



PROGRAMME FUNDED BY THE EU



Results of AM-124
Alexander Antonenko
Copenhagen, 15-17 December 2015

BUILDING PARTNERSHIPS FOR ENERGY SECURITY

www.inogate.org



AM-124 (CWP.04.AM) Development of a road-map for introduction of an energy performance certificates system in the building sector of Armenia, including legal framework and distribution of institutional roles in Armenia

Challenge: to combine existing experience in region and in EU into an efficient EPC system for Armenia

www.inogate.org



Armenian Experience



Armenia has already started to implement several initiatives.

This includes:

- ***Demonstration***
- ***Calculation procedures***
- ***Existing legal framework for energy efficiency***

These experiences should be basis for the system
And combined with best European experience

www.inogate.org



Demonstration – UNDP Energy Passport



This project systematically:

- Collected of data
- Worked with the development and design of a certificate
- Data for buildings was collected by the GEF UNDP office
- Evaluated the energy consumption based on current standards

The development was however:

- Strongly adapted to the concrete examples / residential blocks
- An adaptation to a more general standard would require amendments and further development of a methodology / rules.
- Lessons learned from the UNDP project should play a central role in the development of the Armenian EPC system,

www.inogate.org



Existing Calculation



- National standard AST 362-2013 “Energy efficiency. Building energy passport. Main provisions. Typical forms
- Enacted on January 1, 2014 as a voluntary standard
- Based on the European appliance label with a scale from A++ to G
- Energy performance labels have been already issued for 15 buildings
- Lessons learned from the above experience can play central role in the design of the certification scheme
- Most important Construction norms established more than 25 years ago and should be revised

www.inogate.org



Planning the Certification System



- Many decisions need to be taken in planning phase.
- Close collaboration with key stakeholders.
- Good control and monitoring systems.
- EU countries that have successfully implemented EPC schemes followed some basic steps: Plan, Implement, Monitor and Evaluate (IEA Policy Pathway, 2010).
- The quality assurance - the most important aspect for the successful implementation of the certificate system,
- Database - a prerequisite for the management of energy performance certificates and collect the data acquired

www.inogate.org



Adaptation to Armenia



- Lessons learned in EU MS can to a high extend serve as basis and inspiration for the development of similar systems in Armenia,
- But none of these systems can be directly transferred or copied directly in Armenia.
- Lessons learned, systems in EU Member States and common standards can therefore be used as part of the development of certification systems in Armenia,

www.inogate.org



Buildings covered by the certification



www.inogate.org



- In the European Union, all buildings for residential and non-residential use are included in the EPC scheme.
- Buildings need certification by construction, sale and rental – for large public buildings regular inspection.
- This might also be **the end goal in Armenia,**
- It is recommended to start the implementation of the certification scheme for new buildings only
- The certification scheme should be introduced together with the minimum energy performance requirements for new buildings
- Certification of existing buildings – 2 years later

Minimum Energy Performance requirements



- Current requirements approved about 25 years ago is outdated and has a very low level of enforcement.
- Modern minimum energy performance requirements for new buildings should be introduced and aligned with the National Standard on EE and building passports (363-2013)
- The tightening of minimum energy performance requirements should established from the beginning – industry should take part in this process
- It might be also recommended to develop new standards or adopt current standards to different types of buildings

Timeframe



- It is recommended to foresee an appropriate period of time between the approval of the certification scheme (meeting the minimum energy performance requirements) and the date of entering it into force
 - construction companies to get prepared and comply with the new minimum energy performance requirements;
 - MUD or other responsible authority to establish the transparent scheme for the accreditation of assessors (auditors) and issuing the certificates;
 - MUD or other responsible authority to enhance the capacity of the sufficient number of assessors for issuing certificates.

Responsible authority



- It is crucial to create/appoint the authority responsible for the establishment, management and assuring quality control of the certification scheme
- Ideally, it should be an independent National Energy Agency for EE and RES, the creation of which was envisaged in the 1st NEEAP

www.inogate.org



Self-funding of the certification scheme



www.inogate.org



- The fees should cover:
 - maintaining the of the national registers of assessors;
 - administering assessor examinations process;
 - maintain/ improving the methodologies and calculation software;
 - quality assurance and auditing of certificates issued by assessors;
 - administering web-site and helpdesk for assessors and general public;
 - promoting awareness of certification scheme;
 - provide advice, information and support to the relevant governmental authorities.
- Thus, only the first step of the creation of the certification scheme should be financed by the government or/and by donor organisation

Control and central register



- ***Make a central register system***

A central register is important both to use data and to ensure quality

Good computer tools can ensure low cost for reporting

- ***Pay well attention to quality assurance***

Experience from EU Member States shows that quality control is a key element of an EPC system.

This needs to include independent control of certification and a check of certificates.

Often systems are combined with penalties, meaning that experts can loose the right to issue certification.

Development of specific handbooks and tools



- The well-designed certification scheme should include software to calculate energy performance of the building.
- The calculation software provides the following benefits for the certification scheme
 - provides platform for uniform automatic data processing;
 - ensures the transparency of the calculation methodology;
 - reduces risks for assessors to make mistakes during the calculation;
 - reduces costs for calculating the energy performance and the quality assurance check of the issued certificates;
 - stores/updates statistic information regarding the energy efficiency in buildings and provides input to the national statistical service and decision making process.

www.inogate.org



Development of specific handbooks and tools



- The well-designed certification scheme should include software to calculate energy performance of the building.
- The calculation software provides the following benefits for the certification scheme
 - provides platform for uniform automatic data processing;
 - ensures the transparency of the calculation methodology;
 - reduces risks for assessors to make mistakes during the calculation;
 - reduces costs for calculating the energy performance and the quality assurance check of the issued certificates;
 - stores/updates statistic information regarding the energy efficiency in buildings and provides input to the national statistical service and decision making process.

www.inogate.org



Trainings



- Tailored capacity building event for potential assessors should be conducted after the development of the above tool and the curriculum for the potential assessors.
- Ideally, an independent National Energy Agency should lead this process and conduct regular examinations (every two years) to make sure the assessors demonstrate their competence to provide their services to a consistently high standard.

www.inogate.org



Setting up a Roadmap



www.inogate.org

	Clarification / Concept	Development of systems	Training of Experts	Implementation	Evaluation	Successive Upgrades
Overall System	Central questions on scope, which are mandatory etc.	Development of procedures	Training in key parameters	Information for the public	Evaluation of system	Decision on upgrades and implementation
Certificate	Central decisions on certificates and need for adaptation	Development of certificates and scales		Registration of certificates	Evaluation	Implementation in changes in certificate
Calculation	Check on need for change and new development	Development of calculation procedures and tools	Training in use of tools			Improvements of calculation methodology
Frame Work	Decisions on set up and responsibilities	Development of databases, quality control		Quality Control	Evaluation of framework and quality	
Indicators	Development of action plan / roadmap	Design of and adaption systems, tools and rules	Number of trained experts	Number of certificates, knowledge to system	Evaluation report and decisions on actions	Implementation of changes Improved satisfaction



PROGRAMME FUNDED BY THE EU

INOGATE Technical Secretariat



THANK YOU

Alexander Antonenko, RES/EE Policy Expert

a.antonenko@inogate.org

www.inogate.org

