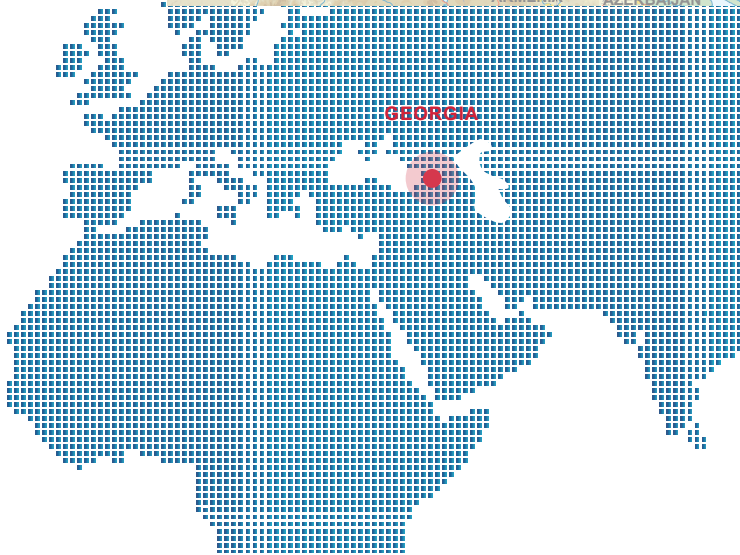
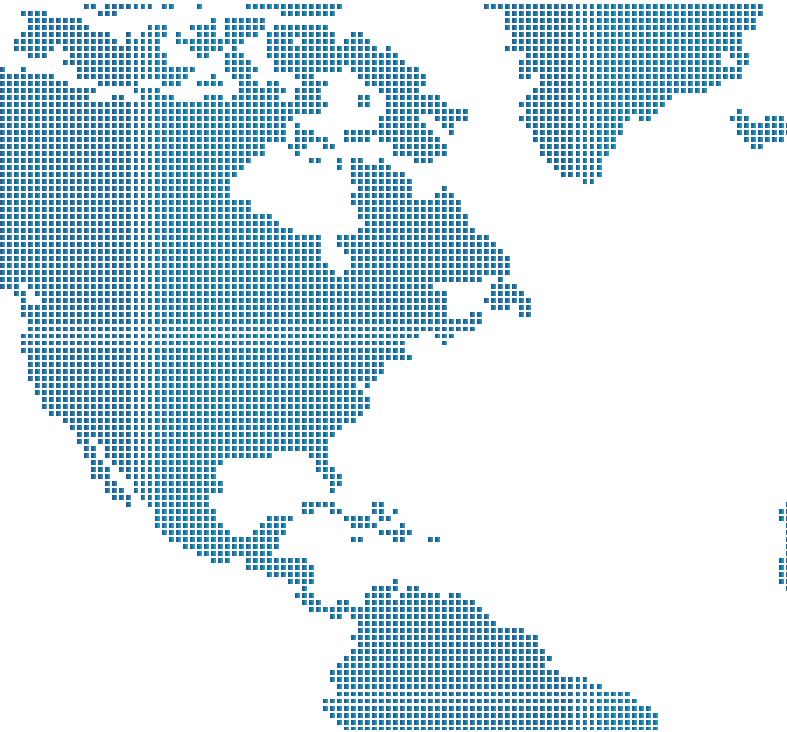




ENERGY

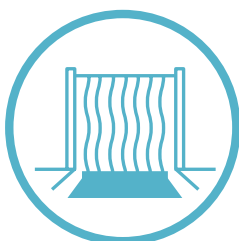
GEORGIAN NATIONAL INVESTMENT AGENCY
2016

GEORGIA - COUNTRY OVERVIEW



Area:	69,700 sq km	GDP 2015 (E) :	USD 14 billions
Population:	3.7 mln	GDP real growth rate 2015 (E):	2.8%
Life expectancy:	75 years	GDP CAGR 2010-2015 (GEL) (E):	4.9%
Official language:	Georgian	GDP per capita 2015:	USD 3743
Literacy:	100%	Inflation rate 2015:	4%
Capital:	Tbilisi	Total Public Debt to Nominal GDP (%) 2014 :	35.5%
Currency (code):	Lari (GEL)		

