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Enhancing National Capacities to Develop and Implement Energy Efficiency Standards for Buildings in the UNECE Region

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Completed activities:

- ✓ Study on **gap analysis** between the performance objectives set forth in the Framework Guidelines for Energy Efficiency Standards in Buildings and current energy efficiency standards and their implementation in the countries of South-Eastern and Eastern Europe, the Caucasus, Central Asia, and in the Russian Federation
- ✓ **Workshop** for stakeholders from energy and housing sectors to validate the gap analysis (9 April 2021)
- ✓ **National studies** with a more detailed gap analysis in Armenia, Kyrgyzstan and the Republic of Moldova
- ✓ **Workshop** for stakeholders from the energy and housing sectors to discuss and launch the regional and national studies (20 September 2021)

Ongoing activities:

- ✓ Collaborative environment and **database of experts** on energy efficiency in buildings in the UNECE region

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Future/ongoing activities:

- Training seminars in Armenia, Kyrgyzstan and Moldova on high-performance energy efficiency standards in buildings (October-December 2021)
- Impact study on how to better implement best practices and guidelines developed by UNECE activities to address the issues of energy efficiency in buildings (January-February 2022)

More information at the project webpage: https://unece.org/sustainable-energy/regional-advisory-services/about-project

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From project website

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Gap analysis and national studies

Collaborative environment for experts

Workshops and trainings

Impact study

Study on gap analysis between the performance objectives set forth in the Framework Guidelines for Energy Efficiency Standards in Buildings and current energy efficiency standards and their implementation in the countries of South-Eastern and Eastern Europe, the Caucasus, Central Asia, and in the Russian Federation

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The study:

- looks at the implementation of energy efficiency standards in 17 countries
- analyses whether the actual situation corresponds to the objectives of the Framework Guidelines for Energy Efficiency Standards in Buildings
- highlights gaps between the existing requirements for energy efficiency standards in buildings and enforcement of those standards
- identifies barriers to adopting and implementing the high-performance standards in buildings in the countries
- provides recommendations as opportunities to bridge the existing gaps

Available online: https://unece.org/sites/default/files/2021-06/Study_on_Gap_Analysis_07.06.2021.pdf

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Recommendations from the study

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Strategic guidance

- Governments should develop comprehensive and long-term building code strategy, gradually increasing its strictness.
- Governments should ensure the introduction of performance-based approach in the building energy codes & other EE standards.
- The building energy codes should be frequently evaluated, revised & improved in order to understand the existing strengths & eliminate weaknesses of EE policy design & implementation.
- EE policies should be developed & adjusted to different regional contexts & institutional realities within each country.
- Governments should set up targets for increasing the share of new high-performant buildings.
- Governments should set up ambitious timeline & targets for renovation of the existing buildings.

Design and construction

- Governments should aim for net-zero energy consumption in new buildings.
- Comprehensive retrofits of existing residential & non-residential buildings should be planned & undertaken to reduce energy requirements & increase energy savings in buildings.
- The minimum energy performance standards should be mandatory for both new & existing buildings in all countries.
- The high costs of EE technologies may discourage consumers to install them. The Governments should introduce tax exemption or reduction to provide the initial incentive for purchase of energy saving technologies.
- Financial incentives should be introduced to encourage investment in the long-lasting high efficiency improvements.
- The stakeholders in the building sector should be educated on the importance of building energy codes in order to increase support for compliance and effective implementation of the EE policy.

Management

- Energy agencies should be established in those countries where they do not exist.
- The baseline data on energy demand should be available to measure the success in implementation of EE policies.
- The energy performance certification of buildings should be applied as an obligatory measure. The energy rating for buildings should also be introduced.
- The building energy labels or certificates should be required at the sale or rental of properties.
- The efforts to develop or improve ESCO market should be undertaken in all countries.
- Energy pricing should be used as an effective tool for influencing the energy use behaviour. Removal of subsidies to energy use & diversification of pricing measures should be used to enhance the attractiveness of investments in energy efficiency.
- Strong compliance mechanisms & proper monitoring mechanisms should be established to ensure the effective building codes enforcement.
- Low interest loans for EE technologies & building constructions & retrofits should be introduced as important instrument in promoting EE.

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National studies with a more detailed gap analysis in Armenia, Kyrgyzstan, and the Republic of Moldova

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- ✓ Energy efficiency potential assessment (government institutions, existing programmes/projects, driving forces for introduction of EE measures, legislation and policies, existing challenges)
- ✓ Analysis of the energy performance of buildings in the countries
- ✓ Implementation of current building energy efficiency standards in the countries
- ✓ Gap analysis:
  - between performance objectives of the Framework Guidelines and the requirements of existing EE standards in buildings
  - between the requirements of existing EE standards in buildings and their actual implementation
- ✓ Country-specific recommendations on the possibilities to bridge the gap and enhance national capacity to develop and implement energy efficiency standards for buildings

Available in English and Russian at: https://unece.org/sustainable-energy/regional-advisory-services/gap-analysis-and-national-studies

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Recommendations from national study with a more detailed gap analysis in Armenia

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EXISTING GAPS	RECOMMENDED ACTIONS
Need to complete legal-regulatory reforms and enforcement	• Harmonization with EU Acquis • Enhance capacity building • Market liberalization and integration in regional markets
Insufficient technical and institutional capacities of EE promoters	• TA to improve capacity of EE promoters • Internalization and quantification of non-monetary benefits
Lack of tailor-made, affordable financing schemes for upscaling investments in building EE	• Low interest debt financing • Grant co-financing • Leveraging of national social services • Guarantee vehicles
Lack of adequate resources to overcome barriers for country-wide public building energy efficiency roll-out program	• Expansion of lending schemes to public and municipal infrastructure energy efficiency • Grant co-financing • Design an exemplary energy efficiency upgrade campaign • Public Energy Management Program
Untapped market for multi-apartment residential building EE investments	• Grant technical assistance for developing enabling investment environment • Grant co-financing for concessional lending • Credit guarantees to reduce the imposed margins
Absence of EE product and service delivery mechanisms for rural households leading to fuel poverty and dramatic deforestation	• Grant technical assistance for developing enabling investment environment • Grant co-financing for concessional lending • Credit guarantees to reduce the imposed margins • Monetarize the benefits of mitigated deforestation
Lack of awareness on the benefits of energy efficiency among decisions makers, service vendors and end-users	• Nationwide public outreach campaign

Recommendations from national study with a more detailed gap analysis in Armenia

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- Further development of secondary legislation, regulatory tools, enforcement procedures, calculation methodology and tools, control and compliance assurance procedures, procedures for certification and labelling in building EE, accreditation and certification of experts should be considered.

- Primary energy factors in the format of official database/platform in the national legislation are to be defined. The efficiency of heating systems in EPB calculations, as well as energy for cooling, DHW, lighting and other technical building systems (fans, pumps, etc.) are to be provided and included in the EPB certificate.

- International collaboration and engagement with the EU are opportunities for Armenia to make progress in key areas.

- Coordination across different initiatives is required from policy makers.

Collaborative environment and database of experts on energy efficiency in buildings in the UNECE region:

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- Aims to enhance the network of experts from public and private sectors on energy efficiency in buildings in the UNECE region
- Open to policy makers in the field of housing and construction and energy efficiency, architects, building contractors, energy service companies, representatives of academia, representatives of international organizations and civil society and other experts in this area

Website:
https://sedwiki.unece.org/display/SED/EEEB_db_Home

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Thank you!

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