030

- 2.27 mln tones of CO₂ for 2020
- 4.05 mln tones CO₂ for 2025
- 5.12 mln tones of CO₂ 2030



The costs of acquiring energy recourses will be reduced by 205 mln Euros annually for 2020 and by 592 mln Euros for 2030



Energy Efficiency in lighting and building sectors

- ❖ The biggest economic benefits through the efficient measures in lighting is achieved in households and commercial sectors;
- ❖ According to NEEAP IRR for these sectors is valued up to 44% and 33%, which is in compliance with 2 to 4 year payback period on investment;
- ❖
- ❖ With implementation of EE measures in lighting more than 200-250 MW capacity will be released;
 - ✓ *Receiving the same capacity requires minimum 5 year construction period and the investment amount of 400-450 mln USD*

- ❖ In newly built buildings the cost of EE measures are:
 - ✓ *For apartments - 30 Euros per m²*
 - ✓ *For houses – 50 Euros per m²;*

- ❖ The payback period on investment averages between 8 to 10 years;

- ❖ EE measures cost for public buildings varies from 35 to 50 Euros per m²;

- ❖ The payback period on investment averages between 10 to 15 years;



Thank you for attention!

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