



ენერგეტიკისა და მდგრადი  
განვითარების ინსტიტუტი



# Shale Gas Challenges

## How to Prepare?

*Murman Margvelashvili*

*WEG/ILIAUNI*

*June 10, 2014*

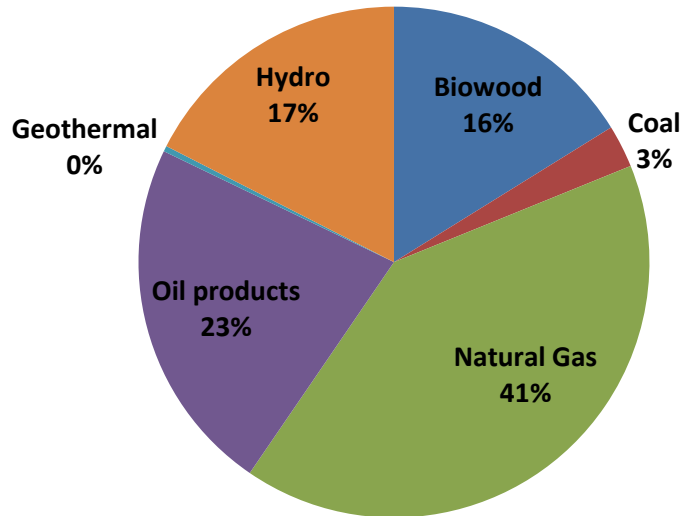


# Why Georgia needs shale gas?

- Energy Security
  - State may decide to provide support and concessions
- Economic development
  - Compare with other competing businesses and options, explore local and international markets

# Energy Security and Gas Supply

Georgia, TPES 2012



**Current Gas Consumption 1.9 BCM**

65% depends on external sources  
95% gas is sourced from abroad  
Proceeds from transit through SCP, North-South pipeline and commercial purchase

Georgian Energy Security relies on **international agreements**  
**Seasonal Balancing** is a challenge - aggravating the security

Going to grow due to

- Gasification in Regions
- Extended use in transport
- Economic development & population growth

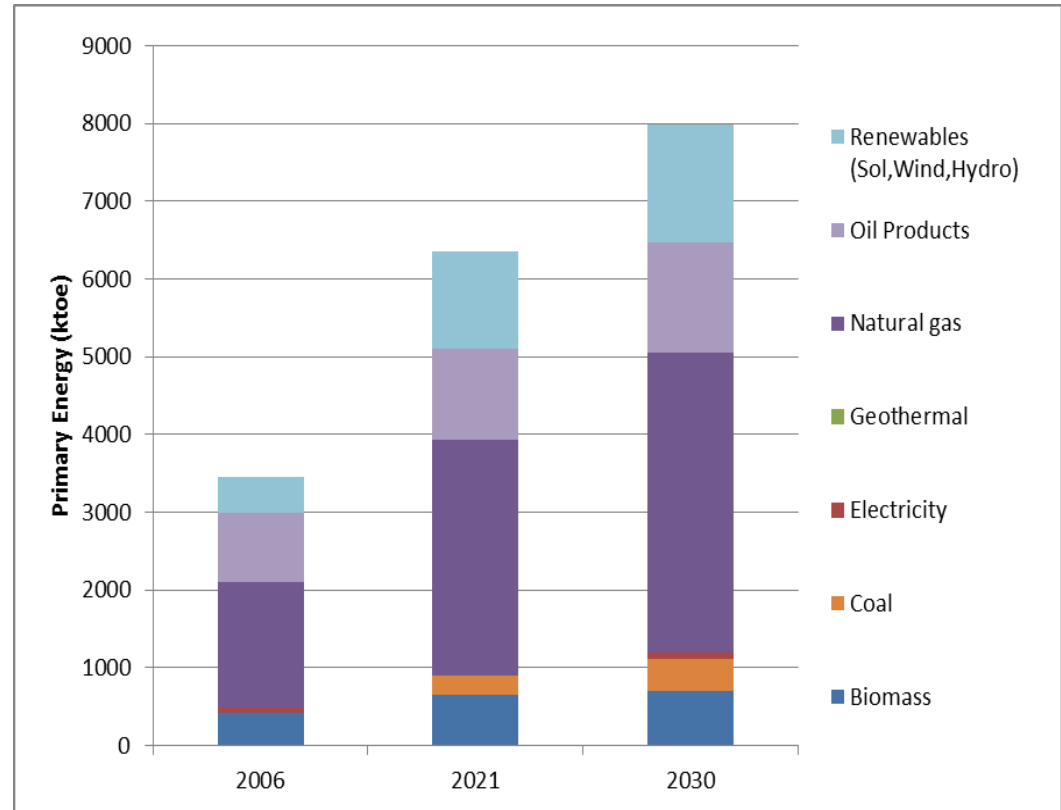
# Gas Consumption Projections

## MARKAL Georgia

Developed under USAID  
RESMD program by WEG, in  
upgrade process.

Reference Scenario - 4.5 %  
GDP growth

Gas consumption more than  
doubles by 2030 – without  
transport sector.



