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

Strengthening National Capacities for Sustainable Housing
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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

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

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

Western Europe, Canada & U.S.

Central Europe and Baltic states

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 energy efficiency in the housing sector

Lack of:

- Information
- Legal and institutional framework
- Resources
- Experience
- Technology and knowledge

Energy efficiency trap
Main advantages to energy efficiency in the housing sector

- **Environmental benefits**: help to mitigate global climate change
- **Social effects**: improve health and comfort and make energy more affordable
- **Energy availability and security**: frees up more energy for alternative uses and to meet growing demands
- **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
UNECE Committee on Housing and Land Management

Structure of the Committee

Committee on Housing and Land Management

Real Estate Market Advisory Group

Working Party on Land Administration

Secretariat
UNECE Committee on Housing and Land Management (CHLM)

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
Major region-specific issues addressed

Challenges
- lack of access and affordability to housing
- energy-efficiency of buildings
- insecure property rights
- risks to residential buildings from natural and human-generated disasters

How we address them
- promoting sustainable development
- developing green economies, which support the reduction of carbon emissions and pollution
- promoting social inclusion
- encouraging job creation, and public and private investments in housing
Overview of HLM Strategy 2012-2020

Sustainable Housing and Real Estate Markets

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

Sustainable Urban Development

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

Land Administration and Management

Capacity building workshops
- Copenhagen
- Baku
- Vienna

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

Cooperation: FAO, JRC, WB

Country Profiles on Housing and Land Management

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 energy efficiency in buildings

2009
Green Homes

2010
UNECE Action Plan
- Regional workshops
- National workshops

2011
National Action Plan
- Informal network of partners and experts
Recommendations on energy efficiency

- 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
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 energy efficient 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

3. Exhibition “Greener and smarter homes: energy efficiency in buildings”,
   Geneva, 15 September – 10 October 2014
UNECE work on energy efficient housing – Standards for energy efficiency 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

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http://www.unece.org/hlm/welcome.html