OVERVIEW OF GEORGIA'S ENERGY SECTOR



STRONG DEMAND GROWTH PROSPECTS

- Domestic Demand growth, which is expected to grow in line with GDP, requires an extension of Power generation by around 65% until 2025
- Georgia is surrounded by countries with a projected structural power deficit (e.g. Turkey, Southern Districts of Russia) or expensive power generation, opening up attractive export opportunities

HUGE UNTAPPED POTENTIAL

- 75% of economically viable hydropower potential not yet exploited (Approximately 25TWh)
- Over 60 potential HPP projects (<100MW) on the Pre-feasibility Study Level with Financial and Technical projection are available for investors
- In addition to hydro, there is considerable generation potential from wind, solar and other renewable sources

LIBERALIZED AND DEREGULATED MARKET

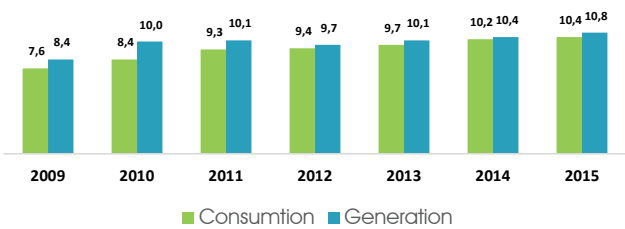
- Renewable projects are based on Build-Own-Operate (BOO) principle
- No tariff set for the newly built Renewable energy Plants- investor is free to choose the market and negotiate the price
- New and simplified rules for development of renewable energy projects

SOME LARGE PROJECTS ARE ALREADY UNDERWAY AND EVEN MORE ARE COMING

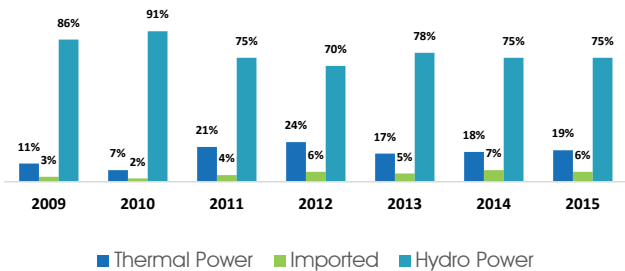
- 17 HPP Projects Under construction - installed capacity of 820 MW (7 HPPs started in 2015)
- Construction of 14 HPP Projects will commence in 2016 - installed capacity of up to 1,900 MW
- 26 HPP Projects are under feasibility studies with construction liabilities - installed capacity of up to 1010 MW