4-5 bcm may be needed by 2030

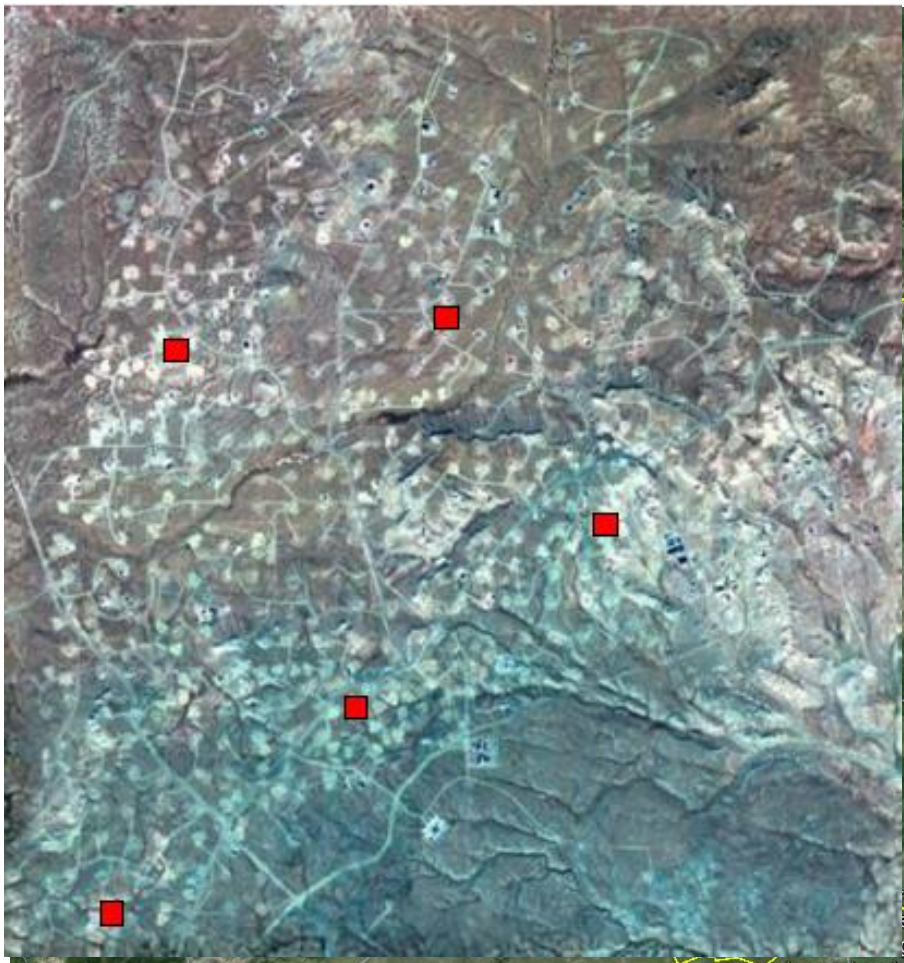
The role of SG needs to be analysed



# Market

- Gas-rich region with major gas producers neighboring and present in Georgia
  - Russia, Azerbaijan, Potentially Turkmen, Iran
- Monopolistic Gas Structure – Supplier-Distributor - no unbundling
- Gas price subsidies in Georgia
- Access to international markets requires negotiations with existing and new pipelines
- Local market access - needs seasonal balancing and stabilizing the market based on transparency and competition
- Regional gas prices \$350/thd m<sup>3</sup> but no developed market
- Regional (Turkish?) market needs to be explored

# Land and Terrain



Multi-well pads can be a solution but

# Higher Demand for Territory



# Huge Logistics and Technology Task

- *8 well pad*
- *92 stages pumped in 6 days*
- *15,000 tonnes of sand (850 trucks)*
- *150,000 m<sup>3</sup> of water (5,000 trucks)*
- *30 pumps (80,000 HHP)*



*A huge task for industry and regulators*

2011



# Environmental(ist) Challenge

- Concerns – water pollution can migrate in , induced seismic activity (keep away from faults)
- High activity and strong environmental groups
- Lack of dialogue between public authorities and environmentalist groups
- No Sustainable Development policy and strategy in place.
- Environmental concerns even higher due to small territory and mountainous terrain
- Protests can be easily induced by interested parties



# Other Alternatives

- Conventional Gas
- Coal bed methane
  - Coal deposits in Tkibuli and Akhaltsikhe
  - Regulatory issues need to be resolved
- Tight Gas
  - Shows are reported by various license owners

**From the state point of view all alternatives should be explored and prioritized and pursued.**

**Business should be supported in all directions**



# Technical and Economic Feasibility

- Resource
- Territory
- Infrastructure (roads, pipelines)
- Market and market price
- Addressing environmental concerns
- Regulatory Stability and developed regulation
- Systems and Technologies

REFINED POLICIES AND STRONG GOVERNMENT  
COMMITMENT ARE NEEDED TO BRING  
INVESTMENT AND DEVELOPMENT

# Conclusions

- Shale gas development deals with a conglomerate of complex economic, political technological and environmental issues. Its development requires parallel advancement in many directions.
- Developing of SG requires
  - Commitment and steady support from the State
  - Coping with public opinion and environmental concerns
  - Attraction of investment and modern technologies

**Long and winding road of development that  
requires a proper strategy**

# Recommendations

- Develop a sound country energy security strategy -
- Develop the Natural Gas strategy with all the alternatives and options included understand how SG fits in the picture
- Develop Sustainable development strategy to address environmental and social issues
- Develop the gas storage
- Develop transparent gas market, unbundle and eliminate hidden and open subsidies – *Energy Community and implementation of EU directives*
- Refine the legal and regulatory environment (EU Energy Acquis?)
- Support business in exploration and introduction of modern advanced technologies
- Continue Development of Geology information
- Explore the potential for donor support



ენერგეტიკისა და მდგრადი  
განვითარების ინსტიტუტი



Thank You  
[www.weg.ge](http://www.weg.ge)