Eu4Energy Guideline and Roadmap for Enforcing Energy Efficiency Requirements for Buildings

UNECE Energy Efficiency Standards in Buildings

15 May 2018

Funded under the EU4Energy Initiative of the European Union
EU4ENERGY PROGRAMME

- Improve energy supply, security and connectivity
- Support sound elaboration and implementation of evidence-based energy policies
- Strengthen the legislative and regulatory framework in the energy sector
- Identification of priority energy infrastructure projects
- Improved regional cooperation and better communication between EU and partner countries
EU4Energy Governance in ARMENIA

- Support to implement policy recommendations
- Improve the legislative and regulatory environment
- Strengthen the technical and administrative capacity in key Ministries and Agencies
- Improve cross-ministerial coordination and public consultation process
- Enhance the investment climate
1st year Work Programme

Complement and strengthen the implementation of existing legislation for energy efficiency in buildings and energy related products in line with best EU practice

- Provide road map for enforcing minimum energy performance requirements for buildings
- Accelerate the process of development of minimum energy performance standards and labeling requirements for priority groups of energy related products

Enhance the investment climate by identifying the existing legal and regulatory risks

- Provide set of indicators assessing legal and regulatory risks
- Country profile publication

Meetings, events, visibility

- 5 country missions took place, 3 events, 190 participants and 3 technical reports/publications, more than 45 articles/news items/tweets/TV and radio appearances
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>June 2017</td>
<td>Inception mission</td>
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<td>September 2017</td>
<td>Stakeholders consultation workshop</td>
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<td>November 2017</td>
<td>High-level Conference of energy efficiency in buildings</td>
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<td>In-depth analysis of existing enforcement and compliance procedures of energy performance requirements for newly constructed buildings</td>
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<td>Provide recommendations for the necessary legislative amendments to ensure the implementation of the building regulations</td>
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<td>March 2018</td>
<td>Final Enforcement Guideline submitted</td>
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<td>12 April 2018</td>
<td>Technical regulation adopted by Armenian Government</td>
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EU4ENERGY PROJECT EFFORTS

• review of national policy and regulatory framework
  • political, technical, institutional pre-requisites for effective enforcement of the draft Technical Regulation on Energy Efficiency in newly constructing residential buildings as well as state-funded construction.
  • international best practices in enforcement of the role-model policy document – the EU Energy Performance in Buildings Directive (EPBD) and the EPBD – Recast in EU Member States with lessons learnt

• a participatory policy dialogue through bilateral discussions with stakeholders (ministries, committee on urban development, design institutions, licensed evaluators, implementing partners, etc.)

• an outreach event in September 2017 to discuss the potential bottlenecks and capacity gaps related to the enforcement of the above Technical Regulation

• High level policy dialogue on building energy efficiency priorities in November 2017, co-hosted with the EU Delegation and MEINR
Strengthening the Roles of Key Players in MEPR Enforcement Process

Ministry of Energy Infrastructures and Natural Resources
- Law on ES & RE
- Technical Regulation on Building EE
- MEPR
- Energy audit

State Committee on Urban Development
- Norm, rules and norms for Construction thermal physics/thermal protection of buildings
- Building energy performance calculation methodology, passportization, Certification & Labeling
- Building envelope, and HVAC systems
- Development of a Building Registry, classification based on specific energy consumption groups

Local Government
- Architectural - design TOR
- Construction permits
- Comissioning

Technical Experts
- Expert evaluation
- Design institutes /studios
- Energy auditors
- Developers, builders
- Technical surveillance
CONSTRUCTION PERMITTING PROCESS

**Architectural - Design TOR**
- Can include EE requirements in as a filter for Government Decree #1504N and Amended Law on ES&RE (Amendment required in Government Decree No. 596)

**Building Design**
- Requirements for EE and EE-integrated RES must be introduced in Official Design Guidelines (Order of Minister of Urban Development No. 273, currently Order SCUD Chair No.128N), as well as relevant EE norms and standards

**Design Expert Evaluation**
- Must assess compliance with the quantitative indicators for MEPRs of Norms and standards, official design rules, architectural design TOR. Assessment to be done in accordance with the official methodology and calculation tool

