

A 3D architectural rendering of a building's interior structure, showing multiple levels and rooms. The rendering is in a light gray color, highlighting the geometric forms of the walls, floors, and ceilings. The perspective is from an elevated angle, looking down into the building's layout.

**UNECE Group of Experts on Energy Efficiency (GEEE),
Fourth Session, Geneva, 31 October-1 November 2017
Palais des Nations**

Energy Efficiency Standards in Buildings of Turkmenistan

Irina Atamuradova
Senior EE UNDP expert

Analysis of available standards

Type of EE standards	Area of use	Availability of building codes or standards
Operating conditions	Climate (construction site)	Building climatology*
	Microclimate (in building)	Residential buildings*, Public buildings
Requirements	Building envelope	Thermal engineering*
	Engineering systems	Heating, ventilation, conditioning, Insulation of pipelines
	Energy consumption norms	Thermal engineering*
	Building design	Residential buildings*, Public buildings
Implementation of requirements	Methodology of heat engineering estimation	Thermal engineering*
	Methodology of building energy parameters estimation	Thermal engineering*
	Compendium, manual for designing building envelopes and engineering systems	–
	Standards of EE construction materials	Partially
	Standards of design and works for heat insulation	Partially
	Standards for works on heat insulation and installation of engineering systems	–

Analysis of available standards

Monitoring requirements	Monitoring stages (design, construction, operation) Responsible parties The results of the monitoring (building energy passport, conclusion of energy audit, test protocols, report about energy audit)	Procedure of development, coordination and approval of design documentation Regulations on the construction The regulations on acceptance of buildings Energy audit of buildings
	Standard methodology for estimation of energy consumption for heating, cooling and ventilation	–
	Standard methodology for monitoring of tightness of the building, quality of insulation, equipment installation, ventilation system etc.	Partially

*yellow highlighted – revised or developed by the UNDP-GEF project “Improving energy efficiency in the residential building sector of Turkmenistan”

Revised building codes



Residential buildings (adopted in 2015)

Roofs and Roofing (adopted in 2015)

Building climatology (adopted in 2016)

Building thermal engineering (adopted in 2017)

Developed supportive materials

To help facilitate compliance by building designers

Three guidance manuals on the revised codes Residential Buildings, Roofs and Roofing, and Building Thermal Engineering

Compendium of solutions to thermal bridges at joints in building envelopes

Spreadsheet version of the Energy Passport documentation system for buildings and a system for archiving Energy Passport data from many buildings

Next projects

The possibilities of new project activities

Expanded technical support for revision of other building codes which are most important in terms of energy efficiency

Support for expanded production of energy-efficient building materials and supplies, including exterior envelope insulation, sealed-glass window units, automated heating controls, solar water heaters, etc.



Thank you!