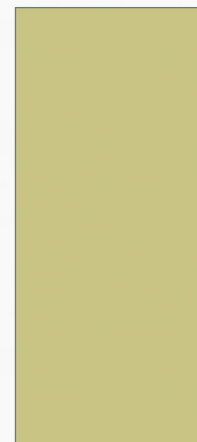


GOOD PRACTICES FOR ENERGY - EFFICIENT
HOUSING
IN THE UNECE REGION

Sergey Sivaev

The Institute for Urban Economics
Russia

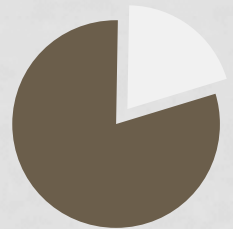
September 2013



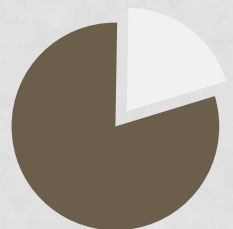
HOUSING SECTOR AS A MAJOR ENERGY CONSUMER



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

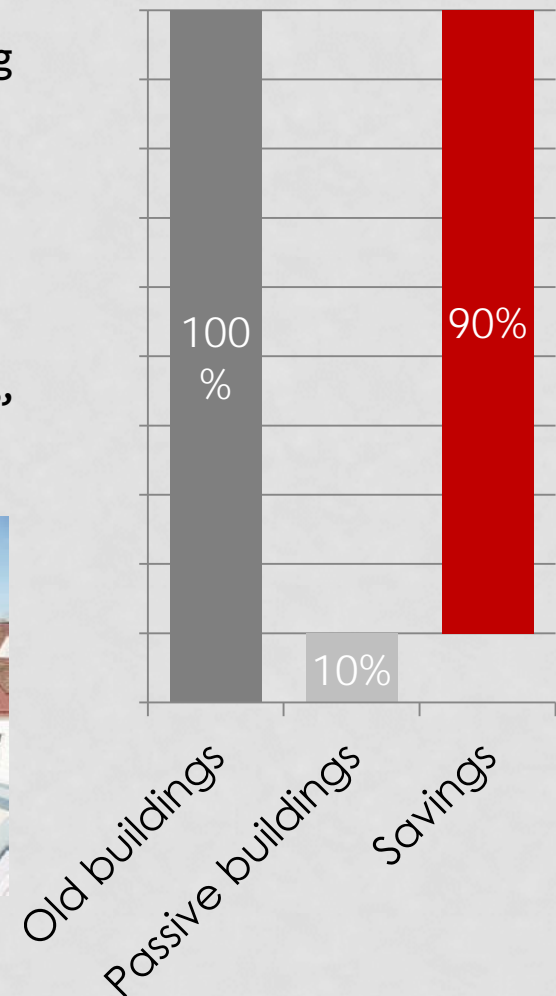
COUNTRIES OF WESTERN EUROPE: MANY YEARS' EXPERIENCE

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



NEW EU MEMBER-STATES: SUSTAINABLE RESULTS

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)