GENERAL STATISTICS

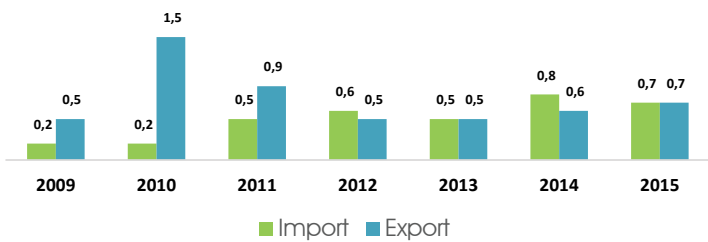
CONSUMPTION VS GENERATION, TWH



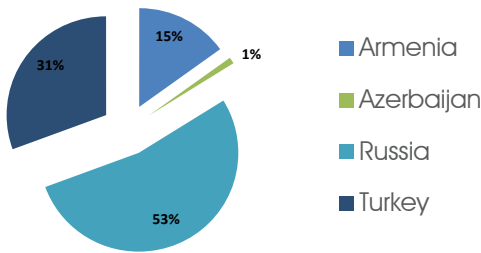
COMPONENTS OF TOTAL CONSUMPTION



IMPORT VS EXPORT, TWH



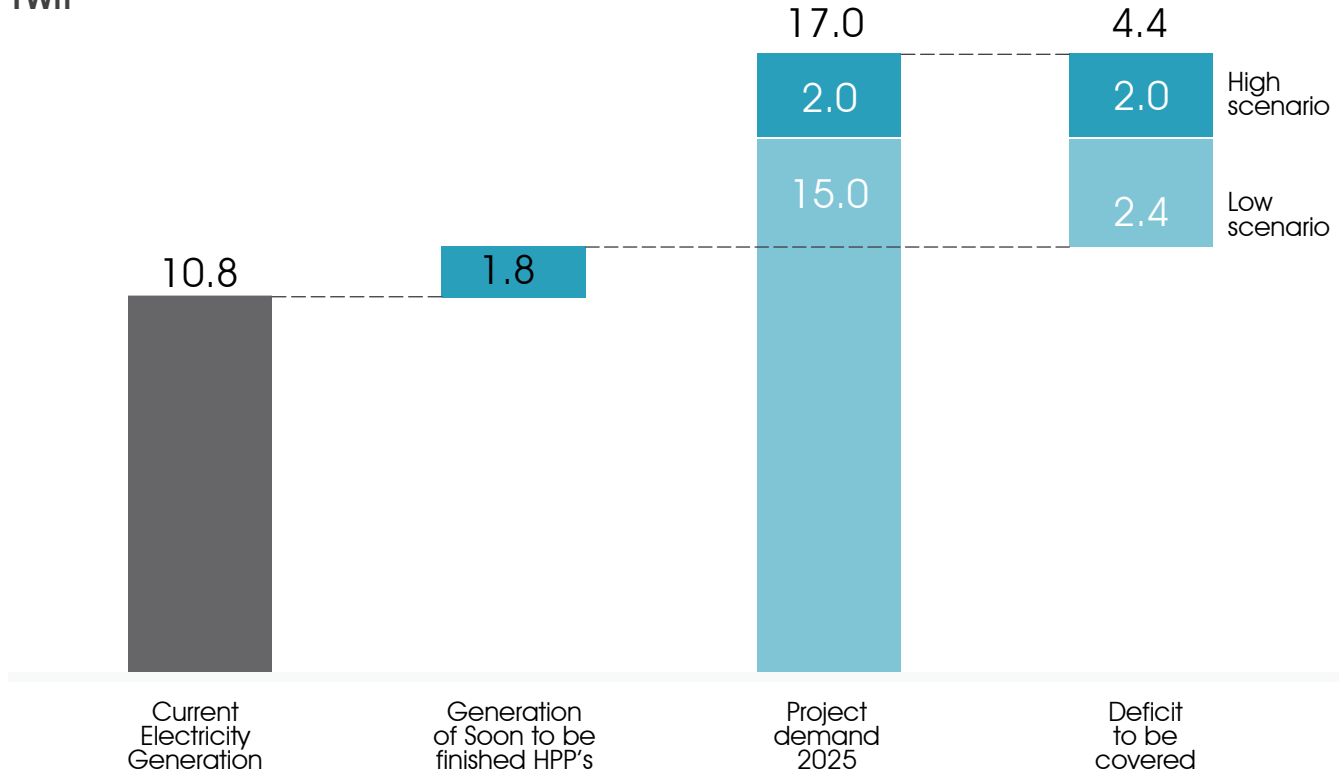
EXPORT BREAKDOWN 2011-2015



DOMESTIC DEMAND GROWTH REQUIRES AN EXTENSION OF POWER GENERATION

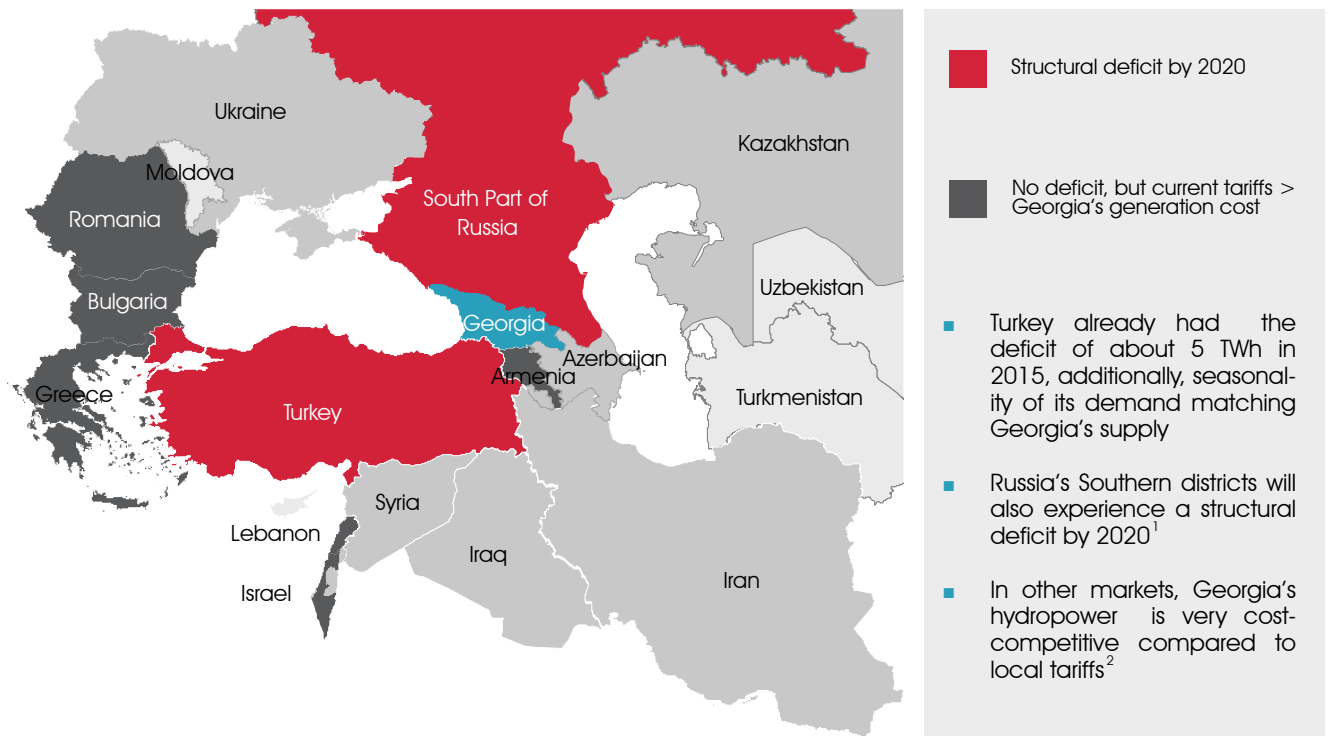
DOMESTIC DEMAND AND SUPPLY PROJECTIONS

TWh



- Georgia's demand for electricity is increasing in line with expected GDP growth, requiring more HPP generation capacity
- Even after completing HPPs that are under development, demand will be higher than supply

GEORGIA IS SURROUNDED BY COUNTRIES WITH A STRUCTURAL POWER DEFICIT OR EXPENSIVE POWER GENERATION



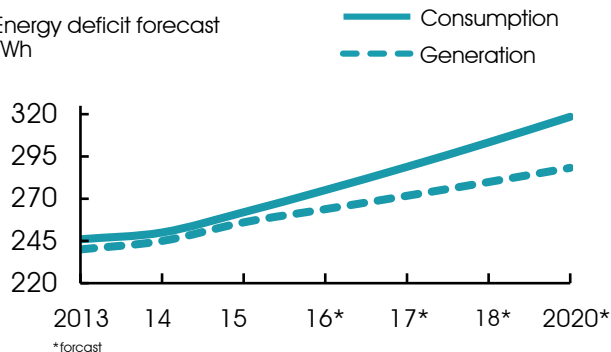
¹ Assuming current consumption and supply pattern

² This does not even include countries with heavily subsidized electricity generation (e.g. Azerbaijan, Kazakhstan)

