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# Content of Presentation



საქართველოს გარემოს დაცვისა და  
ბუნებრივი რესურსების სამინისტრო

1. Renewable energy efforts
2. Natural gas and clean coal
3. Energy efficiency
4. Incentives and policies





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# Renewable energy efforts (Hydro)

- ❑ Net hydroelectric resources of main rivers constitute approximately 140 billion kWh (140TWh);
- ❑ The technically feasible potential constitutes 70–80 billion kWh;
- ❑ Only about 12-15% of hydro resources are utilized now in Georgia and, currently 20 operating HPPs with capacities above 10 MW exist in Georgia. The biggest plant is Enguri HPP with 1,300 MW nominal capacity.
- ❑ The share of hydro power in total generation has increased from 72% in 2006 to 88% in 2009.
- ❑ The overall goal of Georgia is to move to 100% hydro utilization and evolve into a major regional exporter of electricity.



# Renewable energy efforts (solar and wind)



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## Solar:

- ☐ In most regions of the country there are 250-280 sunny days in a year, which is approximately 6000-6780 hours per year.
- ☐ Solar water heating systems and solar cookers for food preparation were tested in mountain regions of Georgia.
- ☐ Demo Photo Voltaic panels project in Tusheti region – Protected Area (Czech Government).
- ☐ Ongoing pilot project for introduction of solar energy in Tbilisi (Government of Japan).

## Wind:

- ☐ Georgia has an important wind energy potential, which is estimated to be able to annually generate about 8-10 TWh electricity.
- ☐ At present, there have not been implemented even one wind farm project in Georgia. However, there are identified a number of potential sights in various regions of Georgia.



# Natural Gas



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## Natural gas production:

- ❑ According to experts' judgment there are significant reserves of natural gas in Georgia. In 2009 7 mln m<sup>3</sup> of natural gas was produced.

## Natural gas transportation:

- ❑ Georgia is a pathway for natural gas transportation. Through the South Caucasus pipeline (SCP) 4,8 Bbln m<sup>3</sup> gas was transferred from Azerbaijan Shah-Deniz to Turkey. In 2009 Georgia consumed about 1.2 bln m<sup>3</sup> of natural gas.
- ❑ Resulting from the rehabilitation the losses of natural gas have been decreased from 3-4% to 0,2%, contributing about 3 mln USD per month additional revenue inflow to the Gas and Oil State Company of Georgia, while methane emission in 2009 was reduced 12-15 times compared with 2006 emissions (1.2 mln t CO<sub>2</sub>eq).



# Clean Coal



საქართველოს გარემოს დაცვისა და  
წიწვითი სასოფლის საინჟინერო

- ❑ The proven reserves of coal account for approximately 450 million tones. The main reserves (332 mln. tones) are situated on the coal deposits of Tkibuli region.
- ❑ “Czech Energy” engineering and construction company begins construction of new 300 MW power plant and coal mines in Tkibuli.
- ❑ United States Trade and Development Agency (USTDA) awarded about \$800,000 for a study of coal bed methane production in the Tkibuli and Vale coal basins in Georgia. The project will strengthen Georgia's energy security by supporting plans to develop the country's coal bed methane (CBM) and coal mine methane (CMM) resources





# Promotion of Energy Efficiency (1)



საქართველოს გარემოს დაცვისა და  
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- ❑ The actions in energy efficiency are mainly driven by bilateral and multilateral programmers.
- ❑ A number of projects have been implemented in audits and energy efficiency technology demonstrations. Starting from 2000, USAID has financed 12 energy efficiency demonstration projects in residential panel block buildings in Tbilisi, recording investments with an average payback period of just over 3 years.
- ❑ Major problems: i) High heat losses from building envelope, ii) Absence of efficient heating, ventilation and air conditioning systems (HVAC), iii) Poor operation, management and maintenance of existing energy systems, iv) Use of electricity for space heating



# Promotion of Energy Efficiency (2)



საქართველოს გარემოს დაცვისა და  
პროგრესული რესურსების სამინისტრო

- ❑ **USAID project "New Applied Technology Efficiency and Lightning Initiative"** Goal is to convince Georgia's large energy consumers - hospitals, condominium associations and others - to use special materials and facilities to decrease energy consumption and accordingly cut expenses.
- ❑ **USAID Project "Clean Energy for internally displaced person (IDP)** Assessment of the social, technical, economic and environmental aspects of the introduction of renewable energy and energy saving solutions in the newly constructed or rehabilitated houses for the IDPs
- ❑ **"Energy Efficiency Programme for Georgian Communities-Energy Bus Project"**
- ❑ **Urban Heating and Residential Energy Efficiency for Utility Affordability in the Republic of Georgia** USAID-approved research outline for the studies on Urban Heating and Residential Energy Efficiency for Utility Affordability in the Republic of Georgia, which will be developed under the World Learning/USAID Energy Sector Grant Program.