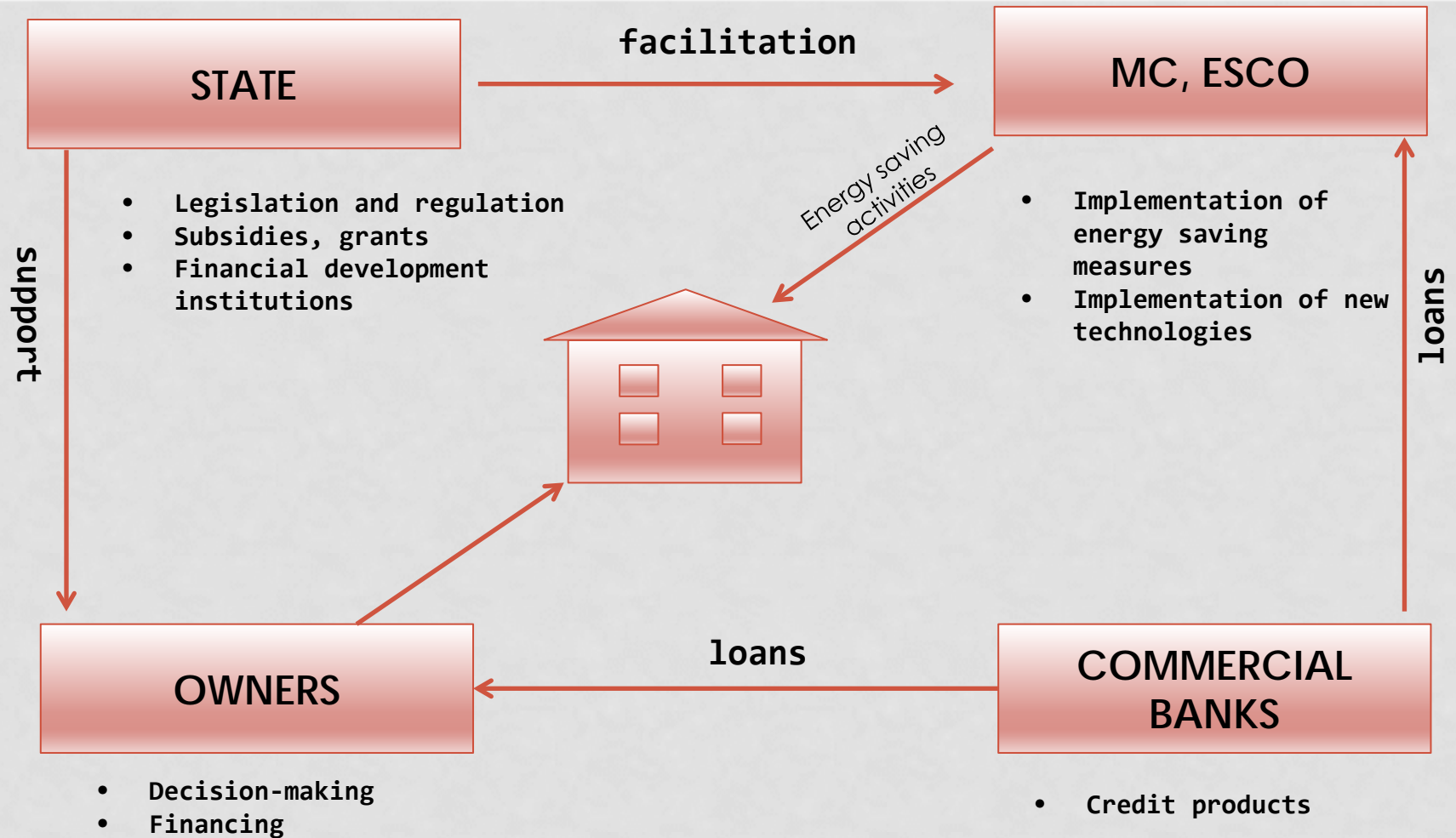


Retrofitting the existing housing: the state of pilot projects



An energy saving building (Dagestan, Russia)

ENERGY EFFICIENCY PLAYERS



DEVELOPMENT OF THE LEGAL FRAMEWORK FOR ENERGY EFFICIENCY ENHANCEMENT IN THE HOUSING SECTOR

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

DEVELOPMENT OF MULTI-FAMILY BUILDINGS' SELF-GOVERNANCE AND PROFESSIONAL MANAGEMENT INSTITUTIONS

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:

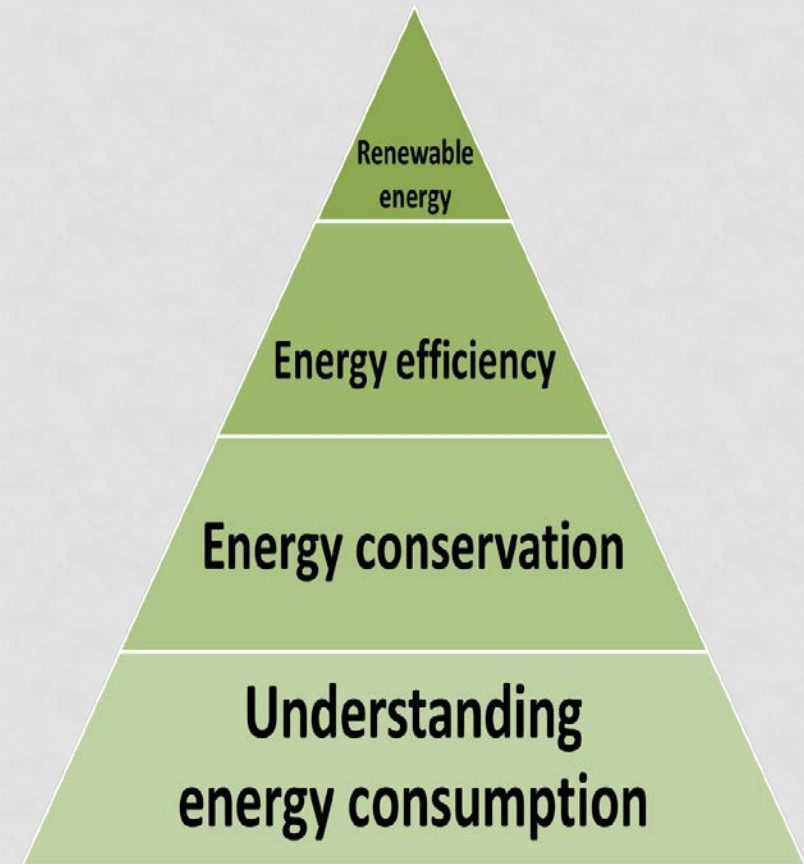
business based on competition

- 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