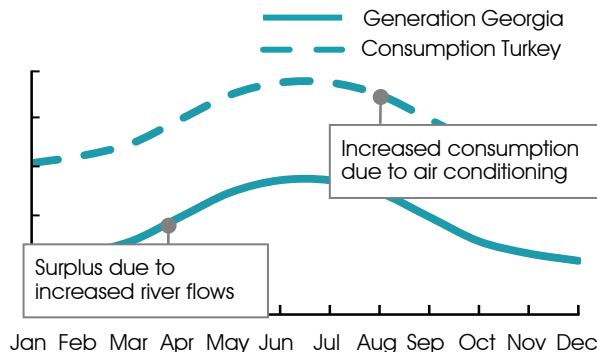
ATTRACTIVE EXPORT POTENTIAL IN THE REGION

TURKISH GENERATION DEFICIT IS EVOLVING OVER THE COMING YEARS

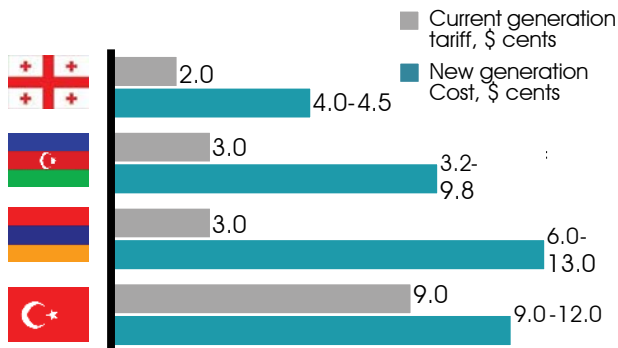
Energy deficit forecast
TWh



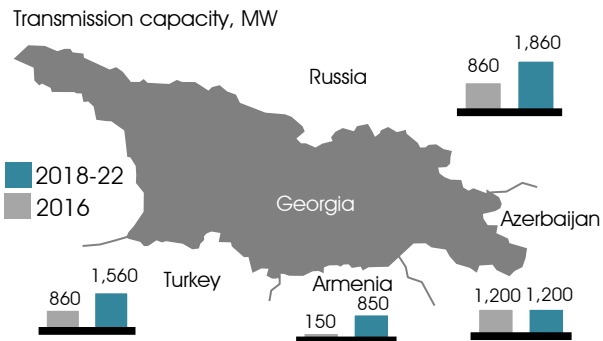
TURKISH CONSUMPTION PROFILE PERFECTLY MATCHES GEORGIA'S GENERATION



GEORGIA'S GENERATION COSTS ARE HIGHLY COMPETITIVE



TRANSMISSION CAPACITY IS CURRENTLY BEING UPGRADED



GRID MAP OF GEORGIA 2016



EXPANSION OF CROSS-BORDER TRANSMISSION SYSTEMS

Voltage	Routing	2016 Existing MW	2018-2022 Under Construction /Planned
500 KV	Georgia-Russia Kavkasioni OHL	700	
	Georgia-Russia Kazbegi OHL		1000
	Georgia -Azerbaijan Gardabani Samukhi OHL	850	
	Georgia-Armenia Marneuli-Airum OHL		700
400 KV	Georgia-Turkey Meskhethi OHL	700	
	Georgia-Turkey Akhaltsikhe-Tortum		350
400 KV	Georgia-Azerbaijan Gardabani OHL	350	
220 KV	Georgia-Russia Salkhino OHL	160	
	Georgia-Turkey Adjara OHL	160	
	Georgia-Armenia	150	
154 KV	Georgia-Turkey Muratli-Batumi OHL		350

Transmission capacity after upgrade (MW)	Turkey	1560
	Russia	1860
	Azerbaijan	1200
	Armenia	850
	Total	5470

During next 10 years around 600 million Euros will be invested in upgrading transmission and grid infrastructure

GRID MAP OF GEORGIA 2022



LIBERALIZED AND DEREGULATED MARKET

- All Renewable projects are based on Build-Own-Operate (BOO) principle
- All new HPP plants are totally deregulated - No tariff set for the newly built HPPs - investor is free to choose the market and negotiate the price
- There is no fee for the connection to the transmission grid and no license required to export
- No Generation license is required for <13MW Capacity HPPs