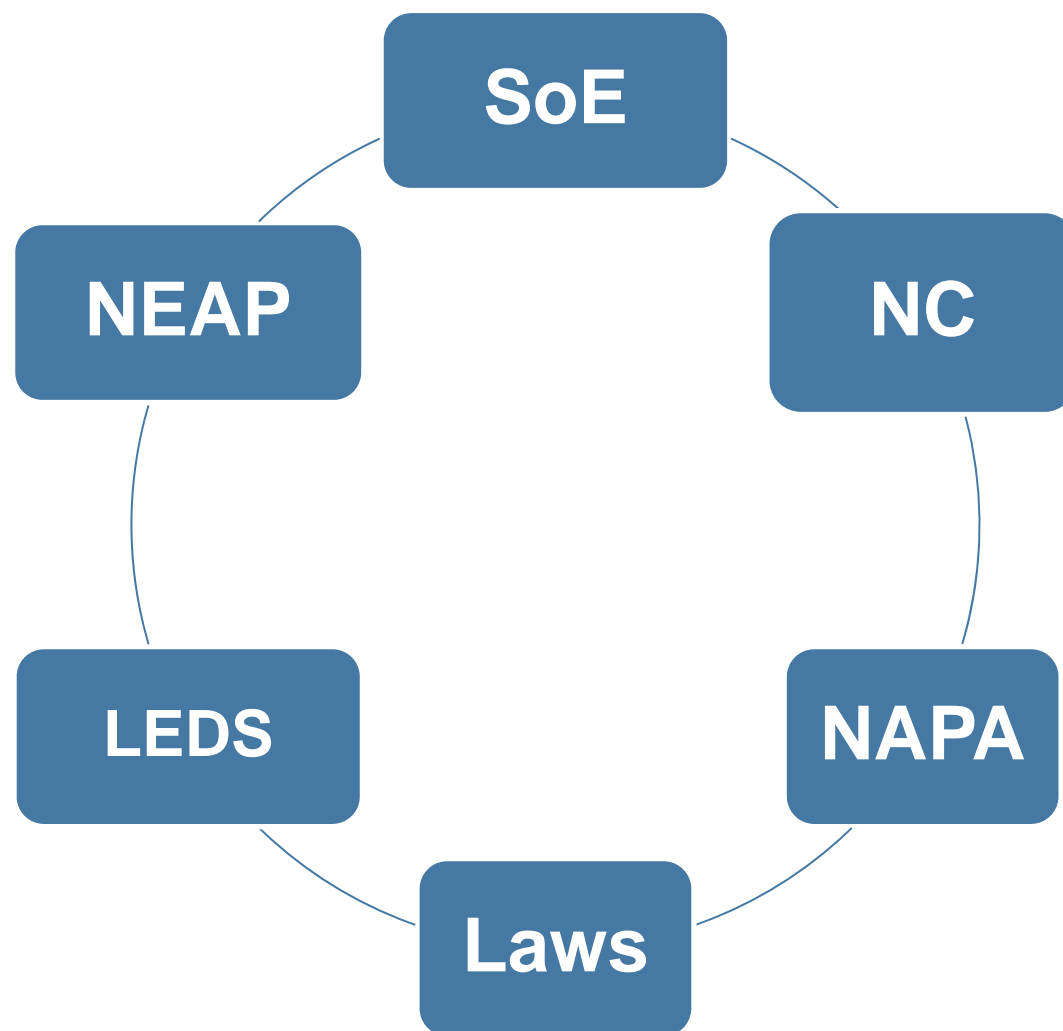




# Main Policy Documents (approved, drafted and planned) - 1



საქართველოს გარემოს დაცვისა და  
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# Main Policy Documents (approved, drafted and planned) - 2



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- The Ministry of Energy has elaborated **"Main Directions of State Policy in Georgian Power Sector"** on the basis of the Resolution of the Parliament of Georgia 25/37 of 27 December of 2005. The main goal is the full satisfaction of the demand of industrial and domestic-communal sector on energy resources on the basis of full utilization of energy resources existing in the country and diversification of imported energy carriers.
- ❑ **State Program "Renewable Energy 2008"** - Creating and facilitating investment into the renewable energy sector. The Ministry of Energy of declared the express of interest for 70 power plants listed in the list of potential alternative sources (total capacity 1,050MW and total rated annual generation about 5.4 billion kWh).
- ❑ According to the **Parliament's Resolution** adopted in June 2006, the following are the priorities of the Georgian state policy in the gas and energy sector: (a) rehabilitation of gas units, (b) release of such units from debts and their privatization, (c) diversification of gas supply, and (d) formation of a transparent and liberal energy market.



# Thank you very much

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