

Energy Efficiency in Buildings: Policy and Practice in Georgia
Third International Forum: Energy for Sustainable Development
Capacity building for energy efficiency and access to cleaner energy in Central Asia and neighboring regions

Bishkek, September 2012

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Content:

1. Overview of legal framework and policy
2. Current trends and situation
3. Current project addressing:
 - 3.1 Increase of energy efficiency and use of renewable energy at municipal level: Covenant of Mayors
 - 3.2 Promoting awareness of interaction between urban development and environment: GEO cities project
 - 3.3 Removing financial barriers in financing energy efficiency projects: EBRD- Bank of Georgia SME loan
 - 3.4 Activities of International organizations and NGO's targeting energy efficiency in Buildings: USAID, ENOGATE program, Energy Efficiency Centre (EEC)
4. Identifying challenges and goals

1. Overview of legislative framework and policy

In recent years some positive changes have taken place in Georgia with regard to Energy efficiency issues in the building sector, including development of the policy documents, awareness campaigns and enhancement of private sector capabilities. According to the assessment of ENOGATE- SEMISE project in Georgia the greatest energy saving potential can be found in buildings and the transportation sector. (*INOGATE: Energy Cooperation between the EU, The Littoral States of the Black and Caspian Seas and their Neighboring Countries. SEMISE: Support to Energy Market Integration and Sustainable Energy in NIS*).

In recent years Georgia has pursued a consistent policy of deregulation and market liberalization and achieved strong economic growth including construction sector. In the first quarter of 2012 total turnover achieved by construction sector was 546, 7 million Lari, which exceeded the last year's figures by 201, 2%. Unfortunately Georgia has not adopted yet a Construction Code which reflects on energy efficiency issues. Existing at the municipal level policy documents and strategies can be used as a "soft tool" that shall be limited only by information and awareness campaign. The current legislative framework in Georgia includes laws that can be considered as policy guidance reflecting climate mitigation issues:

- The resolution of the Georgian Parliament 25/37 on December 27, 2005, "Main Directions of State Policy in Georgian Power Sector"
- Parliament of Georgia approved the document prepared in the Ministry of Energy on 7 June of 2006 and determined main directions of energy policy.
- Order of the Ministry of Environment Protection and Natural Resources of Georgia № 704 on 20 October, 2008, "Concerning the rule of inventory of air pollution from stationary sources"
- Law on Environmental Protection
- Law on Ambient Air Protection

However, Ministry of Economy and Sustainable Development of Georgia is developing codes for structural design of the buildings: Eurocodes (translation stage at present) in cooperation with GIZ (*German International Cooperation Agency*) and IBC (being translated by USAID, EPI project), which are considered environmentally friendly. Spatial Planning and Construction Code, which is being developed at present also reflects on construction as a built in environment.

2. Current trends and situation

Building stock in Georgia represents a "Soviet approach" in design as well as energy supply. In Soviet times energy was cheap and energy efficiency and greenhouse emissions trends weren't very topical. The result of the analysis of the buildings sector of the Georgian capital Tbilisi indicates that there is a huge potential for the reduction of energy consumption. Majority of the energy waste in the buildings is due to the poor design and inadequate technology. There shall be also distinction made in approach to the old and new

buildings. New buildings can be initially designed and afterwards constructed with enhanced energy efficiency in the building's structure. In such a case, according to the assessment of capital Tbilisi, energy savings can constitute about 40-50% of the heating system's energy consumption. Existing buildings' thermal performance structure can be enhanced through refurbishment, the use of efficient technologies, and changes in consumer behavior that will contribute to an emissions reduction of 20% by 2020.

There is also well identified problem of consumer behavior: lack of awareness, lack of economic incentives to invest in energy efficiency in the buildings, as return on investment can take a very long time.

We share the vision that The Energy Efficient policies for buildings shall deal with causes and implications of climate change, aim to reduce energy needs and shift to a culture of conservation, reduce energy bills and contribute to economic development in a sustainable way by implementing energy efficiency measures in buildings and reducing CO2 emissions. Energy efficiency measures in Georgia can be divided in two categories: addressing thermal performance of the buildings and addressing end users technology application issue. Goals can be achieved by promoting voluntary standards for energy efficiency, raising awareness, human capacity and professional skills via trainings and offering end users economic incentives in order to change their consumer behavior.

