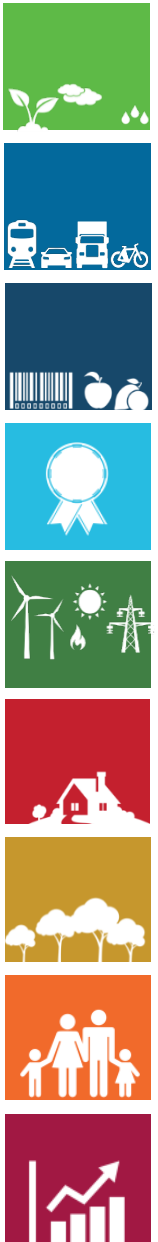




# Enhancing National Capacities to Develop and Implement Energy Efficiency Standards for Buildings in the UNECE Region

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**82nd session of the Committee on Urban Development, Housing and Land Management, 7 September 2021, Geneva and online**



# Energy Efficiency Standards in Buildings

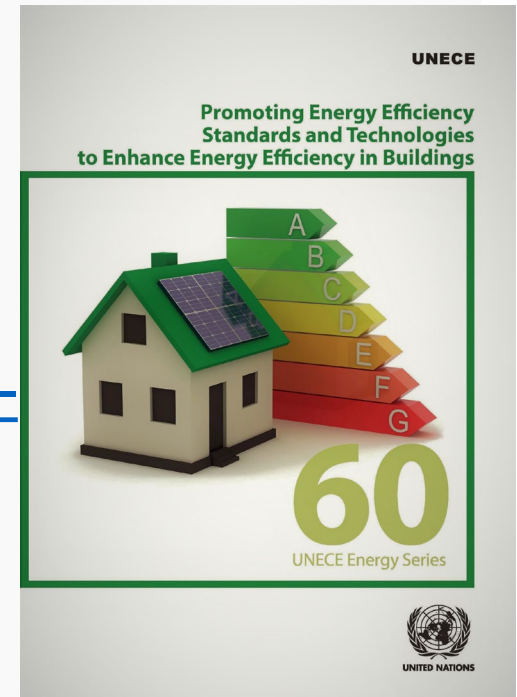
ENERGY



Publication website: <https://unece.org/info/Sustainable-Energy/pub/2752>

Webpage of Energy Efficiency in Buildings area of work at the SED and GEEE website:

<https://unece.org/sustainable-energy/energy-efficiency/energy-efficiency-buildings>



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



## ENERGY

### 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

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



## ENERGY

### Future 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>

# From project website

ENERGY



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



## ENERGY

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](https://unece.org/sites/default/files/2021-06/Study_on_Gap_Analysis_07.06.2021.pdf)

# Recommendations from the study

## ENERGY



### 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.

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



## ENERGY

- ✓ 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>



## Examples of recommendations from national studies with a more detailed gap analysis in Armenia, Kyrgyzstan, and the Republic of Moldova



### ENERGY

**In Armenia:** strengthening of existing building legislation towards introducing requirements for near-zero energy consumption buildings; ensuring necessary conditions to allow local authorities to finance EE measures in the longer term; providing innovative financial mechanisms and creating attractive conditions for the application of energy performance contracting and ESCOs.

**In Kyrgyzstan:** assigning the governmental entity responsible for policy and coordination of activity in the field of EE; establishing an entity responsible for international collaboration and certification of materials/goods/equipment/suppliers; conducting analysis of existing documents related to energy and EE, reviewing and adjusting them; developing a programme on EE aiming at net-zero consumption focusing on conservation and rational use of energy resources.

**In the Republic of Moldova:** adjusting the Government activities in accordance with the climate targets of its 2<sup>nd</sup> NDC under the Paris Agreement; updating secondary legislation in accordance with the new decarbonization commitment; ensuring the implementation of nearly zero-energy buildings objective and introduction of initial incentives for the purchase of energy saving technologies.

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

## ENERGY



### Collaborative Environment for Experts on Energy Efficiency in Buildings in the UNECE region



This Collaborative Environment aims to enhance the network of experts from public and private sectors on energy efficiency in buildings in the UNECE region.

This Collaborative Environment is composed of two products:

1. Online database of experts on energy efficiency in buildings, and
2. Online collaborative tool that helps the experts to strengthen their capacities by sharing knowledge and expertise on energy efficiency in buildings.

It is open for stakeholders involved in the energy efficiency projects. The target group includes policy makers in the field of housing and construction and energy efficiency at the regional, national, and municipal levels, architects, building contractors, energy service companies, representatives of academia conducting research and training in the field of energy efficiency of buildings, representatives of international organizations and civil society and other experts in this area.

- 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/EEEEB\\_db\\_Home](https://sedwiki.unece.org/display/SED/EEEEB_db_Home)



DATABASE OF EXPERTS



EVENTS



PROJECTS



DISCUSSIONS



**UNECE**

**Thank you!**

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