- Developer benefits from carbon credits trading
- New HPPs have priority access to the capacity on the new interconnection to Turkey
- Generation and Export activities are exempted from VAT
- Government approved new, simplified rule of Expression of Interest for construction technical and economic feasibility study, construction, ownership and operation of hydropower plants in Georgia



INVESTMENT OPPORTUNITIES

HYDRO POWER

- Georgia is one of the top countries in terms of water resources per capita
- Today 78% of total electricity is generated from Hydro Power Plants
- Georgia could produce additional 25 TWh annually with hydro resources alone
- There are over 60 potential HPP projects on the Pre-feasibility Study Level with Financial and Technical projection ready for investors

GENERATION AND EXPORT ACTIVITIES ARE EXEMPTED FROM VAT

NEW HPPS HAVE PRIORITY ACCESS TO TRANSMISSION LINE TO TURKEY

HPPS SMALLER THAN 13 MW DON'T NEED GENERATION LICENSE

HPPS SMALLER THAN 2 MW DON'T NEED ENVIRONMENTAL IMPACT PERMIT

SIMPLIFIED PROCEDURES FOR EXPRESSION OF INTEREST

1 PROJECT SELECTION & EOI LETTER SUBMISSION

Letter Should Contain:

1. Project name & location
2. Preliminary scheme
3. Estimated capacity and output
4. Estimated date of completion

2 ANNOUNCEMENT OF EXPRESSION OF INTEREST BY THE MOE

- Information will be published on Ministry of Energy's official website
- The tendering period lasts 2 months

3 SELECTION

Participants who successfully passed the qualification process are required to submit A pre-construction bank guarantee (USD 5,000 per MW) within 15 days. Priority will be given to the party offering the lowest electricity price. Electricity prices are to be submitted to Ministry of Energy in A sealed envelope.

4 SIGNING THE MOU WITH THE GOG AND ESCO

Project is divided in two stages:

1. Pre-construction stage
2. Preparation of feasibility study and environmental impact assessment

Construction stage

Company should submit bank guarantee

- USD 100,000 – for HPPs below 100MW
- USD 50,000 – for HPPs above 100MW

INVESTMENT OPPORTUNITIES

WIND POWER



- Wind potential of Georgia is estimated at 4 TWh
- Wind power is very important because of higher generation during winter, when hydro generation is lower.
- It's estimated that share of wind power in total generation will reach 10% by year
- In 2016, Pilot 20 MW wind farm project, "Kartli 1" was initiated by Georgian Energy Development Fund, with potential to be expanded up to 150 MW
- There are numerous other locations with strong winds and high generation potential

GENERATION AND EXPORT ACTIVITIES ARE EXEMPTED FROM VAT

NO FEE FOR THE CONNECTION TO GRID; NO LICENSE REQUIRED TO EXPORT

INVESTMENT OPPORTUNITIES



SOLAR POWER

In most regions of the country there are 250-280 sunny days in a year, which is approximately 6000-6780 hours per year. The annual radiation of the Sun varies depending on regions from 1250-1800 KWh/m², while the average sun radiation equals 4.2 KWh/m².



GEOTHERMAL POWER

Georgian geothermal water reserves reach 250 mln m³ per year. At present there are more than 250 natural and artificial water channels where the average temperature of geothermal waters ranges from 30 to 110 C⁰, while the total debit is 160 000 m³ per day and night. These water channels are grouped into 44 deposits. Within the territory of 3500 km there are bore-hole wells with the water temperature of 85 C⁰ and more. Up to 80% of the geothermal deposits are in Western Georgia. In the Zugdidi-Tsaishi geothermal area, there are now 9 productive, 7 reinjection and 3 observation bore-hole wells which are considered to be exploitable.