**Issuance of Construction Permit & Commissioning**
- Based on an endorsing conclusion from Expert Evaluation, and based on compliance with the design
THE MAIN ELEMENTS OF EU BEST PRACTICES RECOMMENDED FOR INTEGRATION IN THE ARMENIAN REGULATORY FRAMEWORK

- Clearly defined calculation procedures for overall energy performance
- Compliance checks with more prescriptive elements
- Clearly defined compliance evaluation process, roles and checkpoints
- System of Penalties for Non-Compliance
- Energy performance certification to support compliance
- Testing of materials
- Supporting calculation tools
- Training and Outreach
# Next Steps in Development of an Enforcement Framework for Building Energy Performance Requirements

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<tr>
<th>Step</th>
<th>Description</th>
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<tr>
<td>Adoption of the Technical Regulation on Building EE in April 2018</td>
<td>Evaluation and revision of acting construction norms, rules, standards, calculation methodologies to enforce the Technical Regulation (!) Special attention needed to potential contradictions in EN/ISO and MSN requirements.</td>
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<td>Amendment of the Order of the SCUD Chair #128 and Government Decree #596</td>
<td>Creation of a national reference building registry / database, classification based on specific energy consumption, establishment of rules of building energy certification and labelling.</td>
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<td>Introducing a system of control and compliance assurance with the requirements for minimum energy performance in buildings, review of existing penalties for adequate ambition.</td>
<td>Outreach and training of professionals involved in building design, expert evaluation, certification and labelling in building EE, accreditation and certification of experts.</td>
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<td>Creation of a national reference building registry / database, classification based on specific energy consumption, establishment of rules of building energy certification and labelling.</td>
<td>Development of a long-term program for gradual increase of technical requirements, expansion of the areas of application to include existing buildings, development of a concept for introduction of NZEB.</td>
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<td>Introduction of uniform calculation methodology and tool (or prescriptive value for thermal losses or efficiencies)</td>
<td>Introduction of technical requirements and for energy performance of building construction materials, testing and certification procedures.</td>
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**Notes:**

- NZEB: Nearly Zero Energy Building
- EN/ISO: European Norms and International Organization for Standardization
- MSN: Moldovan National Standards
Level 1. Improvement of legal framework

1. Step 1: Continue to review and implement documented needs for change

2. Step 2: Changed selected elements to improve compliance

3. Step 3: Document requirements in clear rules, guidelines of guiding documents

4. Step 4: Set ambitious but realistic date for enforcement

5. Step 5: Develop good information materials on new set of rules

6. Step 6: Develop long-term program for gradual increase of performance requirements
Level 2 - Improved institutional framework

Step 1: Clearly and transparently define responsibility for each main actor

Step 2: Provide public and/or internal guidelines for experts and controllers

Step 3: Ensure that key documents in the process carry the needed values and checks to next level

Step 4: Test the institutional framework on some examples and rules adapted

Step 5: Implement and enforce for relevant building types

Step 6: Evaluate after some time of use – at least 2 or 3 years
Level 3. Calculation procedures

Step 1: Review existing standards and identify major needs for improvement

Step 2: Prepare an overreaching standard for energy performance

Step 3: Adapt existing standards based on overreaching standard

Step 4: Develop or adapt missing elements of standards

Step 5: Develop default and standard values, reference building database

Step 6: Develop tools for easy calculation process
Level 4 - Capacity building and training

Step 1: Select relevant institution for training and control functions

Step 2: Develop training materials

Step 3: Train professionals and assessors in rules and certification

Step 4: Train inspectors and surveillance experts in control functions

Step 5: Test the functionality and improvements - follow up training

Step 6: Develop capacity to test results and products
Level 5. Transition elements

Step 1: Develop more prescriptive values supporting energy performance

Step 2: Document exemplary cases, showing how to comply

Step 3: Develop standard solutions for practical implementation

Step 4: Involve key stakeholders, organisations, users and relevant experts

Step 5: Review and make improvements depending on results

Step 6: Plan for future improvements, including NZEBs
THANK YOU

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