3. Current project:

3.1 Increase of energy efficiency and use of renewable energy at municipal level: Covenant of Mayors

Five Georgian cities: Tbilisi, Batumi, Kutaisi, Gori and Rustavi sign the Covenant of Mayors agreement in 2010 and 2011 voluntarily committing to endorse and support sustainable energy policy.

http://www.eumayors.eu/about/signatories_en.html?q=Search+for+a+Signatory...&country_search=ge&population=&date_of_adhesion=&status=

City of Tbilisi has developed Sustainable Energy Action Plan, which states that: *"The overall strategy for the buildings sector in Tbilisi is aimed at reaching a reduction of greenhouse gas emissions through a sustainable use of energy resources and a reduction in overall energy consumption"*.

3.2 Promoting awareness of interaction between urban development and environment: GEO Cities Tbilisi

Municipal service of the capital with international support and cooperation developed a report: Integrated Environmental Assessment of state and Trends of Georgia's Capital Tbilisi under GEO (*Global Environmental Outlook*) project, which is the most comprehensive report up to the date.

http://www.grid.unep.ch/products/3_Reports/geocities_tbilisi.pdf

(*United Nations Environmental Programme (UNEP), Organisation for Security and Cooperation in Europe (OSCE), Ministry of Environment Protection, National Statistics Office, the Aarhus Centre, local and international environmental experts, Tbilisi City Hall*)

3.3 Removing financial barriers in financing energy efficiency projects: EBRD- Bank of Georgia SME loan

The EBRD has approved a financing package for the Bank of Georgia consisting of three transactions: USD 20 million Medium-Sized Co-Financing Facility (MCFE) with full recourse to the Company; USD 10 million Energy Efficiency credit line; and USD 20 million Small and Medium Enterprise Lending (SME) credit line. Bank of Georgia (BoG) has formally adopted Environmental and Social Policy and Procedures, which cover environmental, social and health and safety issues. Credit for Energy Efficiency was aimed for the purchase of the new technologies and is already used by the consumers.

<http://www.ebrd.com/english/pages/project/psd/2010/41208.shtml>
<http://www.energocredit.ge/ka/node/174>
<http://www.bankofgeorgia.ge/corporate/ge/credit-products/corporate-loans/energy-efficiency->

3.4 Activities of International organizations and NGO's targeting energy efficiency in Buildings: USAID, ENOGATE program, Energy Efficiency Centre (EEC)

- **Energy Saving Initiative in the Building Sector**

EU-INOGATE funded project ESIB launches cooperation with Energy Efficiency Centre (EEC) Georgia In the framework of the partnership agreement ESIB is a project funded by the European Union within the framework of the [INOGATE programme](#). The INOGATE Programme supports energy policy cooperation between the European Union and the INOGATE Partner Countries. ESIB will be implemented in INOGATE Partner Countries until January 2014. The Energy Efficiency Centre will reinforce and highlight the presence of the ESIB project in Georgia, and subsequently in the whole Caucasian region.

ESIB will assess the EE in buildings potential in partner countries and provide tools to improve the situation:

- High level policy advice;
- Operational ad hoc technical assistance;
- Capacity building;
- Support to demonstration projects;
- ESIB expert community platform and knowledge base (on the present site).

<http://www.eecgeo.org>

The EEC is also conducting several other projects related to construction sector, tackling awareness issues, developing reports and consumer guides.

- **USAID: enhancement of investment opportunities.**

USAID EPI (Economic Prosperity Initiative) enhancing investment opportunities in the energy efficiency related projects. EPI developed a report **Construction Material Costs and Thermal Performance Assessment**, exploring the investment opportunities in to the local energy efficient construction materials.

http://www.epigeorgia.com/index.php?option=com_content&view=article&id=55&Itemid=46&lang=en

4. Identifying challenges and goals

Challenges of developing Energy Efficiency in Georgia, as it was stated above consist of: absence of state policy, absence contemporary construction code, low awareness of the consumer, lack of economic

incentives. Ways of overcoming these issues are seen in promoting voluntary standards for energy efficiency, raising awareness, developing environmentally friendly construction codes, developing international cooperation and skills transfer.