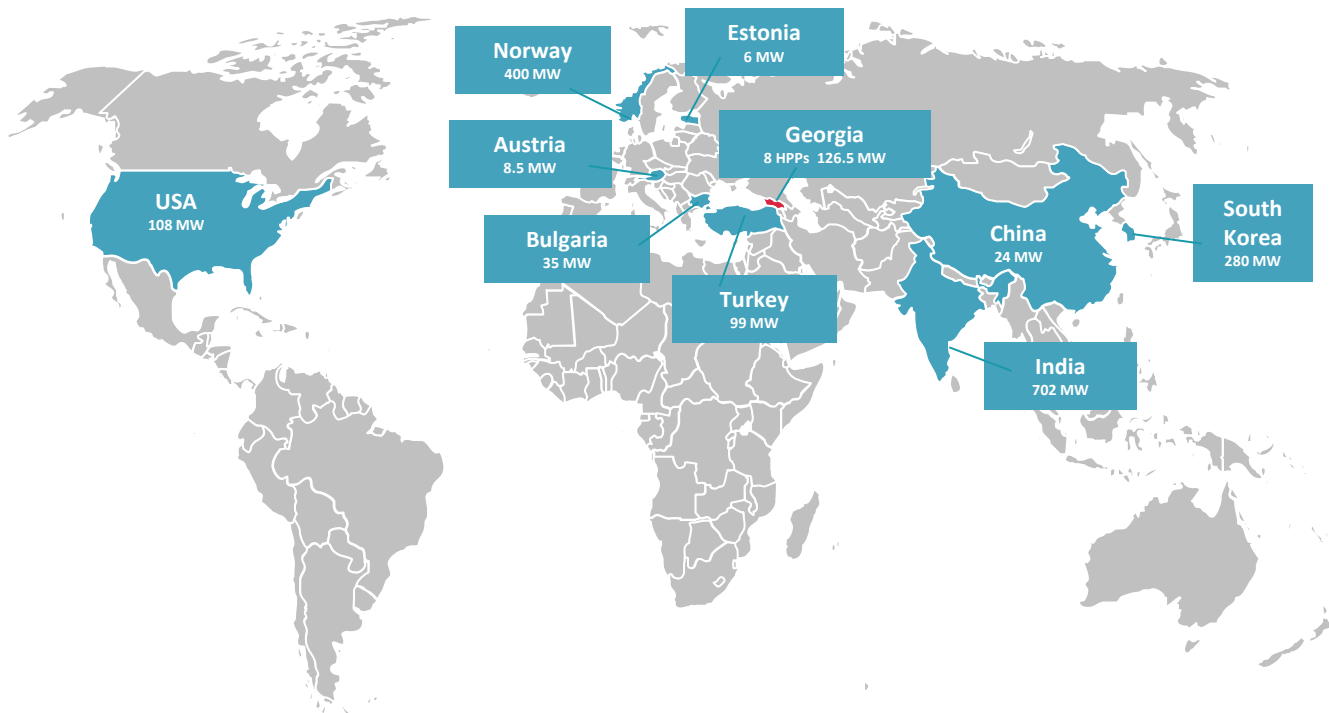


BIOMASS POWER

Thanks to an advantageous geographical location and a climate favorable to forest and agricultural development, Georgia is endowed with major potential for biomass power plants, especially for producing heat and hot water. Biomass could be one of the most important sources of power supply in rural areas, given that forests cover 40% of the country's total territory.

SUCCESS STORIES

ONGOING PROJECTS - INVESTORS FROM ALL OVER THE WORLD ARE INTERESTED IN GEORGIA'S ENERGY SECTOR



17 HPP PROJECTS UNDER CONSTRUCTION - INSTALLED CAPACITY OF 820 MW

14 HPP PROJECTS AWAITING PERMITS - INSTALLED CAPACITY OF UP TO 1,900 MW

26 HPP PROJECTS FEASIBILITY STUDIES ARE UNDER WAY - INSTALLED CAPACITY 1010 MW

ACCESS TO FINANCE

PARTNERSHIP FUND

- 100% state owned investment fund
- Operating fields: Energy; Hospitality & Real Estate, Manufacturing, Agribusiness
- Finances up to 49% of equity in new investment projects
- Pre-defined exit strategy

GEORGIAN ENERGY DEVELOPMENT FUND

- 100% state owned Joint Stock Company
- Mission: realization of country's alternative energy projects
- Finances up to 30% equity in energy projects
- Exit option after commissioning

