Introduction

- Regional Energy Hub
- Reliable transit country
- Net electricity exporter to all four neighboring countries
- Rapidly expandable energy markets
- Constant development of additional electricity export infrastructure

- Government’s strong commitment for further reforming
Organization of the Market and Key Players in the Sector

- Organization of the market after restructuring of the sector
- Ministry of Energy-Policy Maker
- Georgian State Electrosystem – (GSE) Technical Operator
- Electricity System Commercial operator – ESCO owned by market participants
Legislative basis in Electricity Sector and Main Policy Document

- Law on Electricity and Natural Gas
- Market Rules
- Resolution of parliament on “Main Directions of State Policy in the Power Sector of Georgia”
- Renewable energy law – first draft already prepared
- Energy Efficiency law – does not exist
Energy Security Strategy of Georgia

- To replace thermal generation by developing renewable energy sources;
- To expand cross-border power trading regime with neighboring countries;
- To rehabilitate existing and construct new infrastructure for electricity transmission and natural gas transportation;
- To attract foreign investment in the energy sector in order to develop energy infrastructure of the country;
- To ensure energy security of the country through diversification of energy sources and supply routes;
- To develop east-west and north-south energy transportation infrastructure in order to increase transit capacity of the country;
- To strengthen co-operation with the international organizations in order to contribute to acceleration of affiliation of the country in European and Euro-Atlantic organizations;
### ELECTRICITY BALANCE

#### Seasonal Asymmetry of Generation and Consumption

**Winter**
- **High**
- **Low**

**Summer**
- **High**
- **Low**

#### Generation vs. Consumption

<table>
<thead>
<tr>
<th></th>
<th>Before 2004</th>
<th>Current 2010</th>
<th>Projected 2010</th>
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<tbody>
<tr>
<td>Thermal &amp; Import</td>
<td>15%</td>
<td>8%</td>
<td>100%</td>
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<tr>
<td>Hydro</td>
<td>85%</td>
<td>92%</td>
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#### TW/h

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<tbody>
<tr>
<td>Generation</td>
<td>6.9</td>
<td>7</td>
<td>7.6</td>
<td>8.3</td>
<td>8.5</td>
<td>8.4</td>
<td>10.1</td>
<td>10.1</td>
<td>9.7</td>
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<tr>
<td>Hydro</td>
<td>6</td>
<td>6</td>
<td>5.4</td>
<td>6.8</td>
<td>7.2</td>
<td>7.4</td>
<td>9.4</td>
<td>7.9</td>
<td>7.2</td>
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<td>Thermal</td>
<td>0.9</td>
<td>1</td>
<td>2.2</td>
<td>1</td>
<td>1.3</td>
<td>1.2</td>
<td>0.7</td>
<td>2.2</td>
<td>2.5</td>
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<tr>
<td>Net Export</td>
<td>-1.2</td>
<td>-1.3</td>
<td>-0.7</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5</td>
<td>1.3</td>
<td>0.5</td>
<td>-0.1</td>
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<tr>
<td>Consumption</td>
<td>7.4</td>
<td>7.8</td>
<td>7.9</td>
<td>7.8</td>
<td>8.1</td>
<td>7.6</td>
<td>8.4</td>
<td>9.3</td>
<td>9.4</td>
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<tr>
<td>Distribution</td>
<td>5.7</td>
<td>5.9</td>
<td>5.9</td>
<td>5.8</td>
<td>6</td>
<td>5.9</td>
<td>6.4</td>
<td>7.4</td>
<td>7.8</td>
</tr>
<tr>
<td>Direct Customers</td>
<td>1.7</td>
<td>1.9</td>
<td>2</td>
<td>2</td>
<td>2.1</td>
<td>1.7</td>
<td>2.1</td>
<td>1.8</td>
<td>1.6</td>
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<td>Transmission Losses</td>
<td>0.7</td>
<td>0.5</td>
<td>0.4</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
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Clean Power Generation in Georgia

• Georgia follows global energy trends towards the prioritizing the utilization of renewable energy sources

Energy Potential
• Hydro – total annual potential capacity is equivalent to 15000 MW

• Wind – total installed capacity per annum– 1500 MW

• Solar - total solar energy potential per annum is evaluated at 108 MW

• Middle and low temperature thermal water - the forecasted stocks of geothermal waters equal to 200-250 mln m3 annually

One of the biggest untapped hydro potential In Europe thus creating huge opportunity For investment attraction and hydro Greenfield development
Hydro Power Investment Promotion Mechanisms

- State program – “Renewable Energy 2008”

- 67 greenfield projects (each up to 100 MW) are offered to potential investors,

- Investor is free to choose and apply for construction of up to 7 potential HPPs from the list

- Investor is not limited with the list

- Terms and conditions of EOI for HPPs more than 100 MW capacity is subject to Government’s resolution
The role of the fund is as follows:

- Facilitate capital and loans from international financial institutions and/or private financial entities for the development of a project
- Support investors in risk mitigation associated with the development of a project
- Jointly (with private investors) develop strategically important projects with an exit option for the fund at various stages of development
- Finance initial costs for the development of a project
- Advise the Ministry of Energy and Natural Resources regarding amendments to regulations as required
Goals of the project:

• Developing Quality Engineering and Technical Information

• Providing Targeted and Effective Investor Outreach and Promotion

• Supporting Institutional Strengthening and Capacity Building

• Partnering Programs and Opportunities to Stimulate Investment
Export markets and Relevant Infrastructure

- Georgia’s hydro potential can be used to offset part of the growing demand in Turkey, Russia, Armenia, Azerbaijan, Iran and Europe
- Construction of new high voltage 500/400 KV line to Turkey is finished
- Construction of additional interconnection with Turkey is under negotiation

Existing & Planned Transmission Lines

- Turkey - 2000 MW
- Armenia - 835 MW
- Azerbaijan - 1150 MW
- Russia - 1155 MW
Export oriented Projects

• 45 on-going Projects.
• Total installed capacity of 2506 MW and annual generation up to 10.2 TWH
• Projected investment USD 4.1 bln.
• Construction works to be finished in 2014-2024

Major investors in Energy Sector are from Turkey, India, Czech republic, Norway, Turkey and Georgia:

15 new HPPs constructions ongoing

3 new HPPs (157MW) construction will be launched in near future

1 wind power plant Faravani (50MW)
Easy Regulatory Framework

- Greenfield projects based on Build-Own-Operate (B-O-O) principle
- No tariff is set for the newly built HPPs - investor is free to choose the market and the price
- Exceptional right for HPPs up to 13 MW to sell electricity to any retail customers.
- State Land with normative price
- No special fee for the grid connection
- No license required for export and no tariff set
- Guaranteed purchase offered by GoG for three months during 10 years
- Free third party access to the grid
- Priority access to transmission network to Turkey (Long term contract with TSO) with new HPPs
- “Cross Border Trade Agreement” with Turkey
Promoting Energy Efficiency and Cleaner Environment (Programs and Projects)

Relevant Projects at regional level

- “Covenant of Mayors”— already five cities Tbilisi, Rustavi, Batumi, Kutaisi, Gori are parties to the covenant projects under INOGATE program:
  - Support to Kyoto Protocol Implementation (SKPI)
  - Support to Energy Market Integration and Sustainable Energy in the NIS (SEMISE)
  - Energy Saving Initiative in the Building Sector in the Eastern European and Central Asian Countries (ESIB)
  - Capacity building for sustainable energy regulation in Eastern Europe and Central Asia

Relevant Projects at local level (incomplete list)

- “Energy Bus”- serves as an energy information resources centre -co-financed by BP
- “NATELI- New Applied Technology Efficiency and Lighting Initiative – USAID supported activity designed to help large institutions reduce their energy consumption.
- Covenant of Mayors Capacity Building Model for Ukraine and Georgia: Model Solution for Eastern Partnership and Central Asian Countries” – CoM Model Project
- “Georgia Rural Energy Program”- The USAID-sponsored program with the aim of developing in-country capacity to increase the utilization of small hydropower resources and realization of energy efficiency potential in rural Georgia. (completed)
- “Clean Energy for IDPs”- designed to secure energy supply and promote renewable energy (completed)
- “MODEL-CIUDAD” (MODEL-”Management of Domains Related to Energy in Local Authorities”) promote energy efficiency in public buildings and offices.
- “Energy Audit Manual” (completed)
- “ZOO-GREEN ENERGY PARK” (GEP) (completed)
Other incentives of the government to promote energy efficiency in Georgia

- **Metering** - Improving electricity accounting and control mechanisms by launching consistent metering process

- **Establishment of step tariff**
International (Bilateral) Cooperation in the field of Energy

• EU – negotiations underway on new legal contractual basis “Association Agreement”
• USA – “United States-Georgia Charter on Strategic Partnership”
• NATO – “Annual National Program”

Bilateral cooperation with countries under intergovernmental platform meetings:

• Azerbaijan – a strategic partner
• Turkey
• Armenia
• Romania
• Ukraine
• Iran
• Bulgaria
• Poland
• Egypt

Main topics cover:
• Electricity trading
• Investment attraction
• Common and transit energy projects
Road Map of Georgian Energy Sector

- Deregulated power sector with very impressive turnaround since 2004
- Distribution companies privatized and operating at a profit
- Huge potential for renewable energy development 32 TWh
- Strong government support for developing hydropower resources
- Significant private investment in generation assets
- Increased simplification of procedures for greenfield development
- Favourable environment for power trading and increasing export markets

Besides participation in different policy platforms, organizations and programs with the EU, Georgia has a potential to be a significant contributor to reinforcing EU’s energy security and achieving 20/20/20 goal via providing and delivering locally generated clean energy to European markets.
Thank You!