«Energy efficiency for sustainable housing»
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«Energy efficiency for sustainable housing in the ECE region»: the work of UNECE Housing and Land Management Unit

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Housing: overview of the sector

3/4 of the building stock is residential; apartment blocks 36%; single-family houses 64%

- The annual growth rate in residential buildings is 1%
- More than 40% of residential buildings constructed before the 1960s
- 1970s – beginning of energy building regulations in the Western countries
- 1972 – first energy efficient building was designed in the U.S.
- 1976 – Germany was the first country in Europe to adopt a law on energy savings

**Western Europe, Canada & U.S.**

- 50% of the existing housing stock constructed between 1960 and 1990
- Predominance of private homeownership: mass privatization in the 1990s resulted in owner-occupation rates from 80 to over 90%
- Main issue: the management and rehabilitation of high-rise multi-family housing

**Central Europe and Baltic states**

- Multi-family panel-built deteriorated housing blocks with low levels of energy efficiency
- Very low awareness of potential energy savings
- Very little information available on existing energy efficiency initiatives
- Energy-efficient housing stock not a top state priority
- Energy-efficiency policies within the framework of international cooperation programmes

**Eastern Europe, Caucasus and Central Asia**
Statistics on performance of buildings

- 40% of global total energy consumption
- 60% of global electricity use
- 40% of global GHG emissions
- 12% of global fresh water use
- 30% of global resource consumption
- 10% of global GDP
- 111 million people employed
Main barriers to EE in the housing sector

Lack of:
- Information
- Legal and institutional framework
- Resources
- Experience
- Technology and knowledge

Energy efficiency trap
Main advantages to EE in the housing sector

**Environmental benefits:** help to mitigate global climate change

**Energy availability and security:** frees up more energy for alternative uses and to meet growing demands

**Social effects:** improve health and comfort and make energy more affordable

**Regeneration of the built environment:** improves indoor comfort and lengthen property repair cycles

**Financial benefits:** savings for tenants and less loss in energy delivery for service providers.
Structure of the Committee
Role of the Committee

- Acting as a **platform** for inter-governmental dialogue
- Serving as a **forum** for the exchange of information, experience and best practices
- Assisting with **policy formulation** and **implementation**:
  - in-depth assessments
  - policy guidance and recommendations
  - advisory services and capacity-building activities
Overview of HLM Strategy 2012-2020

Social housing:
- Workshops
- Policy brief
- PPPs in social housing

Energy efficient housing:
- Regional Action Plan
- Casebook of best practices
- Capacity building
- Building codes and standards

Smart cities
- Regional network of cities Europe and Middle East
- City profiles
- Best practices
- Regional conferences

Urban planning
- Policy guidance document
- Studies on disaster risks, maps

Capacity building workshops
- Copenhagen
- Baku
- Vienna

Studies
- Benchmarking of land administration systems
- Informal settlements
- Unification of land registries

Cooperation FAO, JRC, WB

CP studies
- Uzbekistan
- Armenia
- Croatia
- Kazakhstan
- Russian Federation

Monitoring of policy implementation
- Republic of Moldova
- Serbia
- Tajikistan
- Ukraine

Geneva UN Charter on Sustainable Housing – adopted 8 October 2014
UNECE Strategy on Sustainable Housing and Land Land Management 2014 – 2020 (implementation)
HLM steps towards EE in buildings

2009

- Green Homes

2010

- UNECE Action Plan
- Regional workshops (Minsk, 2011), Tbilisi
- National workshops

2011

- Informal network of partners and experts
- National Action Plan
Recommendations on EE

Legislative framework

- Political will and commitment
- Public awareness about energy consumption
- Residents control over their energy bills
- Renovation targets
- Alternative to building renovation
- Costs of energy efficiency
- Bankable investments
- Managing buildings
- Support measures at the transition period

Building management

Financial mechanisms
HLM integrated approach

- Design a legislative framework
- Create management structures in multi-family housing blocks
- Raise awareness on energy efficiency benefits and prospects
- Conduct building assessments
- Develop and provide access to financial instruments
UNECE work on EE housing – capacity building

1. Workshops on energy efficient and affordable housing in:
   – Albania (July 2014)
   – Tunisia (5th International Forum on Energy)

2. Annual workshops and national action plans, 2014-2016
   – Armenia,
   – Republic of Moldova,
   – Serbia
   – Tajikistan
   as a part of the UNECE - UN-Habitat UNDA project

UNECE work on EE housing—standards for EE in buildings

1. Proposal for developing a study on standards for EE in buildings (ECE/HBP/2014/4) - accepted in October 2014

2. Establishment of a UNECE Task Force on building codes and standards on energy efficiency in buildings, building materials and energy performance requirements

3. Identification of other possible standards for sustainable buildings (ex. resilience to natural disasters and other construction codes to support healthy and barrier-free housing)
Thank you for listening!

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