GEORGIAN CO-INVESTMENT FUND

- USD 6 billion private equity fund
- Investment sectors: Energy & Infrastructure, Hospitality & Real Estate, Manufacturing, Agriculture, Logistics
- Minimum Project Size: USD 5 M
- GCF equity stake in projects: 25%-100%

INTERNATIONAL FINANCIAL ORGANIZATIONS

- European Bank of Reconstruction and Development (EBRD)
- International Finance Corporation (IFC)
- Asian Development Bank (ADB)
- European Investment Bank (EIB)



THE GOVERNMENT OF GEORGIA FACILITATES YOUR INVESTMENT

DOMESTIC PARTNERS

PROJECT ENTRY/ NEGOTIATIONS	TECHNICAL AND LICENSING	TRANSMISSION, DISPATCHING AND SYSTEM OPERATION	DISTRIBUTION AND OFFTAKE
 <ul style="list-style-type: none"> Georgian National Investment Agency  <ul style="list-style-type: none"> Ministry of Energy of Georgia 	 <ul style="list-style-type: none"> Georgian National Energy and Water Supply Regulatory Commission 	 <ul style="list-style-type: none"> Georgian State Electrosystem  <ul style="list-style-type: none"> Electricity System Commercial Operator 	 <ul style="list-style-type: none"> Electricity System Commercial Operator  <ul style="list-style-type: none"> Commercial distributors (e.g., Telasi, EnergoPro)  <ul style="list-style-type: none"> Eligible direct consumers (Using more than 1 GW of energy) Export offtakers

CONTRACT
NAVIGATOR



- Support investors before, during & after investment process
- Links to all state authorities and business partners

GEORGIAN NATIONAL INVESTMENT AGENCY

- The investment promotion agency under the direct supervision of the Prime Minister of Georgia
- “One-stop-shop” for investors to support companies before, during & after investment process
- Moderator between investors, government and local companies

OUR SERVICES

INFORMATION

General data, statistics, sector researches

COMMUNICATION

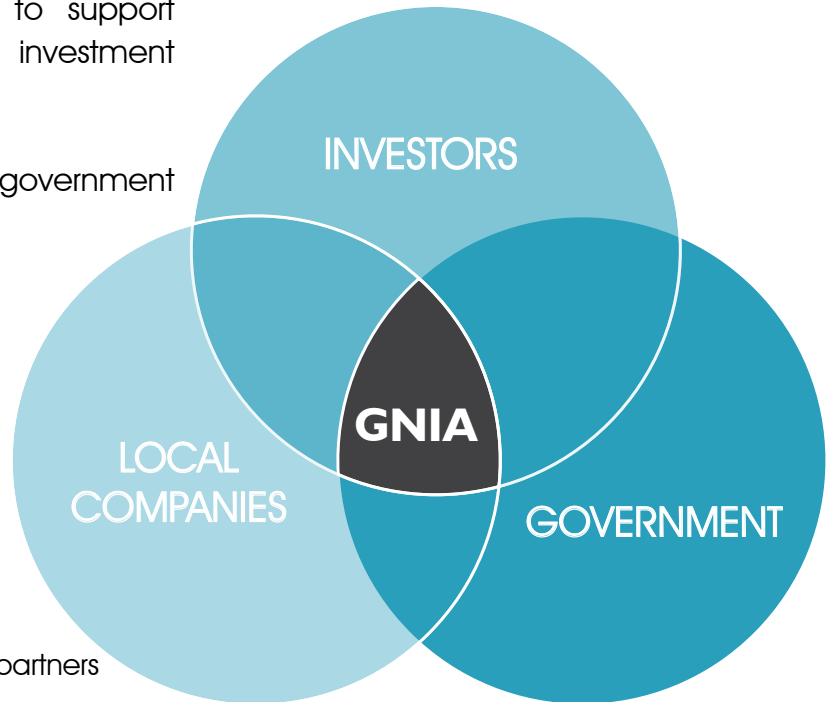
Access to Government at all levels/Local partners

ORGANIZATION

Organization of site visits & accompanying of investors

AFTERCARE

Legal advising & Supporting services



GEORGIAN NATIONAL INVESTMENT AGENCY 2016

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