HOUSING SECTOR AS A MAJOR ENERGY CONSUMER

1/3 of the end-use consumption of energy

More than 80 % of the energy is consumed for heating and hot water supply

Almost 80 % of the existing housing stock is in need of retrofitting to reduce energy consumption

Potential for energy saving stands at 30 – 50 %
CASEBOOK OF GOOD PRACTICES FOR ENERGY-EFFICIENT HOUSING

Goal

Guidance for wide-range stakeholders on practical actions aimed at creating energy efficient housing sector, which can be implemented in accordance with the Action Plan developed by the UNECE for member-states.

Practices for the EECCA region should:

- Illustrate the advisability of housing energy efficiency enhancement
- Generate national stakeholders’ interest
- Create demand for energy efficient retrofitting and construction of new buildings
TOWARDS AN INTEGRATED FRAMEWORK FOR ACHIEVING ENERGY EFFICIENT HOUSING

- Design a legislative framework composed of energy and housing related legislation, civil code, property rights and technical norms
- Create management structures in multi-family housing blocks that have the necessary technical information about the building, the mandate to take investment decisions and the awareness about funding possibilities
- Raise awareness on energy efficiency benefits and prospects, make information available to public and building managers, in particular to change behaviour
- Conduct building assessments that provide reliable information on the entire building as basis for maintenance and renovation decisions and introduce different technical measures
- Develop and provide access to financial instruments that support investments in the housing stock beyond the financial capacity of homeowners’ associations
COUNTRIES OF WESTERN EUROPE: MANY YEARS’ EXPERIENCE

Broader practices:
- Construction of new energy efficient housing
- Retrofitting the old housing stock

Near-term outlook:
- Complete rehabilitation (renovation) of the existing housing stock
- Gradual transition to the “passive building” approach

Bar chart showing percentages of old buildings, passive buildings, and savings.
As regards the structure of housing ownership, the situation is similar to that in the EECCA region.

Prevalence of multi-family buildings with privately-owned apartments

**Wide practices**
- Large-scale renovation of multi-family buildings
- Private financing and state incentives

**Near-term prospects**
- Completion of large-scale renovation
- More strict requirements to energy efficiency
EECCA AND SEE COUNTRIES: AT THE OUTSET

Construction based on the improved standards
A newly built house in the city of Tver (Russia)

Retrofitting the existing housing: the state of pilot projects

An energy saving building (Dagestan, Russia)
ENERGY EFFICIENCY PLAYERS

- **STATE**
  - Legislation and regulation
  - Subsidies, grants
  - Financial development institutions

- **OWNERS**
  - Decision-making
  - Financing

- **MC, ESCO**
  - Implementation of energy saving measures
  - Implementation of new technologies

- **COMMERCIAL BANKS**
  - Credit products
European countries:

- recognition of the high relevance of energy saving issues in the wake of the energy crisis of the 1970s
- development of a set of legislative frameworks with regard to energy efficiency enhancement and reduction of CO2 emissions

EECCA countries:

- the problem of energy efficiency enhancement in the countries of Eastern Europe, Caucasus and Central Asia has acquired a nation-wide relevance only in the past decade
- a number of countries have adopted legislation on energy saving
- nascent legislation on energy efficiency enhancement
- international organizations and the EU organizations are actively contributing to the implementation of plans to reduce energy consumption in EECCA countries
Homeowners’ association:
a self-governance institution that ensures:
- Accumulation of owners’ savings in the fund for the building repairs
- Approval of decisions on capital repairs and retrofitting
- Selection of providers of services and works
- Mobilization of a loan
- The task of the legislation is to provide for the legal and economic sustainability of associations

Management organizations:
business based on competition
- Professional standards for real estate management
- State-of-the-art technologies
- Client-centered activity
- Orientation towards energy services

The best model: self-governance + professional management
AWARENESS-RAISING AND SKILLS IMPROVEMENT OF ENERGY CONSUMERS

- Centers for energy efficiency
- Demonstration projects
- Public outreach campaigns
- Public outreach & enlightenment and training programmes
- Best practices dissemination
- Experience sharing at the domestic and international level
MARKET FINANCING & STATE SUPPORT MEASURES

Market financing:
- Mobilize resources of financial markets (banks) to tackle issues of housing energy efficiency enhancement
- Create a reliable borrower – owners’ associations and/or management companies
- Develop stimulating state support measures

State support measures:
- Creation of dedicated financial institutions facilitating the implementation of energy saving projects
- Subsidies to homeowners’ associations, grants and support of low-income households