



Ministry of Nature Protection of the RA
Ministry of Urban Development of the RA



*Empowered lives.
Resilient nations.*

“Improving Energy Efficiency in Buildings”

UNDP-GEF/00059937 Project

Project Progress Report 2010 to 2011

Steering Committee Meeting



Vahram Jalalyan

Project Task Leader

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Project Basics

Financing	GEF
Co-financing	Government of the RA UNDP
GEF executing agency	UN Development Program
Implementing partners	Ministry of Nature Protection of the RA Ministry of Urban Development of the RA
Duration	2010 – 2015

Project Components

- 1. Design and enforcement of new EE Building Codes and Standards**
- 2. Quality control, testing and certification of EE materials and equipment**
- 3. Outreach, training and education**
- 4. Demonstrating integrated building design**

Component 1. Design and enforcement of new EE Building Codes and Standards

- By order of Minister of Urban Development of the RA, standing Inter-Agency Working Group was established to support Project activities per this Component
- Analysis of legal and normative framework related to EE in buildings performed
- Action plan and schedule of legislative improvements per EE in buildings developed
- Two meeting of the Inter-Agency Working Group were held with participation of an international expert
- Recommendations by the Project on EE-improvement of building codes were discussed during the Collegium of Ministry of Urban development of RA
 - Localization of MSN “Thermal Protection of Buildings”
 - Elaboration of “Building, Constructions, Construction Materials: Safety” technical regulations
- Institutional need for enforcement of EE-related norms and legislation in building design, construction and operation assessed; recommendations prepared
- Negotiations with RF Research Institute of Construction Physics are on-going to involve them into localization of interstate norms and elaboration of technical regulations.

Component 2. Quality control, testing and certification of EE materials and equipment

- Analysis of building insulation materials certification procedure assessment and quality assurance/quality control systems in production facilities was performed
- Samples of 8 types of RA-produced insulation materials and prefabricates were selected to support their testing and certification process
- Needs of 11 testing laboratories and 4 certification bodies were assessed for construction and insulation materials
- According to the criteria set, three partner laboratory candidacies were selected and recommendations were developed on technical assistance to the selected partner laboratories for their capacity development
- Possibilities for panel insulation on production stage were considered for model fabricated buildings (ДСК) and recommendations were developed

Component 3. Outreach, training and education

- Respective national and international experts were involved into of the target group need assessment (students, lecturers, construction sector specialists)
 - Curricula revision
 - Preparation of respective materials
 - Training of lecturers and specialists
- Information leaflet “How to Save Energy” was developed and disseminated among residents of “Mush-2” newly built area in Gyumri city
- Project objectives and EE issues were presented during a round-table at the Builders’ Union of Armenia and the respective article was published in “Architecture and Construction” Journal of the Union
- Energy performance of about 30 newly constructed buildings were studied in Yerevan city and principles of rating system were developed
- Data base of locally produced and imported construction and insulation materials, created during preparatory stage of the Project, was renewed

Component 4. Demonstrating integrated building design

- Two buildings are currently selected as demonstration ones:
 - in Akhuryan community (State housing program)
 - in Goris town (151 Mashtots street “Social housing with supporting conditions: Goris-2” project)
- UNDP signed two Letters of Intent with:
 - Ministry of Urban Development and “Glendale Hills” CJSC
 - Syunik marz administration and Swiss Development and Cooperation Agency
- Demo buildings were re-designed with EE improvement measures incorporated
- A model was developed and energy and economic indicators of re-designed buildings were estimated
- Contracts were signed with companies for EE measures implementation
- Demo buildings construction quality monitoring and control was continuously performed
- To assess the EE baseline, social survey was performed in 116 apartments of newly constructed “Mush-2” residential area in Gyumri city
- Insulation material used in the demo buildings was certified.

Measures Implemented in the Demo Buildings

- Thermal insulation of the external walls
- Thermal insulation of the first storey's floor and the highest storey's cover
- Thermal insulation of reinforced concrete columns and balcony blocks and elimination of "cold bridges"
- Installation of windows and doors with higher thermal resistance (in Akhuryan community: three-layer glazing)
- Construction of vestibules/tambours of the entrances
- Installation of regulation and metering equipment for heating system of demo building in Goris town.

Demo building in Akhuryan



- type of building: 4a
- total area: 2242 m²
- apartments: 36
- storeys: 4
- entrances: 3
- sections: 3



Incremental costs: 6%

Energy performance improvement: 2 to 3 times

Total additional area: about 91 m²

Demo Building in Goris



- total area: 940 m²
- apartments: 22
- storeys: 3
- entrances: 2
- sections: 1
- heating: boiler on the roof



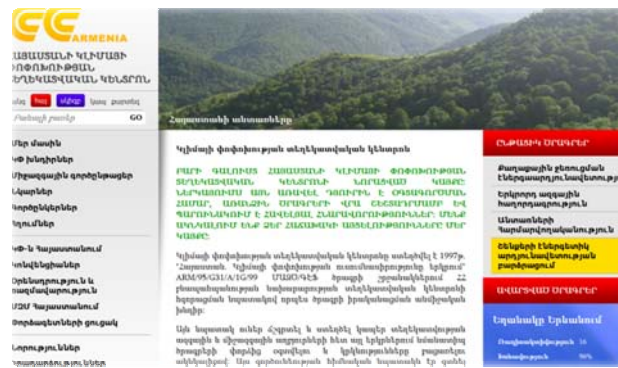
Incremental costs: 8%

Energy performance improvement: about 2 times

Total additional area: about 23 m²

Project Results Presentation

- Cooperation was established with “Energy Saving in Buildings” Initiative of EU (ESIB-INOGATE)
- Project experts took part in courses on energy audit organized by EU SEMISE and EU ESIB regional projects
- Project results were presented during seminars in Kiev (January 2011) and Astana (September 2011) organized with participation of UNDP Regional Center in Bratislava
- Project web page was created on Climate Change portal www.nature-ic.am
- Regional internet-site www.beeca.org was created that features UNDP projects on energy efficiency in buildings in Armenia and Central Asia



THANK YOU



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Project

Government bld. #3, 0010, Yerevan
Tel.: (+37410) 583920 (22), 583932 (18), Fax: (+37410) 583933,

Web: www.nature-ic.am e-mail: buildings@nature.am
www.mnp.am
www.mud.am